

## 12 LANDSCAPE AND VISUAL AMENITY

### 12.1 INTRODUCTION

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

- Construction of the Project;
- Operation of the Project, and
- Decommissioning of the Project.

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) and the accompanying Advice Notes on Current Practice in the Preparation of Environmental Impact Statements (Draft 2015).
- Landscape Institute and the Institute of Environmental Management and Assessment publication entitled Guidelines for Landscape and Visual Impact Assessment (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 Project**

The full description of the Project 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 (current 2006 and Draft Revised 2019) 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:

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

In the case of this Project, the blade tips will range between 177 m and 185 m high. Thus, the minimum ZTV radius recommended is 20 km from the outermost turbines of the scheme. There are not considered to be any sites of national or international importance between 20 – 25 km and thus, the radius of the study area is considered acceptable at 20 km. Notwithstanding the full 20 km 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 5 km 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, and
- 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 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 Project. The magnitude takes into account whether there is a direct physical impact resulting from the loss of landscape components and/or a change that extends beyond the 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.
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

Sensitivity	Description
	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**

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

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

**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.

#### ***12.2.5.1.1 Values typically associated with Visual Amenity***

##### **Recognised scenic value of the view**

These are usually represented by County Development Plan designations, guidebooks, touring maps, postcards. 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 Project is presented and its relationship with other focal points or prominent features within the view is also considered. Visual presence is essentially a measure of the relative visual dominance of the proposal within the available vista and is often 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 Project contributes positively to the existing qualities of the vista or results in distracting visual effects and disharmony.

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

Sensitivity	Description
	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
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 and Duration of Effects

In addition to assessing the significance of landscape effects and visual effects, EPA Guidance (2022) 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, and
- Negative/adverse Effects: A change that reduces the quality of the environment.

The same EPA guidelines also set out categories of impact duration:

- Temporary – Lasting for one year or less;
- Short Term – Lasting one to seven years;
- Medium Term – Lasting seven to fifteen years;
- Long Term – Lasting fifteen years to sixty years; and
- Permanent – Lasting over sixty years.

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.

In terms of duration, the proposed turbines will have a Long Term impact as the permission is being sought for a 35 year period after which the turbines will be decommissioned. Some other elements of the Project relating to access tracks and elements of the grid connection will remain in perpetuity and will therefore have Permanent effects.

#### 12.2.8 Assessment Criteria for Cumulative Effects

The Scottish Natural Heritage Guidance relating to 'Assessing the Cumulative Effects of Onshore Wind Farms (2018) identify that cumulative impacts on visual amenity consist of combined visibility and sequential effects. The same categories have also been 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 (2018).

**Table 12.5: Magnitude of Cumulative Impacts**

Magnitude of Impact	Description
Very High	<ul style="list-style-type: none"> <li>The proposed wind farm will strongly contribute to wind energy development being the defining element of the surrounding landscape.</li> <li>It will strongly contribute to a sense of wind farm proliferation and being surrounded by wind energy development.</li> <li>Strongly adverse visual effects will be generated by the proposed turbines in relation to other turbines.</li> </ul>
High	<ul style="list-style-type: none"> <li>The proposed wind farm will contribute significantly to wind energy development being a defining element of the surrounding landscape.</li> <li>It will significantly contribute to a sense of wind farm proliferation and being surrounded by wind energy development.</li> <li>Significant adverse visual effects will be generated by the proposed turbines in relation to other turbines.</li> </ul>
Medium	<ul style="list-style-type: none"> <li>The proposed wind farm will contribute to wind energy development being a characteristic element of the surrounding landscape.</li> <li>It will contribute to a sense of wind farm accumulation and dissemination within the surrounding landscape.</li> <li>Adverse visual effects might be generated by the proposed turbines in relation to other turbines.</li> </ul>
Low	<ul style="list-style-type: none"> <li>The proposed wind farm will be one of only a few wind farms in the surrounding area and will be viewed in isolation from most receptors.</li> <li>It might contribute to wind farm development becoming a familiar feature within the surrounding landscape.</li> <li>The design characteristics of the proposed wind farm accord with other schemes within the surrounding landscape and adverse visual effects are not likely to occur in relation to these.</li> </ul>
Negligible	<ul style="list-style-type: none"> <li>The proposed wind farm will most often be viewed in isolation or occasionally in conjunction with other distant wind energy developments.</li> <li>Wind energy development will remain an uncommon landscape feature in the surrounding landscape.</li> <li>No adverse visual effects will be generated by the proposed turbines in relation to other turbines.</li> </ul>

## 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 Project 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 Project. The visual resource will be described in greater detail in **Section 12.4** below.

### **12.3.1.1 Landform & Drainage**

Overall, the study area is characterised by a notable variance of landform, which arises from wide, lowland valleys less than 100 m AOD, to mountain tops over 800 m 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 terrain elevation. The Derrynasaggart ridgeline marks the Site's northern/ north-western boundary, peaking at 460 m AOD with the lowest terrain of the Site dropping to approx. 270 m AOD. In the east of the Site, two small streams flow north-south to drain a bowl-like, upland tributary valley, while in the west of the Site are a further three streams. All five of these streams feed into the Inchamore Stream, which in turn flows into the Bardinch and Sullane Rivers flowing east towards Ballyvourney.



**Plate 12.1: Bowl-like, upland tributary valley in the east of the Site**

### Central study area:

The principle landform within the Site and its immediate vicinity, as well as the central study area, is that of the Derrynasaggart Mountains that align a section of the mid Cork-Kerry border, and which reach 694 m AOD at their highest. The central study area is characterised by mountains and hillsides with relatively narrow, visually enclosed valleys between these elevations. Within approx. 700 m west of the Site is Coomagearlahy Mountain (506 m AOD.) In the north of the central study area is the Owengarve and Clydagh Rivers, north of which are the various foothills that ascend towards the Paps of Anu, approx. 6.5 km north of the Site: a pair of similarly-shaped mountains adjacent to each other, both between 690-694 m AOD. Along or near such ridgelines are multiple corrie lakes and/or small mountain loughs. In the south of the central study area, landform is marginally lower, with it gravitating between 400-500 m AOD at hill tops in the south-western quadrant, before largely dropping between 200-300 m AOD in the south-east and east of the central study area, particularly along the wider, U-shaped valley carved out by the Sullane River.

