12. LANDSCAPE AND VISUAL

12.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) addresses the potential landscape and visual impacts of the proposed Slieveacurry Renewable Energy Development. The emphasis in this chapter is on the likely significant direct and indirect effects of the Proposed Development. It covers the assessment methodology, a description of the Proposed Development and the existing landscape based on relevant guidance. It includes a description of the landscape policy of County Clare with specific reference to wind energy and the study area in which the Proposed Development site is located.

The landscape of the area is described in terms of its existing character, which includes a description of landscape values and the landscape's sensitivity to change. The landscape and visual impact assessment of the Proposed Development uses visibility mapping, representative viewpoints and photomontages. The potential impacts in both landscape and visual terms are then assessed, including cumulative impacts.

A full description of the Proposed Development is provided in Chapter 4 of this EIAR.

12.1.1 Statement of Authority

This chapter was written by Jack Workman, a Landscape and Visual Impact Professional. Jack is an Environmental Scientist and Landscape and Visual Impact Assessment (LVIA) specialist with MKO. Jack's primary role at MKO is producing the LVIA chapter of EIA reports. Jack holds an MSc. in Coastal and Marine Environments and membership with the Chartered Institute of Water and Environmental Management. Jack is an Affiliate member with the British Landscape Institute and is also an active member of the Landscape Research Group.

This chapter was reviewed by Brian Keville. Brian is the Environmental Director of MKO, an Irish planning and environmental consultancy with wind energy a company specialism. Brian has extensive expertise conducting LVIAs for wind farm developments and 20 years' professional consultancy experience as a project director, project manager and lead coordinator of environmental impact assessments for wind energy and other large-scale infrastructure projects.

12.1.2 'Do-Nothing' Scenario

The Do-Nothing option to developing a renewable energy development at the Proposed Development site would be to leave the site as it is, with no changes made to the current land-use practices of commercial forestry, turf cutting and low intensity agriculture. Should this occur the impact would be neutral in the context of this EIAR.

The opportunity to capture a significant part of County Clare's renewable energy resource would be lost if this 'Do-Nothing' scenario is implemented, as would the opportunity to contribute to meeting Irish Government and EU targets for the production and consumption of electricity from renewable resources, consequently reducing greenhouse gas emissions.

12.1.3 Proposed Development Description

Slieveacurry Ltd. intends to apply for planning permission to construct a renewable energy development at Glendine and associated townlands, located in County Clare, approximately 21 km northwest of Ennis. The proposed renewable energy development will comprise of:

- 8 No. wind turbines with an overall ground-to-blade tip height in the range of 175 metres maximum to 173 metres minimum; a blade length in the range of 75 metres maximum to 66.5 metres minimum; and hub height in the range of 108.5 metres maximum to 100 metres minimum;
- A thirty-year operational life from the date of full commissioning of the development and subsequent decommissioning;
- A Meteorological Mast with a height of 30 metres;
- All associated underground electrical cabling (33kV) connecting the proposed turbines via Ring Main Unit (RMU) to the 110kV substation in the townland of Knockalassa;
- Permanent extension to the 110kV substation at Knockalassa comprising extension to the existing substation compound, provision of a new control building with welfare facilities and all associated electrical plant and equipment for an additional 110kV bay and security fencing;
- Upgrade of access junctions;
- Upgrade of existing tracks/ roads and provision of new site access roads and hardstand areas;
- 2 no. borrow pits;
- 2 no. temporary construction compounds;
- Site Drainage;
- Forestry Felling;
- Operational stage site signage; and
- All associated site development ancillary works and apparatus.

All proposed turbines and associated infrastructure are located within the functional area of Clare County Council. A planning application will be submitted to Clare County Council.

12.1.4 Mitigation by Design

Through the iterative project design process, informed by early-stage impact assessment work, landscape modelling, ZTV mapping and photomontage preparation, every effort has been made to bring forward the optimum design for the Proposed Development with respect to landscape and visual factors. The final project layout that is the subject of this LVIA, already incorporates the following landscape and visual design considerations for good wind farm design:

- All turbines of the Proposed Development are located in a 'Strategic Area' for wind energy development as designated by Clare County Council in the current Clare Wind Energy Strategy. The proposed turbines are sited in an area where large wind farm developments (11 - 25 turbines) are deemed to be appropriate.
- The proposed turbines have been sited on an open upland landscape which has the capacity to effectively absorb a wind farm development of scale, the location on an elevated ridge ensures that it is viewed above the horizon and rarely obstructs or intrudes upon valuable scenic amenity in the surrounding area.
- Strategic siting around other topographical features of high elevation (e.g. Slieve Callan) significantly screens the Proposed Development from large portions of the LVIA study area (Note the ZTV outputs).
- The turbine layout has been designed to create a coherent cluster, contiguous and connected to each other visually and with consistent spacing.
- All turbines have been located greater than 4 x tip height from residential developments in order to protect residential visual amenity.
- Selection of the turbine design, size and layout have been cognisant of the neighbouring Slievecallan Wind Farm which is located in close proximity to the Proposed Development and will often be seen within the same viewshed. Specifications of the Proposed Development have been chosen that complement the Slievecallan Wind Farm and mitigate the potential for cumulative visual effects.

- The internal site road layout makes use of the existing tracks wherever possible (to be upgraded for the delivery of wind turbine components), to minimise the requirement for new tracks within the site; and
- Felling of existing coniferous plantation is predominantly limited to keyhole felling in localised parts of the site, in keeping with existing practices in the commercial forestry plantation on-site.

During the initial site selection process, landscape sensitivity was identified as a key constraint and so landscapes considered to be less sensitive are preferred over sites with more sensitivity to change. The site location and current layout minimises the theoretical potential for visibility and the site visits and assessment tools show that the actual visibility is far less than the theory. Where visibility does occur, the design is in accordance with best practice and a coherent project, sympathetic to its neighbouring wind turbines, is evident.

12.1.5 Scoping Replies/Pre-Planning Meetings

A pre-planning consultation was held with Clare County Council on the 10th of March 2021 via Microsoft Teams. The meeting was attended by representatives of Clare County Council Planning department, Slieveacurry Ltd and MKO. MKO provided an overview of additional LVIA works that were conducted in order to address some of the third party and statutory body submissions made on the previous Slieveacurry application submitted in October 2020 (Planning Ref. P20/806) – details of which are included in Section 12.8.3.3.6 of this chapter.

Areas of interest raised by Clare County Council during preliminary pre-planning engagements during 2020 are also addressed in this LVIA.

Project History

As reported in Chapter 2 of this EIAR the proposed Slieveacurry Renewable Energy Development was refused planning permission by Clare County Council in June 2021. The Planning Authority cited 4 no. reasons for refusal including adverse landscape and visual impacts. Additional assessments were conducted in order to address some of the specific topics and concerns highlighted by the planning authority (Clare County Council) in their previous refusal pertaining to landscape and visual. The content of these assessments were reported within a Grounds of Appeal document previously submitted to An Board Pleanála on the 30th of June 2021(subsequently withdrawn). Response No. 1 in the (withdrawn) Grounds of Appeal document explicitly addressed the councils concerns pertaining to adverse landscape and visual effects.

For completeness, a full and detailed response to Refusal reason No.1 is reported in Section 12.9 below.