### 5-10 km away:

Between 5-10 km from the Site, there are also several notable mountains, aside from the aforementioned Paps. These include Caherbarnagh (681 m AOD) and Mullaghanish (649 m AOD) in the northeast and Crohane (656 m AOD) in the northwest, while in the south, the landform is marginally less dramatic, excepting summits such as Mweelin (487 m AOD) and Carrigalougha (423 m AOD), approx. 7 km south of the Site. To the east and southeast, topography mostly lowers to less than 250 m AOD, with increasingly wider, lower valleys. The Sullane River is dominant in this section, fed by its tributary, the River Douglas. Other rivers of note 5-10 km from the Site include the Toon (southeast), the Roughty (southwest) and the Owenskeagh (north).

### 10-20 km away:

Between 10-20 km from the Site, there is considerably greater diversity in landform. In terms of scale, the most apparent is Mangerton (843 m AOD), followed by Torc Mountain (535 m AOD), which lie 14-15 km west of the Site. Carran (604 m AOD) and Coomataggart (530 m AOD) are located in the south-west. More than 15 km to the south is Carrigmount (546 m AOD), Douce (476 m AOD) and Doughhill (471 m AOD) mountains, though terrain is considerably lower in the south-eastern quadrant. Beyond 10 km to the north and north-east, terrain is distinctively lower than that of the Paps, rarely lifting above 200 m. However, more than 10 km due east of the Site, land lifts to 497 m AOD at the summit of Musherbeg.

In terms of watercourses, more than 10 km from the Site is the Blackwater, Beheenagh and Awnaskirtaun Rivers in the north and northwest, as well as the Foherish, Garrane and Keel Rivers in the east of the study area. The Bunsheelin, Owengariff and Lee Rivers are found in the south, with the Slaheny River, the Roughty River and its tributary, the Owbeg, in the south-west. In addition, larger lakes can be found within the study area. Lough Allua in the south and Gougane Barra in the south-west are well known, but the largest lakes of the study area reside in the north-west: Lough Guitane, Muckcross Lake and Lough Leane.



**Plate 12.2: Landform in the south of the Study Area**



**Plate 12.3: Mountainous profile within the Study Area**

### **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. 4 km in a northeast-southwest direction, covering a variety of land uses with an evident anthropocentric imprint. In the east of the Site, within the aforementioned bowl-like valley, commercial conifer plantations at various stages of the maturation/harvesting cycle are prevalent on the upper slopes. Marginal, rush-infested, pastoral agriculture is dominant in the floor of this tributary valley. Although an upland, marginal context, there is considerable evidence of a strong anthropocentric imprint along these upland slopes, in the form of drainage excavations and multiple vehicular tracks, of various ages and conditions.

In the central south of the Site, a large, triangular block of commercial forestry is present, immediately north of which are a derelict building and numerous vehicular tracks ascending up the hillside. Upland heath dominates the upper slopes, as it scales up to the ridgeline of the range, which marks the Site's northern/ north-western boundary as well as the Cork/ Kerry border. Here there is evidence of considerable drainage excavations and multiple vehicular tracks.

The south-western part of the Site is also dominated by commercial conifer plantations at various stages of the maturation/harvesting cycle. However, a wide, private vehicular track passes through this segment of the Site, and appears to be connecting wind turbines on adjacent lands to the Site.

Central study area:

While pastoral agriculture is prevalent in the south-eastern quadrant of the central study area, most other areas of agriculture tend to be marginal pasture in a 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. Immediately adjoining the western perimeter of the Site, in County Kerry, is the Coomagearlahy Wind farm, with at least one turbine located within 250 m of the Site boundary, and just to the south of that is the Glanlee (Midas) wind farm.

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. In addition, there are roads and just one settlement: the village of, located approx. 3 km south-east of the Development.



**Plate 12.4: Coolea village within the central Study Area**



**Plate 12.5: Wind farms across ridgelines within or close to the Study Area**

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

The variance of vegetation and land use in the wider study area broadly mirrors that of the central study area. However, in the south-east quadrant and more than 10 km north of the Site, intensive, lowland agricultural practises are dominant, in medium-sized fields with often low or mid-height hedgerows serving as field boundaries. Representative of land uses in such elevated terrain across the province and country, the multiple mountains and high hillsapes found throughout the wider study area are mostly a mix of commercial conifer plantations with upland/mountain heath. This includes Killarney National Park in the north-west and Gougane Barra Forest Park in the south-west, as well as mountains such as Mangerton or the Paps.



**Plate 12.6: Intensive agricultural practises in the south-eastern quadrant of the Study Area**

While wind energy developments are visible across much of the study area, they are not as apparent as within or close to the central study area. There is also some evidence of quarrying and/or extractive land use in the north and northeast. 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 Project. 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 4 times the tip height of the relevant wind turbine (740 m) as listed in the Draft Revised Wind Energy Development Guidelines (2019) for the tip height of the proposed turbines.

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 Project 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', and
- '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 Project. 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 separation 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 potentially acceptable depending on the nature of the Site and its immediate surrounds.

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 177 m and 185 m 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 Project design is in accordance with the guidance for this varied landscape setting and does not 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 F) 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 and most of the central study area (within County Cork) is contained in LCT15b 'Ridged and Peaked Upland'. Also within the southeast portion of the central study area is the LCT12a 'Rolling Marginal and Forested Middleground' (see **Figure 12.1**).