12.2 Brief Methodology and Assessment Criteria

This section broadly outlines the methodology and the guidance used to undertake the landscape and visual impact assessment of the Proposed Development; a more detailed description of the methodology is outlined in Appendix 12-1. There are six main sections to this assessment:

- Landscape Policy Context
- Visibility of the Proposed Development – ZTV Mapping
- Landscape Baseline
- Visual Baseline
- Cumulative Baseline
- Likely and Significant Effects – outlining the assessment of landscape, visual and cumulative effects

12.2.1 Scope and Definition of Landscape and Visual Impact (LVIA) Study Area

For the purposes of this chapter, where the 'Proposed Development site' or 'the site' is referred to, this relates to the primary study area for the Proposed Development, as shown delineated in green on the LVIA Baseline map (Appendix 12-4), Figure 12-2 (Section 12.3) and Figure 12-5 (Section 12.4) as the 'EIAR Development Site Boundary'. The Proposed Development site is discussed in some detail in terms of its landscape character in Section 12.5 of this chapter.

The landscape baseline mapping, visual receptor mapping and viewpoint selection are based on wider study areas. The geographical parameters for this LVIA was determined by desktop study, survey work undertaken, the professional judgement of the assessment team, experience from other relevant projects and best practice policy guidance or standards (Appendix 3, DoEHLG Wind Energy Development Guidelines' 2006 and GLVIA 2013). The LVIA study area has been chosen as 20 kilometres for visual and landscape effects. This is the study area for which the baseline maps and viewpoint locations are produced and are referred to as the 'study area' or the 'LVIA study area'. Furthermore, as prescribed by best practice guidance and professional experience of the assessment team, the following topic areas have been scoped out of the assessment:

- Effects on landscape and visual receptors that have minimal or no theoretical visibility (as predicted by the ZTV) and/or very distant visibility, and are therefore unlikely to be subject to significant effects;
- Effects on designated landscapes beyond a 20km radius from the Proposed Development, from where it is judged that potential significant effects on key characteristics and/or special qualities, or views are judged unlikely to occur;
- Effects on landscape character beyond a 20km radius from the Proposed Development, where it is judged that potential significant effects on landscape character are unlikely to occur;
- Effects on visual receptors beyond a 20km radius from the Proposed Development, where it is judged that potential significant effects are unlikely to occur;
- Cumulative effects in relation to single turbines (except where otherwise stated);
- Cumulative landscape and visual effects beyond a 20km radius from the Proposed Development, where it is judged that potential significant effects on landscape character are unlikely to occur;
- Underground elements of the project such as grid connection cabling which are underground and therefore not visible. The construction works required for installation of underground components are very temporary in nature and there is no potential for them to induce significant landscape and visual effects, therefore, they not considered further in this assessment.

Furthermore, in most cases ZTV mapping will be produced within a radius of 20km from the proposed turbines, however, the 2006 DoEHLG Wind Energy Development Guidelines for Planning Authorities require that *'in areas where landscapes of national or international renown are located within 25 km of a proposed wind energy development, the Zone of Theoretical Visibility should be extended as far (and in the direction of) that landscape'.* Therefore, the ZTV shown in Figure 12-5 (Section 12.4, Visibility of the Proposed Development) has been extended to 25 kilometres to include the Burren National Park.

12.2.2 Guidelines

The legislation and general guidance on Environmental Impact Assessment is set out in Chapter 1 of this EIAR. The LVIA assessment reported in this chapter was guided and informed by guidance documentation specifically pertaining to Landscape and Visual Impact Assessment, details of the guidelines used to produce this assessment are outlined in the Methodology Appendix - Appendix 12-1.

12.2.3 Baseline Landscape and Visual Information

In order to carry out this assessment, an initial desk study of baseline information was undertaken that has informed the LVIA, and this included the following:

Landscape

- Policies and objectives contained in the relevant county development plan pertaining to landscape and wind energy;
- Landscape designations in the LVIA study area;
- Landscape character of the LVIA study area;
- Landscape character of the Proposed Development site based on:
  - Site Surveys undertaken in February 2020, March 2020,June 2020 and February 2021;
  - Landscape Character Types identified in *Landscape Character Types as a basis for Guidelines*: Wind Energy Development Guidelines for Planning Authorities (Department of the Environment, Heritage and Local Government, 2006).

Visual

- Identification of Visual Receptors in the LVIA study area.

12.2.4 Assessment of Potential Impacts

The landscape and visual assessment methodology used in this chapter (outlined in Appendix 12-1) includes clearly documented methods based on the GLVIA guidelines (2013). This includes consideration of landscape and visual sensitivity balanced with the magnitude of the effect to determine the significance of effects. Mitigating factors are then taken into consideration to arrive at residual landscape and visual effects. Residual landscape and visual effects are graded upon an 'impact assessment classification of significance' scale, as defined by the Environmental Protection Agency of Ireland (EPA, 2017).

Assessment of potential impacts is conducted using photomontages, whereby the potential effects arising as a result of the Proposed Development are assessed from viewpoint locations representative of prominent landscape and visual receptors located within the LVIA study area. Further details of which along with other information on the methodology of landscape and visual impact assessment are presented in the methodology appendix - Appendix 12-1. Throughout this chapter 'theoretical visibility', is referred to, this is based on Zone of Theoretical Visibility (ZTV) mapping which is addressed in the following section.

12.3 Landscape Policy Context

This sub-section reviews the Wind Energy Development Guidelines (DoEHLG, 2006) and the policies and objectives of various planning policy documents relating to landscape, planning and the locational siting of wind farms, as they relate to the site of the proposed Proposed Development.

12.3.1 Clare Wind Energy Strategy

The Clare Wind Energy Strategy (CWES) forms Volume 5 of the Clare County Development Plan 2017-2023, and divides County Clare into four areas with regard to their capacity to accommodate wind energy developments. These areas are:

- Strategic Areas
- Acceptable in Principle Areas
- Open for Consideration Areas
- Not Normally Permissible Areas

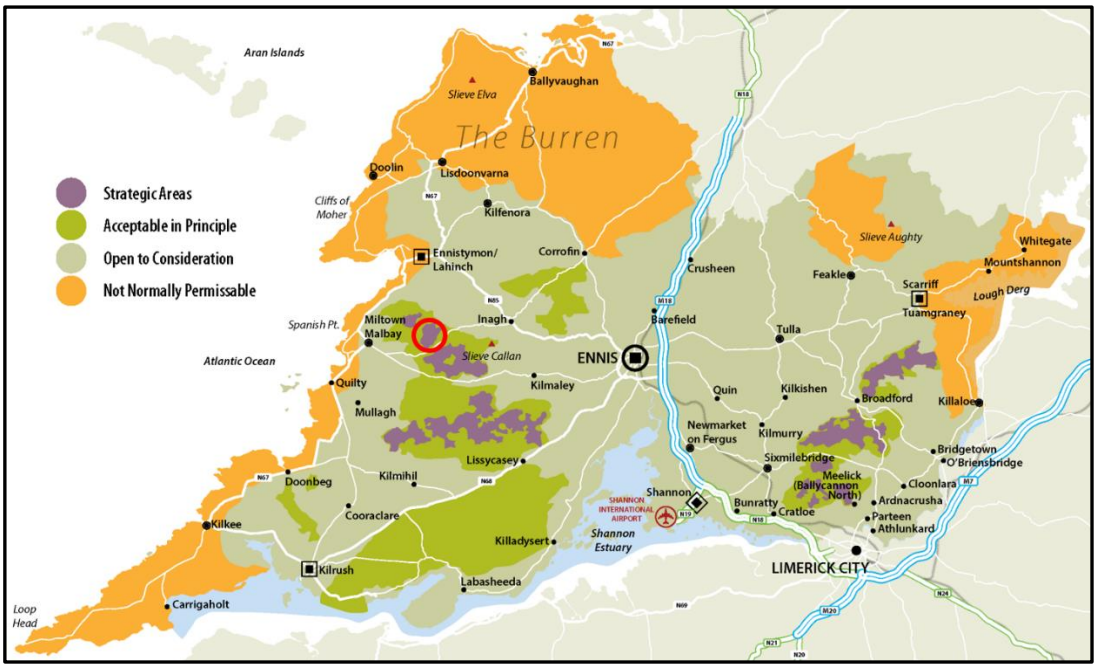


Figure 12-1 Wind Energy Designations map from CWES 2017-2023, with the Slieveacurry site location shown in red.

The majority of the Proposed Development site, and all of the proposed wind turbines are situated within an area designated as a 'Strategic Area' for Wind Farm Development, as shown in Figure 12-2 below. Specific objectives are included in the CWES pertaining to each of the wind strategy areas. Special objective "WES Eight" relates to 'Strategic Areas', and describes these as:

> *"These key areas are considered to be eminently suitable for wind farm development and are of strategic importance because of;*
>
> - *Good / excellent wind resources*
> - *Access to grid*
> - *Distance from properties and*
> - *Outside any Natura 2000 sites Projects within these areas must:*
> - *Demonstrate conformity with existing and approved wind farms to avoid visual clutter.*

- *Be designed and developed in line with the Wind Energy Development Guidelines, Guidelines for Planning Authorities (DoEHLG, 2006) in terms of siting, layout and environmental studies.*
- *Provide a Habitats Directive Assessment under Article 6 of the Habitat Regulations if the site is located in close proximity to a Special Area of Conservation or Special Protection Area.*
- *Be developed in a comprehensive manner avoiding the piecemeal development of the areas designated as 'strategic'.*

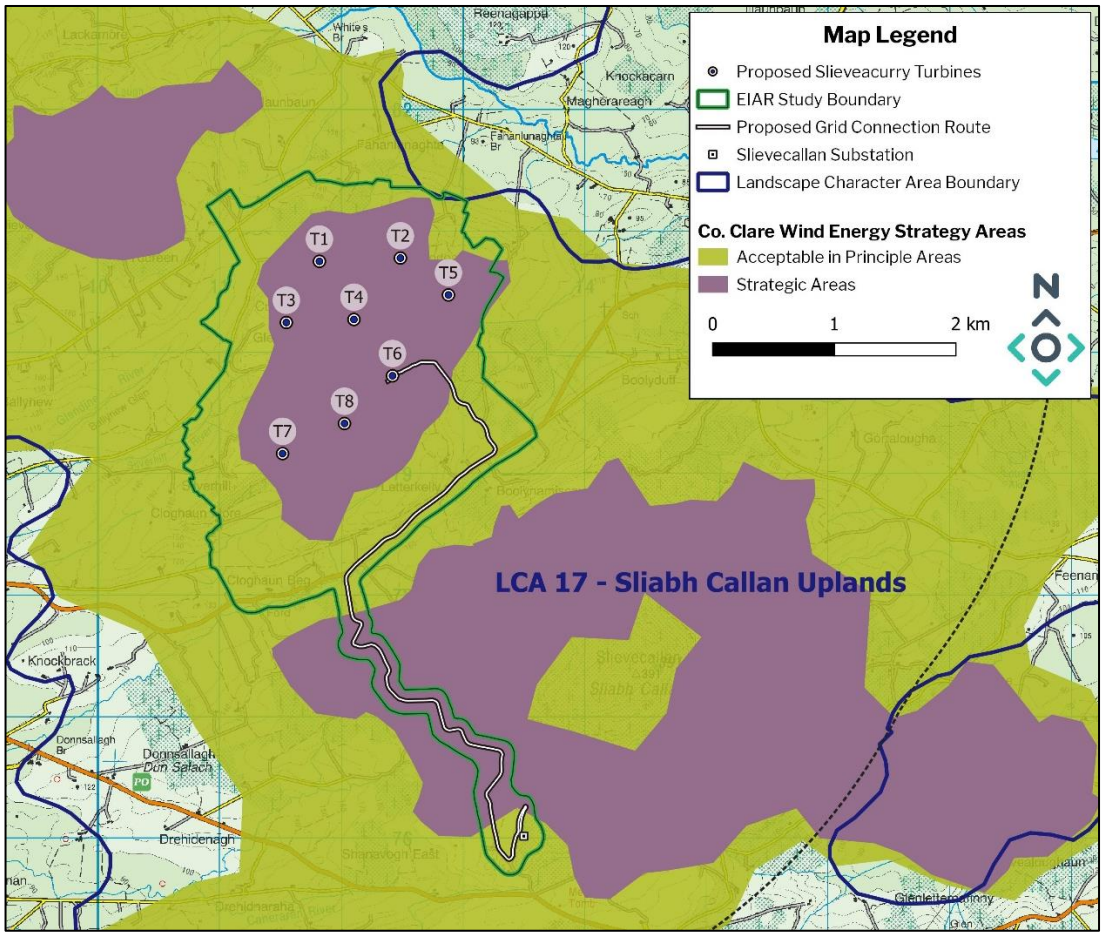


Figure 12-2 EIAR Study Area and proposed turbine locations relative to Clare Wind Energy Strategy Areas.

Special objective "WES Eight" of the CWES includes a target of 400 MW of wind energy generation from strategic areas. To-date, only 144.78MW of wind energy projects have been permitted or constructed in the areas designated as Strategic Areas. The Proposed Development, in seeking to locate all eight of the proposed turbines in a Strategic Area, would further deliver on the stated target on the CWES by delivering a further 33.6MW, or 8.4% of the County's target for Strategic Areas.

Section 4 of the CWES provides general advice on the landscape capacity for wind energy developments across the county's different landscape character areas (LCAs). The LCAs will be described further in Section 12.3.2.4 below, all proposed Slieveacurry turbines and the EIAR study site are located within LCA 17 'Slieve Callan Uplands' (also referred to as 'Sliabh Callan Uplands').

Table 12-1 Strategic guidance on landscape capacity for wind energy (extract from Table 4a of CWES)

Sliabh Callan Upland (LCA 17) This LCA encompasses upland hills and slopes of Sliabh Callan and Ben Dash	
Overall Sensitivity to Wind Farm Developments	Medium to Low
Appropriate size of wind farms (turbines numbers)	Large
Capacity	The rolling hills, low settlement, extensive plantations reduce the overall sensitivity of this LCA to wind farm development. The area could accommodate a number of large or medium wind farms subject to careful siting to avoid significant impacts on skylines. Potential Renewable Energy Generation for this area is 250 MW (Limerick Clare Energy Agency).
LCTs in Co. Clare. LCA and corresponding LCTs in 2006 Planning Guidelines	Upland Hills Moorland Hills Planning Guidelines: Mountain Moorland
Cumulative Advice from 2006 Planning Guidelines	Acceptable, depending on topography as well as siting and design of wind energy developments involved.

As illustrated in Figure 12-2 (above) and Figure 12-3 (below), the proposed site is located in the Slieve Callan Uplands LCA, which is recognised as having an overall Medium to Low sensitivity to wind farm developments, in which "large" sized wind farms are deemed to be appropriate, as indicated in Table 12-1 above.