LCT15b 'Ridged and Peaked Upland':

Within the Draft Cork Landscape Strategy (2007), LCT15b - 'Ridged and Peaked Upland' is described as having:

- Landscape Value: Medium
- Landscape Sensitivity: Medium
- Landscape Importance: County

Its 'Landscape Description' entails:

*"Ridged, peaked and forested upland landscape type which is located south of Millstreet town, includes much of the Millstreet to Macroom road (R582) and swings south west towards the county boundary west of Ballyvourney. This landscape type has been glaciated and comprises a fairly rugged and rolling mountainous topography at a relatively high elevation. The area around the Boggeragh Mountains provides a good example of this landscape type ... 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:

- *"Comprises a rolling mountainous topography at a relatively high elevation and includes the southern slopes of the Boggeragh Mountains.*
- *Soils are of low fertility and experience relatively high levels of rainfall due to its elevation, resulting in poor growing conditions and limited vegetation including moorland, heath and scrub.*
- *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.*
- *There are patches of fertile land within the landscape*
- *The main agricultural practice in these upland areas is sheep farming.*
- *Field boundaries comprise mainly stonewalls and low hedges.*
- *With forestry over the landscape (not blocks as in other areas). Delineated by tight gorse hedgerows, walls, banks or post and wire fencing and punctuated by a coniferous or broadleaf shelterbelts around small farmsteads."*

Aspects of its 'Built Environment' include:

*"There is a remote feel to the area with few houses mainly farm buildings."*

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

*"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."*

The 'Recommendations' that are of relevance to the Site include:

*“Protect the high ridges and mountainous peaks, particularly to the south west of Millstreet town (Claragh Mountain). These upland areas are predominant components of this landscape type.”*

Four Landscape Character Areas occur within LCT15b ‘Ridged and Peaked Upland’, with the Site being located within Landscape Character Area 2 ‘Derrynasaggart Pass’, which is described as a ‘Composite Moorland Upper Valley.’

In addition, the ‘Rolling Marginal and Forested Middleground’ (South) LCT, located more than 2 km from the Site in the east of the central study area, is described as having:

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

It should be noted that the Site is not situated in an area recognised as a ‘High Value Landscape’ (HVL) and the nearest HVL designation relates to the area within and surrounding Gougane Barra, which is located more than 12 km southwest of the Site.

### 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<sup>1</sup> 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 proposed that*

---

<sup>1</sup> The following scenic route text appears to have been misplaced from the previous CDP into a landscape related objective (GI 14-11)

*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 three Co. Cork scenic routes:

- “Scenic Route S23: Road between Macroom and Derrynasaggart Mountains,” located approx. 1.1 km northeast of the location of the nearest turbine.
- “Scenic Route S24: Road between Coolea and Coom,” located within approx. 2.8 km south of the location of the nearest turbine.
- “Scenic Route S25: Winding road joining Coolea - Coom road to Lissacresig road,” located approx. 4.7 km south of the location of the nearest turbine.

5-10 km from the Site, there are a further two additional Co. Cork scenic routes as well as Scenic Route S23, S24 and S25 extending from the central study area:

- “Scenic Route S22: Road from Ballyvourney to Mullaghanish to Caherdowney.”
- “Scenic Route S26: Road between Lissacresig and the Mouth of the Glen.”

10-20 km from the Site, there are a further eight 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 27: Road between Gougane Barra and the Mouth of the Glen”
- “Scenic Route S28: Scenic road at the Pass of Keimaneig to Gougane Barra”
- “Scenic Route S32: South Lake Road - Inchigeela and Ballingearry to Keimaneigh”
- “Scenic Route S33: Road between Ballingearry - branch off S. Lake Road - and Kealvaugh”
- “Scenic Route S34: Road between Inchigeela and Ballingearry to Keimaneigh”

- “Scenic Route S35: Road Between Dromcarra and Rossmore”
- With Scenic Route S22 and S23 extending from within 10 km of the Site.

Relevant planning objectives relating to the protection of ‘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.”*

#### 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**

Immediately adjacent to the north of the Site, County Kerry occupies nearly half of the central study area and the wider study area. It is, therefore, important to consider landscape designations in the current Kerry County Development Plan (CDP).

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 is one Co. Kerry designated view/prospect 1.4 km, at its closest point, north of the location of the nearest turbine.
- 10-20 km from the Site, there are four further Co. Kerry designated views/prospects, ranging from 8-16 km from the location of the nearest turbine.

Kerry Wind Energy Strategy:

The Wind Energy Strategy in the closest portion of County Kerry to the Site was altered twice in the context of the consultation and review process of 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’) were briefly designated as ‘Open to Consideration’ for wind energy development, but reverted to undesignated (unsuitable) in the final adopted iteration. The area in question lies adjacent to the northeast of existing wind energy areas that have been designated for ‘Repowering’ (See Figure 12.11).

#### **12.3.2.4 International and National Ecological Designations**

European 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 two overlapping ecological designations within the central study area, listed below, though the scale and size of these are substantial (i.e. stretching over 70 km in a north-east/south-west alignment):

- SAC & pNHA: Killarney National Park, Macgillycuddy's Reeks And Caragh River Catchment – approx. 2.6 km north of the Site, at its nearest point

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.

### 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 Project is potentially visible from. These are produced for a tip height of 177 m and 185 m 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 20 km Study Area (see **Figure 12.3**).

The following considerations can be derived from the ZTV mapping:

- Approximately 50% of the overall study area is afforded potential views of the Project and much of that indicates partial visibility of 1-2 turbines or 3-4 turbines. Given the undulating nature of the study area and the 'concentric - tidal' ZTV pattern, Much of the

visibility also appears to relate to partial blade sets and blade tips rather than full visibility of the proposed turbines.

- The south facing slopes of the Mangerton range show fairly comprehensive visibility, which contrasts with the northern slopes where views are fully screened. There are two splays of visibility that occur within County Kerry beyond the Mangerton range and these indicate partial views through two of the more deeply incised valleys. The splay to the northwest takes in the eastern outskirts of Killarney.
- Whilst there is fairly comprehensive theoretical visibility within the central study area this dissipates throughout the southern quarters due to screening from undulating hills. The sand ripple pattern indicates visibility from only upper slopes and ridge, whereas most receptors (roads and settlements) are contained within lower ground.
- The important heritage site of Gougane Barra is not contained within the ZTV pattern and indicated no potential for visibility other than for some of the peaks that surround the iconic glaciated valley.

#### **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 Project might be afforded. Where visibility may occur, at least one 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 approximately 3 km to the southeast and the more substantial sized settlement of Ballyvourney, which hugs the N22 approximately 5.5 km to the east. The elevated village of Kilnamartyra is approximately 12 km to the east of the Site and has potential for visibility of the Project. The settlements of Inchigeelagh and Ballingearry lie on the R584 to the south of the Site (9 km and 5 km away respectively) but have no 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 south-eastern edge of the study area. Kilgarvan and part of Killarney are in the outer western and north-western portions of the study area respectively, albeit the ZTV pattern only indicates potential for visibility of the Project from the outskirts of the latter.

#### **12.3.3.4 Transport Routes**

The main transport route in relation to the Project 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 approaches the Kerry border approximately 1 km to the northeast. There is a national secondary route within the study area and this is the N72 that heads east from Killarney. It is approximately 12 km northwest of the Site at its nearest point.

The R569 regional road links between the N22 and Kilgarvan and is approximately 4.5 km to the northwest of the Site at its nearest point. The R584 regional road runs through the southern portion of the study area and is approximately 11 km from the Site at its nearest point.

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. It passes approximately 5 km to the southeast of the Site at its nearest point. The Beara Gougane Barra Cycling route from Cork City to Gougane Barra also passes through the southern study area and the Sheeps Head Way and Beara Way both flirt close to the southwestern perimeter of the study area without entering it.

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, Rossacree Wood - Millennium Park Trail, which is a short Coillte Recreational Trail situated just over 7 km west of the Site. 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 within the outer north-western portion 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 Project 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 Project.

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 5 km radius of the proposed turbines using a Digital Surface Model (DSM) and sample points every 25 m 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 1 km distance bands i.e., 0 to 1 km, 1 km to 2 km and so on out to 5 km. 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. 'Open Views' (needs clear visibility of only one blade set) predominate within the nearest 1 km, but as can be seen from the map, this relates to a single sparsely populated local road that runs directly up the valley towards the wind farm. By the 1-2 km band Partial Views prevail (58%) and much of these come from the local road that runs along the upland valley to the southwest of the Site where views of less than full blade sets are likely above an intervening spur ridge. Beyond 1-2 km fully screened views dominate by a considerable margin and by the 4-5 km band approximately 84% of road sections are screened.

In terms of the RSA map, it is clear that nearly all of the open visibility of the proposed wind farm comes from roads to the southeast of the Site that are contained in the same drainage and visual catchment of Coolea Village. There is also very few roads at all within the elevated western quarters of the RSA study area. Outside of the upland catchment that contains the Site, very limited visibility exists from the road network, and by default most of the roadside dwellings.

What is very clear from the RSA graph is that screened views have a consistent and rapid increase across the distance bands from less than 9% in the nearest 1 km to over 80% by the 4-5 km band. Whilst this is typical of other RSA studies, Open Views usually have a distinct and opposite pattern reducing at a similar rate across the distance band and with all three categories at similar levels in the 2-3 km range. This usually indicates the threshold at which intervening terrain and vegetation screening becomes an effective screen for the progressively more distant turbines. However, it is a simple pattern that has become familiar in flat midland sites. In this instance Open Views drop away sharply to less than 20% by the 1-2 km range and remain there, albeit fluctuating all the way to the 4-5 km band. This highlights the complexity of the terrain and vegetation patterns in this knotty landscape and the effective screening provided within relatively short distances.

In terms of receptors, there is a relatively high proportion of Open and Partial visibility of turbines from within and around the village of Coolea and scenic route S24 that leads west from the village.

#### **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 1 km to the Site, where there is a view of turbines, for more than 90% of the road sections, less than 10% of this relates to a view of all 5 turbines. Views of all 5 of the turbines is still the least common scenario in the 1-2 km and 2-3 km distance bands (7-8%) where views of only 1-2 turbines is the prevailing scenario (52% to 68%). However in 3-4 km band views of 5 turbines is more likely (18%), but remains subordinate to views of on 1-2 turbines at approximately 55%. By the 4-5 km distance band views of just 1-2 turbines occurs for nearly 80% of the road section that have some open visibility of the Project.

The finer grained analysis of the Open Visibility class further reinforces that there is not a clear and concentric (relating simply to viewing distance) pattern when it comes to the nature of visual exposure of the proposed turbines from the road network within 5 km of the Site. Instead, it highlights a generally high degree of screening where even if turbines are visible, it is least likely to be all of them visible at once and most likely just 1 or 2 of the five.

#### **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 Project as this would result in an unwieldy report and make it extremely difficult to draw out the key impacts arising from the Project. Instead, a variety of receptor locations was selected that are likely to provide views of the proposed wind farm from different distances, different angles and different contexts.