Section 1.4 of the CWES defines wind farm project size, and on the basis of the definitions outlined below, the proposed eight-turbine development would be categorised as a 'Medium' size project:

- Small – 1 to 5 turbines
- Medium – 6 to 10 turbines
- Large – 11 to 25 turbines
- Very Large – more than 25 turbines

In the CWES, landscape sensitivity is rated on a five-point scale as follows:

- High
- Medium to High
- Medium
- Medium to Low
- Low

The CWES provides further insights in Annex B on the key landscape and visual characteristics and values of the LCAs within the 'Strategic Areas'. The relevant information for LCA 17 in which the site of the Proposed Development lies, is extracted from the CWES into Table 12-2 below.

Table 12-2 LCA 17 – Sliabh Callan Uplands. Key landscape and visual characteristics and values, and sensitivity to wind energy development (extract from Annex B of CWES)

Key Landscape and Visual Characteristics and Values		Sensitivity to Wind Energy Development	
Scale	Medium to large	**Overall Sensitivity**	Medium to Low
Landform	Upland area of hills and plateaux broad valleys in between.	**Very large/large wind farm**	Not defined in Co. Clare LCA.
Landcover	Mix of pasture with increased forestry on upper soils.	**Medium wind farm:**	Low
Enclosure	Upper slopes more open with increased enclosure though hedgerows on lower slopes	**Small wind farm:**	Low
Human Influence	Agricultural activity, afforestation, scattered settlement		
Landscape Quality	Good to moderate		
Wilderness and Tranquillity	Increasingly remote further north.		
Natural and Cultural Heritage Features	NHA designation at Sliabh Callan		
Amenity and Recreation	Limited facilities		
Capacity Assessment	The rolling hills, low settlement, extensive plantations reduce the overall sensitivity of this LCA to Wind farm development. The area could accommodate large or medium wind farms subject to careful siting to avoid significant impacts on skylines.		

With the overall sensitivity of LCA 17 to wind energy development being rated as Medium to Low, the landscape sensitivity of the Slieve Callan Uplands, where all of the proposed turbines are located, is deemed to be in the second lowest category of landscape sensitivity in the whole county.

As noted above in Table 12-1, the Slieve Callan Uplands has an energy potential of 250MW (*Table 4a,* CWES). The 8 no. turbines of the Proposed Development have an estimated generating capacity of 33.6MW of renewable electricity, this would fulfil 13.4% of the Slieve Callan Uplands energy potential and would therefore become a substantial contributor to County Clare's wind energy target of 400MW from Strategic Areas.

12.3.2 Clare County Development Plan 2017-2023

The Clare County Development Plan 2017-2023 (CCDP) was consulted to identify relevant landscape designations and policies, and those relevant to landscape are contained in Chapter 13 of the CCDP.

12.3.2.1 Living Landscapes

The CCDP identifies landscape character types and landscape character areas. *Section 13.3* of the CCDP identified three types of areas or "Living Landscapes":

- Settled Landscapes – areas where people live and work
- Working Landscapes – intensively settled and developed areas within Settled Landscapes or areas with a unique natural resource
- Heritage Landscapes – areas where natural and cultural heritage are given priority and where development is not precluded but happens more slowly and carefully

The Proposed Development site is located within a Settled Landscape (see Figure 12-3 below), which is a landscape where sustainable development is deemed to be appropriate and acceptable.

The Proposed Development is not located in a sensitive Heritage Landscape. However, coastal areas located approximately 5 km north-west of the site are designated as 'Heritage Landscape', this Heritage Landscape area extends along a coastal corridor in both northerly and southerly directions, encompassing all inland areas within approximately 1km of the coastline. The Burren National Park located (15 to 20 km) to the north of the site is also designated as a Heritage Landscape. This LVIA is cognisant of these sensitive landscape designations and assesses landscape and visual effects from these areas in Section 12.8.

The Proposed Development clearly conforms with other relevant provisions of the CCDP in that the site is located primarily in an area identified as a 'Strategic Area' for wind farm development. The site's classification as a 'Strategic Area' was a key consideration in the selection of the site as being deemed appropriate for the intended use.

12.3.2.2 Scenic Routes

The CCDP recognises the need to protect and conserve views adjoining public roads where these views are of high amenity value. It does so through the designation of scenic routes, as outlined in maps in Volume 2 (Map C), *Map 13A* and *Appendix 5* of the CCDP. There are seven scenic routes within the LVIA study area which are listed in Table 12-3 below:

Table 12-3 CCDP Scenic Routes within 20 kilometre LVIA study area (Co. Clare), as shown on Figure 12-3.

Map Ref.	Route Description
Up to 5km	
SR1	Coast Road from county boundary (along the Kinvara Road) to Quilty including the R479 spur to Doolin
SR15	R474 from Connolly to Milltown Malbay.
15-20km	
SR3	R480 from Ballyvaughan to Leamaneh Castle

Map Ref.	Route Description
SR 4 & 5	R476 from Leamaneh Castle to Corofin (*Same description for both Scenic Routes in the CCDP)
SR 6	Series of roads from junction of R476 through Parkabinnia to Castletown and south west to Seshymore, northwards from Carran through Rannagh townland.
SR14	Series of roads from junction at Ballynalacken Castle through townlands of Ballynalacken, Carrownacleary, Ballynahown, Poulnagun and Cloughan.
SR31	Wood Road, Corofin.

The CCDP includes *Objective CDP13.7* as the development plan objective relating to scenic routes, in which it is stated it is an objective of Clare County Council:

- *"To protect sensitive areas from inappropriate development while providing for development and change that will benefit the rural community;*
- *To ensure that proposed developments take into consideration their effects on views from the public road towards scenic features or areas and are designed and located to minimise their impact;*
- *To ensure that appropriate standards of location, siting, design, finishing and landscaping are achieved."*

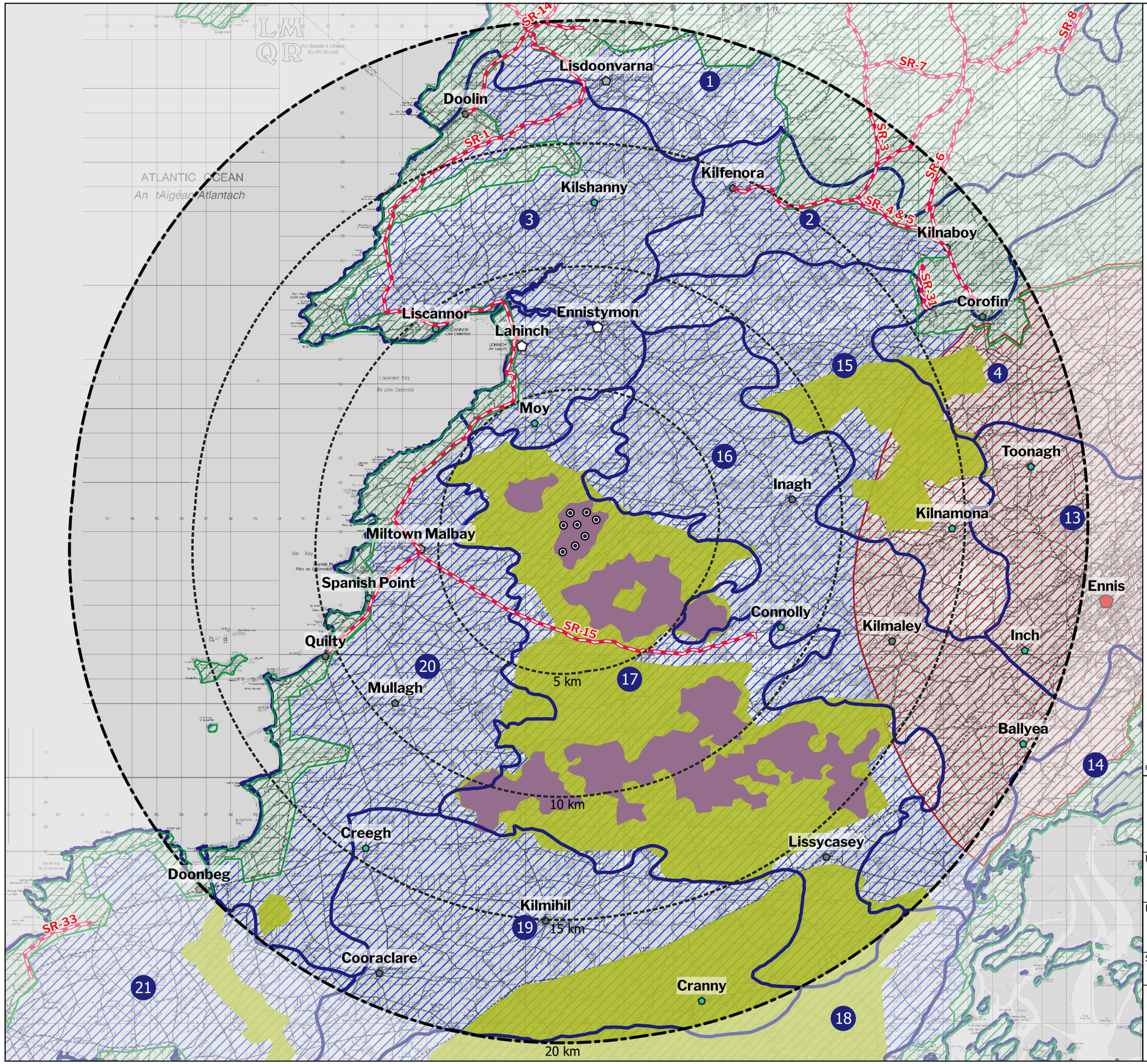
The scenic routes identified in Table 12-3 are mapped in Figure 12-3 below, the visibility of the Proposed Development from these designated scenic routes is set out under the Visual Baseline, Section 12.6, as they are in their nature a visual designation, and assessed and form part of the basis of viewpoint selection.

12.3.2.3 Settlements

The CCDP includes in its core strategy, a settlement hierarchy from the County Town of Ennis, down to service towns, small towns, large villages, small villages and cluster settlements as listed in *Table 2.1* and *Map 3A* of the CCDP. The settlements falling within the LVIA study area are outlined in Table 12-4 below and are mapped in Figure 12-3 below. Each settlement centres will be described and assessed in further detail in the Visual Baseline, Section 12.6 of this Chapter.

Table 12-4 Settlement Centres within the 20km LVIA Study Area

Service Towns	Ennistymon/Lahinch
Small Towns	Milltown Malbay; Lisdoonvarna
Large Village	Inagh; Mullagh; Quilty; Kilfenora; Kilmaley; Kilmihil; Cooraclare; Corofin; Doolin; Doonbeg; Lissycasey
Small Villages	Moy; Connolly; Spanish Point; Kilnamona; Liscannor; Creegh; Kilshanny; Kilnaboy; Toonagh; Inch; Ballyea; Cranny



Map Legend

- Proposed Slieveacurry Turbines
- LVIA Study Area

County Clare Designations

- County Clare Designated Scenic Route

Wind Energy Strategy Designations

- Strategic Area
- Acceptable in Principle area

County Clare 'Living Landscapes'

- County Clare - Heritage Landscape
- County Clare - Settled Landscape
- County Clare - Working Landscape

Settlement Hierarchy

- Hub Town
- Service Town
- Small Town
- Large Village
- Small Village

- Landscape Character Area Boundaries
  - LCA 1 - Burren Uplands
  - LCA 2 - Low Burren
  - LCA 3 - Cliffs of Moher and Lahinch
  - LCA 4 - Fergus Loughlands
  - LCA 13 - Ennis Drumlin Farmland
  - LCA 14 - Fergus Estuary
  - LCA 15 - Kilnamona Drumlin Farmland
  - LCA 16 - Cullenagh River Farmlands
  - LCA 17 - Slieve Callan Upland
  - LCA 18 - Shannon Estuary Farmland
  - LCA 19 - Kilrush Farmland
  - LCA 20 - Malbay Coastal Farmland
  - LCA 21 - Loop Head

Drawing No.

Figure 12-3

Drawing Title

Landscape Policy Context Map

Project Title

Slieveacurry Renewable Energy Development

Scale	Project No.	Date	Drawn By	Checked By
1:150000	170224-c	18.11.2021	JW	EOS

MKO Planning and Environmental Consultants

12.3.2.4 Landscape Character Assessment

The CCDP recommends the use of *"Clare County Landscape Character Assessment in both the preparation and assessment of planning applications"*. As reported in *Chapter 13.2.1* of the CCDP, the character, value, and sensitivity of different designated landscape areas within County Clare must refer to 'The Landscape Character Assessment of County Clare' report that was commissioned by the Heritage Council in 2004 (hereafter referred to as: LCACC). The LCACC designates areas of County Clare within two landscape classification scales:

- Landscape Character Types – *"Distinct types of landscape that are relatively homogenous in character. They are generic in nature in that they may occur in different localities throughout the County. Nonetheless, where they do occur, they commonly share similar combinations of geology, topography, land cover and historical land use."*
- Landscape Character Areas - *"Units of the landscape that are geographically specific and have their own character and sense of place. Each LCA has its own distinctive character, based upon patterns of geology, landform, landuse, cultural, historical and ecological features."*

Assessment of Landscape Character will comply with the landscape policy *CDP13.1* of the CCDP which states:

"To encourage the utilisation of the Landscape Character Assessment of County Clare and other relevant landscape policy and guidelines and to have regard to them in the management, enhancement and promotion of the landscapes of County Clare."

The LCACC identified 21 distinct Landscape Character Areas (LCAs) as shown on Figure 12-4 below.