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

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

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 the assigned category of assessment 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 Development, usually within a 5 km 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 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**

<b>VP No.</b>	<b>Location</b>	<b>Receptor</b>	<b>Direction of View</b>
<b>VP1</b>	Local Road at Gortnagross	<ul style="list-style-type: none"> <li>Local Community Views</li> </ul>	SW
<b>VP2</b>	Local Road at Coolea Village	<ul style="list-style-type: none"> <li>Local Community Views</li> </ul>	NW
<b>VP3</b>	Local road west of Coolea	<ul style="list-style-type: none"> <li>Designated Scenic Route</li> <li>Local Community Views</li> </ul>	NW
<b>VP4</b>	Local road at Lumnagh	<ul style="list-style-type: none"> <li>Designated Scenic Route</li> <li>Local Community Views</li> </ul>	N
<b>VP5</b>	Local road at Inchamore	<ul style="list-style-type: none"> <li>Local Community Views</li> </ul>	NE
<b>VP6*</b>	Local road at Laharan East	<ul style="list-style-type: none"> <li>Designated Scenic Route</li> <li>Local Community Views</li> </ul>	N
<b>VP7</b>	Local road at Caraghnacaha	<ul style="list-style-type: none"> <li>Designated Scenic Route</li> <li>Local Community Views</li> </ul>	N
<b>VP8</b>	Local road at Milleeny	<ul style="list-style-type: none"> <li>Local Community Views</li> </ul>	N
<b>VP9</b>	Local road at Bardinch	<ul style="list-style-type: none"> <li>Local Community Views</li> </ul>	N
<b>VP10</b>	Summit of Crohane Mountain	<ul style="list-style-type: none"> <li>An Amenity Feature</li> </ul>	SE
<b>VP11</b>	N22 at Derrynasaggart	<ul style="list-style-type: none"> <li>Designated Scenic Route</li> <li>Major route</li> </ul>	SW
<b>VP12</b>	Local road at Coomnagire	<ul style="list-style-type: none"> <li>Designated Scenic Route</li> </ul>	W
<b>VP13</b>	Western Summit of 'the Paps of Anu'	<ul style="list-style-type: none"> <li>An Amenity and Heritage Feature</li> </ul>	S
<b>VP14</b>	Summit of Mangerton Mountain	<ul style="list-style-type: none"> <li>An Amenity Feature</li> </ul>	SE

VP No.	Location	Receptor	Direction of View
VP15	N72	<ul style="list-style-type: none"> <li>Major Route</li> </ul>	NE
VP16	Local road at Coumaclovane	<ul style="list-style-type: none"> <li>Local Community Views</li> </ul>	NE
VP17	Local road at Gortnahoughtee	<ul style="list-style-type: none"> <li>Designated Scenic Route</li> </ul>	NW
VP18	Local road at Kilbarry	<ul style="list-style-type: none"> <li>Designated Scenic Route</li> </ul>	NW
VP19	N22 at Ballymakeery	<ul style="list-style-type: none"> <li>Designated Scenic Route</li> <li>Centre of Population</li> </ul>	NW
VP20	N22 at Inchinlinane	<ul style="list-style-type: none"> <li>Designated Scenic Route</li> <li>Major route</li> </ul>	NW
VP21	Local road near Kilnamartyra	<ul style="list-style-type: none"> <li>Centre of population</li> </ul>	NW
VP22	R582 at Gortavranner	<ul style="list-style-type: none"> <li>Designated Scenic Route</li> <li>Major route</li> </ul>	SW
VP23	Local road at Dangansallagh	<ul style="list-style-type: none"> <li>Designated Scenic Route</li> <li>Centre of population</li> </ul>	NW
VP24	Local road at Reananerree	<ul style="list-style-type: none"> <li>Local Community Views</li> </ul>	SW

## 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 <5 km) as well as the broader scale of the Wider Study Area (5-20 km).

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

##### **Central Study Area (<5 km from the Development)**

The Site and central study area are contained within a rugged and marginal landscape that serves as something of a threshold of 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 immediately to the north and the more dramatic Mangerton range to the north-west. Indeed, the Site is contained on the southern slopes of the Derrynasaggart range which define the border between County Cork and County Kerry. 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 nearest turbines of the Coomagearlahy and Kilgarvan Wind Farm occur 3 km to the southwest of the Site just over the Kerry border. The Derragh and Cleanrath Wind Farms are also recent additions to the south and visible from the 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 and most of the central study area (within County Cork) is contained in LCT15b 'Ridged and Peaked Upland' which is considered to be of 'Medium' landscape value, 'Medium' landscape sensitivity and a 'County' level of importance (the median category). Notably, this Landscape Character Type and those that surround it are not considered to achieve the separate and distinct status of a High Value Landscape (HVL).

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 5 km) is deemed to have a landscape sensitivity of **Medium-low**.

### **Wider Study Area (5 km – 20 km 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 Mangerton range. 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 is an extension of the Derrynasagart range, which has some of its extent contained within the north-central study area, whilst 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 are 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 Mangerton range to the north has 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 Project and its central study area (<5 km) 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 Project 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 Project will have a modest physical impact on the landscape within the Site as none of the Project 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 i.e. 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, drainage works and an on-site borrow pit. Excavations will tie into existing ground levels and will be the minimum required for efficient working. Any temporary excavations or stockpiles of material will be re-graded to marry into existing site levels and reseeded appropriately in conjunction with advice from the Project ecologist 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 in duration and transient in location. The construction stage effects on landscape character from these dispersed activities will be minor.

There will be one 38 kV Onsite Substation with an associated Control Building constructed to collect the generated power from the Project before distributing it to the existing network substation at Ballyvouskill. The 38 kV on-site substation will be located in an area of farmland within the heart of the Site and will have a footprint of 1,314 m<sup>2</sup>. The proposed sub-station compound will comprise of a single storey building with a pitched roof and will have a concrete render finish. The proposed substation compound, which will be enclosed by a 2.65-metre-high steel palisade fence, will be well contained by the surrounding terrain and is of a modest scale. 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 Roads 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 (T2, T4, and T5), 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 be erected on site and will comprise of a 110 m high lattice steel mast and 4 m lightning rod (114 m overall height) 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 Project also includes the upgrade of 3.4 km of existing forest tracks and construction of 3.8 km of new tracks that shall be used for construction and ongoing operational and maintenance activities.