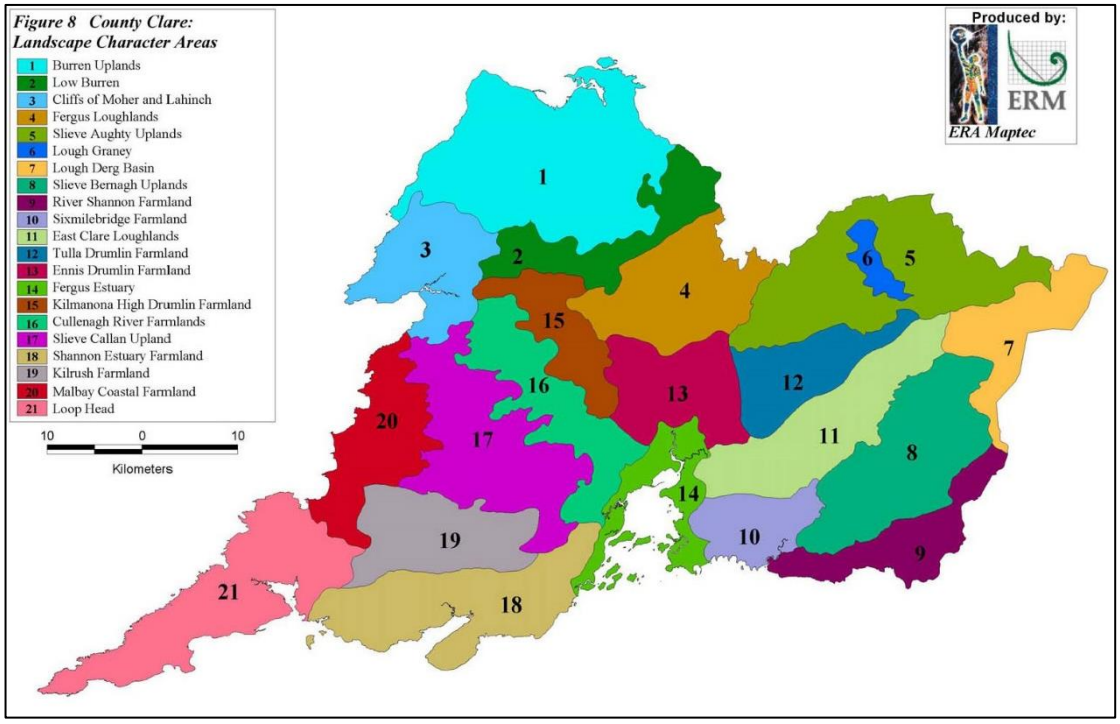


Figure 12-4 Co. Clare Landscape Character Areas (extract from Landscape Character Assessment of Co. Clare (2004))

The site of the Proposed Development and the location of the eight proposed wind turbines relative to the LCA boundaries are mapped above in Figure 12-2. The locations and extents of all LCAs within the 20-kilometre LVIA study area is shown relative to the site in Figure 12-3.

12.3.2.4.1 Landscape Character of the Proposed Development Site

Slieve Callan Uplands - LCA 17 (Sometimes referred to as the 'Sliabh Callan Uplands')

As demonstrated in both Figure 12-2 and Figure 12-3, the proposed Slieveacurry turbines are located within Landscape Character Area 17 (LCA 17) – 'Slieve Callan Uplands'. *Chapter 4.18* of the LCACC details the key characteristics of the Slieve Callan Uplands:

- *"Land rises to moorland hills of Sliabh Callan and Ben Dash.*
- *Mix of pasture, silage and coniferous habitats.*
- *Very little settlement concentrated along communication routes and in outer parts of the area.*
- *Areas become increasingly rural as one travels eastwards, away from the coast.*
- *Communications is aligned along valleys.*
- *Uplands very exposed, valleys contained but unenclosed.*
- *Long views south from Ben Dash towards Shannon Estuary."*

Landscape Condition and Sensitivity section of the LCACC reports the landscape sensitivity of the Slieve Callan Upland LCA. Classification of landscape value and landscape sensitivity from the LCACC may result in a Medium landscape sensitivity. However, the LCACC was published in 2004, since then, the CWES has been published and the designation of the Slieve Callan Uplands as a Strategic Area for wind energy development takes precedence over the 2004 sensitivity classifications in the LCACC.

As detailed previously in Table 12-2 (Section 12.3.1), the CWES designates the Slieve Callan Uplands LCA as having a Medium to Low sensitivity to wind farm development, with 'Large' wind farms (11-25 turbines) being of appropriate size.

In subsequent years since 2004 when the LCACC was published, significant infrastructure developments have been constructed within the Slieve Callan Upland Area, such as the Slievecallan Wind Farm. This development has altered the condition and sensitivity description reported (above) in the 2004 LCACC. Evaluation of the Slievecallan Wind Farm development is evaluated in Section 0, *Cumulative Baseline*.

Considering the current condition of the Slieve Callan Uplands and the designations made in the CWES, the overall sensitivity of the Slieve Callan Upland LCA 17 to wind energy development is considered **Medium to Low**, which is the lowest sensitivity classification in the CWES and landscape sensitivity in this LVIA (see Appendix 12-1).

12.3.2.4.2 Landscape Character Areas of the LVIA Study Area

In addition to the Slieve Callan Uplands LCA, all other LCAs included in the CCDP and LCCAC that are located within the 20km LVIA Study Area are shown in the Landscape Policy Context Map (Figure 12-3 above) and are listed below:

- LCA 1 - Burren Uplands
- LCA 2 - Low Burren
- LCA 3 - Cliffs of Moher and Lahinch
- LCA 4 - Fergus Loughlands
- LCA 13 - Ennis Drumlin Farmland
- LCA 15 - Kilnamona Drumlin Farmland
- LCA 16 - Cullenagh River Farmlands
- LCA 17 - Slieve Callan Upland
- LCA 19 - Kilrush Farmland
- LCA 20 - Malbay Coastal Farmland

Utilising the assessments made in the 2004 LCACC, the key landscape characteristics of each of the above LCAs are reported below. The key characteristics of LCA 17 is reported in the previous section.

The Burren Uplands - LCA 1

Key Characteristics:

- *Classic limestone karst scenery, rising to about 300m with numerous limestone features including pavement and caves.*
- *Vegetation is sparse and is confined to lower more sheltered slopes, where hazel scrub is seen, and the farmed coastal shelf where mature trees and bushy hedgerows are seen. Area is renowned for high diversity of arctic-alpine flora.*
- *Numerous historical features including wedge tombs and dolmens.*
- *Extensive limestone walls are a strong characteristic of this area, reflecting proximity of geology to the surface.*
- *Sparse settlement on higher slopes increases on lower slopes of coastal farmland.*
- *Long views are afforded from the higher slopes across the limestone pavements and over to Galway Bay and the Aran Islands, elsewhere views are limited due to wooded nature of landscape and narrow roads.*
- *Isolated and remote character in exposed limestone areas, this is combined with a more intimate landscape in lower areas.*

The Low Burren - LCA 2

Key Characteristics:

- *"This is an area of extensive exposed limestone creating rocky plains affording long extensive views. Where the soil is thicker, areas of rich limestone pasture predominate, interspersed with a number of surface water features, principally loughs.*
- *Distinctive limestone walls, comprising of vertical and diagonal slabby pieces of limestone.*
- *Source of the River Fergus and partly within National Park Boundary.*
- *Important settlements of Kilfenora and Corrofin, contrast with more remote northern limestone area.*
- *Terraced slopes of Sliabh Carran dominate the view to the west.*
- *Burren National Park covers part of the area.*
- *Historic monuments, such as megalithic tombs and castles are frequent."*

The Cliffs of Moher and Lahinch - LCA 3

Key Characteristics:

- *An area of coastal plateau and farmland gently sloping inwards towards the coast and rivers.*
- *Liscannor stone walls with slatey appearance are highly distinctive and widely used throughout the area.*
- *Popular tourist centres at Cliffs of Moher, Lahinch and Liscannor.*
- *Extensive coastal views are afforded from bays and plateau.*
- *Away from the coastal road, it is increasingly remote and an isolated sense is retained.*
- *Character of sea strongly affects the area.*

Fergus Loughlands - LCA 4

Key Characteristics:

- *Undulating lowland mosaic of loughs, farmland and wooded limestone pavements.*
- *Loughs and rivers are oriented predominantly northeast to southwest reflecting historical glacial movements.*
- *Characteristic lowland limestone pavement in parts are vegetated with hazel scrub and is of high ecological value, e.g. Dromore Lough nature reserve.*
- *Important historical features include Dysert O'Dea.*
- *Area is largely rural in character dissected by quiet minor roads.*
- *Scattered settlement aside from the villages of Crusheen and Ruan.*

Ennis Drumlin Farmland - LCA 13

Key Characteristics:

- *"Settlement of Ennis is the focal point of the area where both historical and modern development is apparent.*
- *Ennis situated within drumlin farmland, drumlins oriented northeast to southwest punctuated by small loughs.*
- *Area can be disorientating due to many small winding roads and limited views.*
- *Communication centre for the region with Ennis as county town, with Fergus River running through the town."*

Kilnamona High Drumlin Farmland - LCA 15

Key Characteristics:

- *High drumlins with mosaic of land uses, including improved and rushy farmland, wetland, lough and forest.*
- *Coniferous shelter belts are present across the area, reflecting the area's windy exposed characteristics.*
- *Dissected with narrow windy roads, lined with hedgebanks and hedges.*
- *Settlement is scattered with areas closest to Ennis revealing increased housing development.*
- *This landscape can be disorientating as views are only available from higher drumlin tops and roads are typically twisting.*

Cullenagh River Farmlands - LCA 16

Key Characteristics:

- *Drumlin farmlands drained by Cullenagh river catchment by a series of small loughs.*
- *Buckthorn, more deciduous trees and more woody vegetation present with thick hedgerows in parts.*
- *Drumlins orientated east-west.*
- *Attractive intimate area with rural intact feel.*
- *Main settlement at Inagh at crossroads, otherwise scattered.*

Kilmihil Farmlands - LCA 19 (Referred to as 'Kilrush Farmlands' in the 2017-2023 CCDP)

Key Characteristics:

- *Undulating to rolling hills, medium-high elevation. Some drumlin-type landforms but these do not dominate.*
- *Complex mix of moorland and farmland.*
- *Occasional flatter areas within hills, such as Creegh River Valley*
- *Scattered settlement across the area with Kilmihil, Creegh and Curraclare the only villages.*
- *Kilmihil town is a designated ACA.*

Malbay Coastal Farmland - LCA 20

Key Characteristics:

- *Gently undulating pastoral farmland.*
- *Indented coastline, with some wide sandy bays.*
- *Strong Atlantic influence through the open and windswept character, reinforced by minimal tree cover and hedgerows.*
- *Views to Sliabh Callan, often framed by shallow valleys and along the coastline.*
- *Scattered but frequent settlement. Often individual houses but several small villages and larger settlements including Spanish Point and Milltown Malbay.*

The Landscape Character Assessment for Co. Clare contains many references to wind farms and the suitability or pressures of wind farms in different areas of the County. These references are no longer considered relevant to the landscape policy context because the Landscape Character Assessment for Co. Clare first published in 2004 was superseded by the Clare Wind Energy Strategy which includes specific consideration of landscape capacity for wind farms of various scales and sizes.

12.3.3 DoEHLG 'Wind Energy Development Guidelines' (2006)

The Wind Energy Development Guidelines (DoEHLG, 2006) provides best practice guidance for the siting and design of wind energy developments in various landscape contexts by defining six landscape character types that represent most situations where wind turbines may be proposed. The guidance is intended to be indicative and general and notes that it, represents the 'best fit' solutions to likely situations.

The six landscape character types include 'Mountain Moorland', 'Hilly and Flat Farmland', 'Flat Peatland', Transitional Marginal Land', 'Urban/industrial' and 'Coastal' landscape character types. In consideration of Clare County Council landscape designations and site visits conducted by the MKO team, the physical characteristics of the Proposed Development site is best described by the category 'Mountain Moorland'. However, the highly agricultural landscape immediately surrounding the site is best represented by 'Hilly and Flat Farmland' landscape character type.

The guidelines note that where a wind energy development is located in one landscape character type but is visible from another, it will be necessary to decide which might more strongly influence the approach adopted for the site assessment. After several visits (throughout 2020), 'Mountain Moorland' landscape character type was deemed to be the most appropriate designation for the site and its immediate surrounds. Therefore, the best practice siting and design strategies prescribed for Mountain Moorland landscape (DoEHLG, 2006) were implemented for the Proposed Development.

12.3.3.1.1 Mountain Moorland

The key characteristics of the 'Mountain Moorland' landscape type are:

- *Peaked, ridged or rolling mountains and upland with steep*
- *sides or gently formed valleys;*
- *Generally unenclosed;*
- *Landcover comprising blanket bog, a mottling of heather, wild grasses and some rush in wet flushes; Roads, and telegraph and power lines and poles are significant components; and*
- *A landscape type of relative remoteness and often comprising pristine, unspoilt and remote landscapes.*

The siting and design guidance given for 'Mountain Moorland' in the DoEHLG(2006) guidelines is set out below:

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 mountainsides."

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. However the spatial extent of a wind energy development would need to be reduced where a suggestion of smaller scale is provided by nearby landscape features."

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. On sweeping and continuously even areas of mountain moorland or upland plateaux regular spacing may be most desirable."

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. Where a wind energy development is close to a linear element, such as a river, road or long escarpment, a corresponding linear layout or staggered line might be most desirable."

Height

"There would generally be no height restrictions on mountain moorlands as the scale of landscape is so great. However, shorter turbines may be more appropriate where they are located on small peaks and outcrops in order to maintain an appropriate scale. Profile, whether even or uneven, is dependent on topography: the more rugged and undulating (e.g., knolls and crags) the more uneven it will be. The profile of the wind energy development should not necessarily run in parallel to that of the topography."

Cumulative Effect

"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."

With reference to the DoEHLG guidelines' references to location, spatial extent and scale, spacing, layout, height and cumulative effect, the following comments are relevant to the site.

In terms of **location**, the site is located on and elevated plateau of mountain moorland in a designated 'Strategic Area' for wind energy development.

In terms of **spatial extent**, the site and surrounding areas are large in scale as a landscape, while simultaneously being relatively enclosed owing to the local landscape features and topographical undulations in the immediately surrounding areas.

In terms of **spacing**, the Proposed Development will be visible on a relatively exposed ridge, therefore, the relatively regular spacing but slightly varied rhythm of the proposed turbines is suitable and desirable for a mountain moorland site such as this.

In terms of **layout**, the Proposed Development is appropriately clustered upon a hilltop ridge.

In terms of **height**, the exposed and elevated plateau of land on which the site is located lends itself to the use of taller turbines, which is in keeping with the landscape scale and the spatial separation from visual receptors of significance.

In terms of **cumulative effect** and acknowledging the other operational wind farms in the wider area, the large, open and expansive scale of the wider landscape is considered to have the capacity to absorb the Proposed Development.

12.4 Visibility of the Proposed Development

12.4.1 ZTV Mapping: Theoretical Visibility of the Proposed Development.

ZTV mapping is an important step in the LVIA process, in that it clearly shows which areas will have theoretical visibility of the proposed turbines and which areas will have no visibility.

The ZTV mapping methodology outlined in Section 1.3 of Appendix 12-1 was used to examine the theoretical visibility of the 8 No. proposed turbines from all landscape and visual receptors within the LVIA study area, using the half blade height of the wind turbines as points of reference. As noted in Appendix 12-1, actual visibility on the ground is significantly less than predicted by the ZTV mapping due to intervening factors such as: on site screening from natural and man-made features, atmospheric weather and/or localised topography.