The 38 kV 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 three watercourse crossings. 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 the 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 Project is constructed and becomes operational (approximately 21 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 pit. At decommissioning it is proposed to remove wind farm 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 Project 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 central and wider study area, most notably to the west and south of the Site where several existing commercial-scale wind energy developments occur (Coomagearlahy Kilgarvan, Derragh and Cleanrath - see locations on **Figure 12.7**). Considerable existing wind energy development is also located to further southwest of the Site at distances between 5 and 10 km, 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 Project 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 Project 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 Project 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 Project 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.1 km) reducing to **Medium** and then **Medium-low** for the remainder of the central study area. Beyond 5 km 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 (**Table 12.3**) 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** and **Moderate-slight** 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 5 km from the Site), landscape impact significance is not considered to exceed **Slight** at any of the stages of the Project 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	5.4	Medium	Medium-low	<b>Moderate-slight/ Negative/ Long-term</b>
VP2	3.2	Medium	Medium	<b>Moderate/ Negative/ Long-term</b>
VP3	3.0	High-medium	Medium-low	<b>Moderate/ Negative/ Long-term</b>
VP4	3.4	High-medium	Medium-low	<b>Moderate/ Negative/ Long-term</b>

VP no.	Distance to nearest turbine (km)	Visual Receptor Sensitivity	Visual Impact Magnitude	Significance of effect
VP5	1.2	Medium-low	Medium	Moderate/ Negative/ Long-term
VP6	N/A	Medium-low	Negligible	Imperceptible/ Neutral
VP7	6.8	High-medium	Low-negligible	Slight-imperceptible/ Negative/ Long-term
VP8	0.8	Medium-low	High-medium	Moderate/ Negative/ Long-term
VP9	0.8	Medium-low	Medium	Moderate-slight/ Negative/ Long-term
VP10	2.3	Very High	Low-negligible	Moderate-slight/ Negative/ Long-term
VP11	8.4	High-medium	High-medium	Substantial-moderate/ Negative/ Long-term
VP12	1.2	High	Low	Moderate-slight/ Negative/ Long-term
VP13	6.2	Very high	Low	Moderate/ Negative/ Long-term
VP14	6.5	Very High	Low-negligible	Moderate-slight/ Negative/ Long-term
VP15	14.5	Medium	Low	Slight/ Negative/ Long-term
VP16	13.9	Medium-low	Medium	Moderate-slight/ Negative/ Long-term
VP17	3.1	High	Low-negligible	Slight/ Negative/ Long-term
VP18	16.4	High	Low-negligible	Slight/ Negative/ Long-term
VP19	16.6	Medium-low	Low	Slight/ Negative/ Long-term
VP20	7.9	Medium	Negligible	Imperceptible/ Neutral

VP no.	Distance to nearest turbine (km)	Visual Receptor Sensitivity	Visual Impact Magnitude	Significance of effect
VP21	N/A	Medium	Low	<b>Slight/ Negative/ Long-term</b>
VP22	13.1	High-medium	Negligible	<b>Imperceptible/ Neutral</b>
VP23	15.9	Medium-low	Low-negligible	<b>Slight-imperceptible/ Negative/ Long-term</b>
VP24	11.9	Medium	Negligible	<b>Imperceptible/ Neutral</b>

#### 12.4.3.1 Impacts on Designated View

There is a series of designated scenic routes in relatively close proximity to the Development. The nearest is S23 from the Cork County Development Plan, which runs along the N22 to the northeast of the Site also becoming a scenic route on the Kerry side of the county border. There are three scenic routes to the south and southeast of the Site (S24, S25 and S26) and also more distant ones to the east (S21 and S22). 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 VP2, VP3 and VP4 and this receptor affords some of the clearest views of the Project within its upland rural setting from relatively close distances. The proposed turbines improve in their legibility as the viewer moves west between VP2 at the outskirts of Coolea village, first passing VP3 and then VP4. At the peri-urban VP2 the turbine layout is uneven and result in some visual clutter from overlapping. The turbines become more evenly spread and are seen in an open and simple rural context by VP3 and by VP4 the layout is exemplary for this setting. However, the Development also increases in visual prominence from VP2 to VP4 and so does visual receptor sensitivity resulting in the same 'Moderate' significance at all three of these viewpoints which also represent the Local Community Views viewpoint category.

Scenic Route S23 is covered by VP11, VP19 and VP20 as it traces the N22 between Macroom and the Kerry border within the Derrynasaggart range. The nearest of these to the Site is VP11 where there is a partial view of turbine blade sets rotating above the near forested ridge to the southwest. However, it is the broad down-valley views to the southeast that appear to be the reason for this scenic route designation and the turbines will be only a peripheral component of that vista. Views from lower down the valley that is traversed by the N22 scenic route are much more restricted by enclosing terrain and vegetation.

Consequently, the significance of impact at VP19 and VP20 is deemed to be Slight and Imperceptible respectively.

Scenic route S22 from within the Derrynasaggart range to the east of the N22 road is represented by VP12 where the turbines are openly visible as a tight cluster rising above a middle distance ridge to the west. However, as with VP11, the turbines will be peripheral features of broad downhill views to the south, which also contain wind turbines. Thus, the significance of effect is deemed to be Modern-slight.

Scenic route S25 is covered by VP6 and VP7 but as it is currently shrouded in forestry and previously appears to have been designated for easterly and southerly vistas, rather than north towards the Site, the Project will not be readily visible from this designation. Significance was deemed to be Imperceptible and Slight-imperceptible from VP6 and VP7 respectively. Likewise, VP24 which represents scenic route S26 to the southeast of the Site affords no visibility of the Project. A potential long distance glimpse of turbine blades is afforded from VP22, which represents scenic route S21, but this is of no consequence to visual amenity.

#### **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 5 km of the Site. In this instance there were nine such views used for the visual impact assessment (VP1, VP2, VP3, VP4, VP5, VP8, VP9, VP11 and VP16). 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 reasonable scale, but in an exemplary and highly legible manner that assimilates well with the scale and nature of the underlying terrain and land use pattern. Consequently, the significance of

effect is Moderate-slight despite clear and relatively close visibility. 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 VP5, VP8, and VP16 the viewing scenario is more typical of the settled valley context of the central study area. From VP5 and VP16 the proposed turbines tend to be visible as only blade sets and partial blade sets rising above the enclosing forested (VP5) and rugged moorland (VP16) ridgelines. In both cases the visible components are seen at a prominent scale, but in a less than ideal aesthetic scenario with turbine blades cutting against the intervening ridgeline. However, they are not out of keeping with the productive upland setting and do not appear over-scaled relative to the underlying landform and land cover patterns. VP8 is a much clearer view of the scheme where the turbines are prominent and broadly dispersed across the view, but they are substantially visible in a legible manner. The significance of effect ranges between Moderate and Moderate-slight for these three local community views with the nearer VP5 and VP8 registering Moderate for differing reasons relating to the balance between the reduced degree of visual exposure at the former and the better visual legibility at the latter. The slightly greater viewing distance for VP16 was responsible for it only registering a Moderate-slight significance. The nature of visibility from within the local area is well represented in the Route Screening Assessment particularly **Figure 12.4**. This indicates that most of the open visibility within the central study area occurs within the same valley as the turbines to the southeast in the vicinity of the village of Coolea. Beyond this physical and visual catchment, the visibility from roads within the local area (5 km) become sporadic with 'Screened views' being a much more likely scenario beyond the 2-3 km distance band.

#### **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. Coolea is the most impacted and this is represented by VP2, which is discussed in relation to scenic routes as the S24 scenic route starts here and travels west. The selected viewpoint also represents something of a worst-case-scenario in terms of views from the village as clear visibility towards the Project is not readily available from within the core of the village.

The settlements of Ballyvourney to the east and Ballingearry to the south are not affected to any material degree by the Project as they are enclosed by other nearer ridges than that containing the Site. The small settlement of Reanree to the southeast of the Site is also not materially affected by the Project. Scenic Route S26 is represented by VP24 close to the settlement, but there will be no visibility of turbines.

Further afield to the south east, the elevated village Kilnamartyra affords clear, but distant views of the Project, where it appears in a legible manner (VP21). The significance of effect is deemed to be Slight at this settlement.

#### **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 context of scenic designations (**Section 12.4.3.1** above) specifically in respect of VP11, VP19 and VP20.

Of particular note is that the N22 Ballyvourney Bypass was completed in December 2022 and runs 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. VP25 was selected for this purpose and illustrates that the Project will be clearly visible above a middle distance ridge, but at a modest scale and in a clear and unambiguous manner (Slight significance of impact).

#### **12.4.3.5 Impacts on Tourism, Heritage and Amenity Features**

There is one particular viewing context of relevance to this category of receptor, which tend to be attributed High or Very High Sensitivity. These include summit views from the Derrynasaggart / Mangerton mountain ranges. The 'Beara to Breifne Way', a long distance way-marked walking route, also passes through the Gougane Barra glaciated valley and just to the south of the central study area 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 McGillicuddy 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 5 km and 10 km southwest of the Site and also further distant to the east in the direction of Millstreet.

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. It is considered that the proposed wind farm makes a modest contribution to the quantum and extent of wind energy development in this area, but its main contribution is to serve as a perceptual link development between the Kilgarvan Cluster of wind farms and the Millstreet cluster of wind farms. Nonetheless, it maintains a generous buffer to each of these concentrations of wind farm developments and the link effect is only noticeable within the broad southerly views in question. 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) and this is principally a factor of the high and Very High sensitivity of these receptors rather than the magnitude of impact.

The Beara to Breifne Way is represented by VP1 which is discussed in the context of Local Community views in **Section 12.4.3.2**. It is also closely represented by VP12 which is slightly uphill from it but with a similar viewing context. VP12 has been discussed in the context of Designated Scenic Route S22 in **Section 12.4.3.1**. Like all national way-marked routes, it 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 an explorative journey through the landscape of a region showcasing not only naturalistic and scenic areas, but productive working landscapes and even townscapes. Whilst the proposed wind farm might be occasionally openly visible from the Beara to Breifne Way, 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.

#### **12.4.3.6 Consideration of turbine dimension range**

The Turbine parameters as described in Table 2.2 of this EIAR and all scenarios within the parameters have been fully considered in this chapter. 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.

There is some conjecture as to whether turbines with the same tip height, but varying hub height to rotor diameter ratios have a comparable visual impact. In the case of a higher hub and smaller rotor diameter, there is greater potential to see the hub, being the key component and figurative centre of the turbine, above surrounding ridgelines than for a lower hub / larger rotor scenario. However, the latter scenario represents a greater 'swept area' for the blades and potentially a stronger visual presence. In this instance, a balanced approach was taken where the specimen turbine used for the photomontages that informed the main visual impact assessment employed the maximum tip height dimension of 185 m with a median hub height of 107.5 m and maximum rotor diameter of 155 m. 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 consequently, less variation from the results of the visual impact assessment.

In order to examine the full range of potential turbine dimensions and to illustrate the potential variation in impact, Macro Works prepared comparative photomontages at three of the previously selected viewpoints (VP2, VP3 and VP4) to represent short and mid-distance views of the Project in differing contexts. It was not considered necessary to use long distance views (10 km+) 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 – 107.5 m hub, 155 m rotor diameter, 185 m tip height (as used for the visual impact assessment herein)
- Alternative Scenario 1 – 102.5 m hub, 149 m rotor diameter, 177 m tip height (lowest hub height)
- Alternative Scenario 2 – 110.5 m hub, 149 m rotor diameter, 185 m 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 6 m from the specimen turbine position. There is also a potential 8 m departure from the specimen turbine in terms of tip height, but this would result a reduction in overall height (i.e. the visual impact would not increase). Whilst the variation in rotor diameter is 6 m

between the specimen turbine and Alternative scenario 2, this only translates as a variation of 3 m 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.

#### **12.4.3.7 Summary of Visual Effects**

The proposed wind farm will give rise to a range of effects when considered in relation to different receptor types. 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 Project, are generally in the mid-range (Moderate and Moderate-slight) rather than higher 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. Also, when broad elevated views are presented (VP11, VP12) 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 as there is a high density of them within the central and wider study area and they often represented Local Community views as well (those within 5 km). On the basis that the scheme is of a modest overall scale and extent and is viewed within designated scenes that include broad scale forestry farming and wind energy developments, it appears well assimilated in terms of both scale and function in such views.

There are occasions where the five turbines appear somewhat cluttered with several instances of turbine overlap. However, these are at least matched by occasions when the layout is exemplary in terms of the relevant siting and design guidance from the Wind Energy Development Guidelines with an even spacing and gently undulating ridgetop profile that matches the underlying terrain. Such instances tend to occur to the south of the array and include VP1, VP4 and VP6.

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

## 12.5 CUMULATIVE EFFECTS

There are 24 separate wind farm developments within the wider study area that are either existing or permitted along with one in-planning development (Gortyrhilly Wind Farm) and one planned development (Cummeenabuddoge Wind Farm) (see **Figure 12.7** and the **Appendix 12.3**). 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 very small proportion of the study area (2.1%) that will have a theoretical 'bare-ground' view of the proposed Inchamore turbines in isolation. These areas occur immediately to the north of the Site and also as two splays through saddles in the Mangerton range to the north.
- The main areas of combined visibility of the Project in conjunction with other developments contained within the study area (purple ZTV pattern) are within the central study area and then extending eastwards to approximately 10 km 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 Project, these tend to be large areas in the outer northeast, south and southwest of the study area (contained in green ZTV pattern).

There is one permitted wind farm (permitted Gortahilla) within the central study area as well as the edge of a large cluster of other existing wind farms stretching from just inside the Kerry border westwards into the Derrynasaggart range to the south of Kilgarvan. For the

purposes of the cumulative impact assessment, that cluster of developments is going to be collectively referred to as the 'Kilgarvan cluster' and addressed in the context of the broader study area.

### 12.5.1 Cumulative Landscape Effects

From a landscape fabric / landscape character perspective, the proposed turbines will introduce wind energy development into a section of the landscape where wind turbines feature as partially revealed background features above and beyond containing ridgelines to the southwest (Kilgarvan cluster) and the south (Derragh and Cleanrath). Consequently, it is not a local landscape that is notably characterised by wind energy development, but the permitted Gortahilla Wind Farm (4 turbines) c. 2.5 km to the west will make wind turbines a more familiar feature. 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.

Within the context of the wider study area, the proposed turbines will make less of a proportional contribution to the volume of turbines that already exist there or are currently permitted or in-planning. Wind farms are already a characteristic, but not a defining component of this upland rural and moorland landscape context and they will not become the defining feature with the addition of the Project. Instead, the contribution of the Project in that wider context is the infilling of a small pocket of landscape that heretofore had not been a focus for wind energy development in the same manner that the north-easterly and south-westerly extents of the Derrynasaggart range have been.

### 12.5.2 Cumulative Visual Effects

From a cumulative visual perspective, the proposed turbines are most commonly seen with other existing permitted or in-planning turbines in three main scenarios. The first of these is with the turbines from the permitted Gortahilla and predominantly existing Kilgarvan cluster featuring as small and partially exposed background features relative to the proposed turbines when seen from local views to the southeast of the Site. These include VP1, VP2, VP3 and VP4 from Coolea and the S24 scenic route running westwards out of Coolea village, but less so from close views to the Site where intervening ridges serve as a stronger screen.

The second scenario relates to elevated views from the south and southeast where the proposed turbines will be visible as a smaller scale development beyond and to the north of the existing Derragh and Cleanrath turbines as well as the in-planning Gortyrähilly

turbines, should they be consented. Such views include VP17, VP18 and VP21 and notably the Kilgarvan cluster of turbines tends not to be visible from these locations due to screening by the primary ridge that forms the Cork / Kerry border.

The other notable cumulative visibility scenario relates to the views from the peaks within the Mangerton range including, VP12, VP13 and VP14 where the proposed turbines are seen in the context of a large number of cumulative wind farms dispersed in groups across the study area. In this context the large Kilgarvan cluster of turbines can be seen to the south and the similarly broad Millstreet Cluster can be seen further to the east. The proposed Inchamore turbines will site discretely between these larger areas of wind energy development avoiding detracting aesthetic effects with other turbines such as visual stacking or scale confusion / conflict with smaller earlier generation turbines. However, the proposed turbines serve as something of a visual link that could be perceived to link between the larger concentrations of turbines to the northeast and southwest of the Site. However, there is a limit to the degree that a five turbine wind farm could do that and maintaining a buffer to particularly the nearer Kilgarvan cluster of turbines was part of early stage design refinement from a substantially larger initial scheme. It is considered that element of mitigation has been successful in avoiding significant cumulative impacts.

On the basis of the reasons outlined above, the contribution of the Project to cumulative impact is deemed to be Low in accordance with the criteria contained in **Table 12.5**.

## 12.6 MITIGATION MEASURES AND RESIDUAL EFFECTS

Macro Works have been involved with this Project since undertaking a feasibility study in 2018, wherein potential constraints were refined and design optimisation measures were recommended. At that initial feasibility stage, the Project consisted of 15 turbines which stretched further to the west in the direction of the Kerry border. There were also outlying turbines surrounding the same upland basin that contains the current Site. It was considered preferable to reduce the overall extent and scale of the Project to reduce localised impacts and also to maximise the buffer to the nearest large cluster of Kilgarvan wind farms. This was done in the interests of reducing cumulative impacts and the benefits of this are apparent in the photomontage set. The result is that a much more consolidated and discrete turbine array has been brought to planning application stage than was originally considered at feasibility stage (see **Figure 12.8**).

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.

### **12.6.1 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.

## **12.7 SUMMARY OF SIGNIFICANT EFFECTS**

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

## **12.8 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 Inchamore Wind Farm.