The Half Blade ZTV map of the Proposed Development and LVIA study area is shown in Figure 12-5 below. The 2006 DoEHLG Wind Energy Development Guidelines for Planning Authorities require that *'in areas where landscapes of national or international renown are located within 25 km of a proposed wind energy development, the Zone of Theoretical Visibility should be extended as far (and in the direction of) that landscape'.* Therefore, the ZTV shown in Figure 12-5 has been extended to 25 kilometres to include the Burren National Park.

The ZTV map is used within several mapping figures included in this chapter to enable assessment of theoretical visibility from landscape and visual receptors (See Appendix 12-4, Figure 12-8 *Landscape Baseline & ZTV,* Figure 12-10 *Visual Baseline & ZTV).* Separate colour bands are used on each ZTV map to indicate the number of turbines of which the half blade will potentially be visible. The legend on each map shows the number of visible turbines for each corresponding colour, which are as follows:

- Orange: 1 - 2 turbines visible
- Light Green: 3 - 4 turbines visible

- Yellow: 5 - 6 turbines visible
- Blue/Grey: 7 – 8 turbines visible

Figure 12-6 (below) shows the topographical features and elevation gradients existent within the landscape of the LVIA study area, the geography of these topographical landforms defines the distribution of theoretical visibility illustrated in Figure 12-5.

Generation of the ZTV utilises large scale topographical data (interpolation across 10 m OSi contour data) and does not account for topographical variation of smaller scale (e.g. < 10 metre). Therefore, in reality, small localised undulations in topography are likely to further inhibit visibility of the Proposed Development that may not be represented in the ZTV map.

Distribution of Theoretical Visibility Within 2.5 km

The ZTV map shows full or partial theoretical visibility from almost all areas within 2.5 km of the proposed site. Figure 12-6 shows that the proposed Slieveacurry turbines are located on a plateau of elevated ground surrounded by steep ridges, consequently areas immediately south, east and north-east of this plateau demonstrate only partial theoretical visibility (denoted in orange, yellow and green in Figure 12-5) as the steep terrain ascending to the site will screen visibility of the proposed turbines.

Actual visibility found on-site within 2.5 km from the proposed turbines was assessed in detail via Route Screening Analysis, which is covered in the Section 12.8.3.3.4.

Distribution of Theoretical Visibility Within 5 km

To the north-east and south-west there is predominantly full theoretical visibility to 5 km from the site as the landscape slopes down to lower elevations in both directions.

To the north-west, theoretical visibility to 5 km of the site is significantly reduced by screening from the elevations of Knockabullaunduff and Slievenalicka which are of relatively similar elevation to the Slieveacurry site. As indicated by Figure 12-5, this topographical screening extends to the southern coastline of Liscannor Bay (south of Lahinch) where ZTV mapping recorded no theoretical visibility of the Proposed Development.

Distribution of Theoretical Visibility to the South-East of the Site

Slieve Callan is the highest elevation in West Clare, it's peak (391 metres above ordnance datum) is located 3km south-east of the nearest proposed turbine. Therefore, all areas greater than 3 km south-east of the proposed site are afforded significant screening by the landform of Slieve Callan, resulting in primarily no theoretical visibility being recorded in any location in the south-east portion of the LVIA study area.

Distribution of Theoretical Visibility to the South of the Site

South of the Proposed Development, there is mixed theoretical visibility between 5 to 10 km, areas of full theoretical visibility is limited to lands of high elevation south of Doo Lough. As demonstrated in Figure 12-5, areas greater than 10 km south of the site show primarily no theoretical visibility or just small patches of partial theoretical visibility (denoted in green – only 1-2 turbines visible).

Distribution of Theoretical Visibility to the South-West of the Site

As show in Figure 12-6, areas to the south-west of the Proposed Development comprise of low lying land, gently sloping from the upland areas in the east down towards the coastline in the west and the flat coastal plain surrounding Doughmore Bay in the south-west. The Proposed Development is located

on relatively high ground in comparison to these lower elevations with no intervening landform of significance to provide screening. Therefore, these topographical characteristics are likely to enable open views of the Proposed Development from areas to the south-west of the Proposed Development as indicated by the widespread full theoretical visibility shown on the ZTV map in Figure 12-5.

Distribution of Theoretical Visibility to the East of the Site

There is widespread full theoretical visibility across the Cullenagh/Inagh River Valley to the north-east of the Proposed Development with pockets of no visibility increasing in size and frequency as distance from the proposed turbines increases. There is limited theoretical visibility recorded in the lower elevated areas of the Cullenagh/Inagh River valley surrounding Ennistymon (County Clare Designated Service Town). The landscape east of the Cullenagh/Inagh valley comprises of hilly drumlin farmland which causes intermittent patches of theoretical visibility.

There is predominantly no theoretical visibility in areas greater than 15 km east of the Proposed Development, including the Hub town of Ennis and surrounding areas. A small area of partial theoretical visibility is evident around the Barefield Junction on the M18 Motorway north of Ennis, only three to four turbines are theoretically visible. The ZTV only extends to 25 km in Figure 12-5 due to the Burren National Park being attributed a landscape receptor of international renown; the Barefield junction is located at a distance greater than 23 km from the Proposed Development, which is generally out-with the parameters for assessment of visual receptors prescribed by best-practice guidance for LVIA. Any actual visibility of the proposed turbines occurring from this location is likely to be negligible and significantly mitigated by distance. Visual receptors would need to be actively searching the landscape in order to have visibility of the proposed turbines from this location on the M18 Motorway. Also, turbines of the Slievecallan Wind Farm are 2 km closer to this location than the Proposed Development and are likely to induce visual effects of greater prominence. Considering the pattern of theoretical visibility south-east of the development until 25km, no visibility of the Proposed Development is expected from Dromoland Junction on the M18 south of Ennis which is located approximately 27 km from the nearest proposed turbine.

Distribution of Theoretical Visibility to the North of the Site

Approximately 15 km north of the Proposed Development the land rises to the highly elevated, Karst limestone landscape of The Burren, as demonstrated in Figure 12-6. There is a large area of full theoretical visibility of the proposed site from these highly elevated lands of the Burren around the town of Lisdoonvarna and the Burren National Park to the north-east.

Approximately 14 km north-north-west of the proposed site, a hill at Knooknalarabana (200m AOD) extends south-westerly to the Cliffs of Moher. There is widespread full theoretical visibility on this ridge of elevated land and the intervening landscape that slopes gently south to the north coast of Liscannor Bay. Theoretical visibility of the proposed site is very limited surrounding the town of Lahinch and the flat coastal estuary of the Inagh River.

Additional ZTV mapping exercises were conducted to assess the theoretical visibility of the Proposed Development cumulatively with all other existing, permitted and proposed wind farm developments located within the 20 km LVIA study area. These ZTV maps are presented and discussed in Section 0 of this Chapter, *Cumulative Baseline.*

Map Legend

- Proposed Slieveacurry Turbines
- LVIA Study Area
- EIAR Study Boundary
- Slievecallan Substation
- Proposed Grid Connection Route

Half Blade ZTV

- 1-2 Turbines Visible
- 3-4 Turbines Visible
- 5-6 Turbines Visible
- 7-8 Turbines Visible

5 km
10 km
15 km
20 km
25 km

Drawing No.

Figure 12-5

Drawing Title

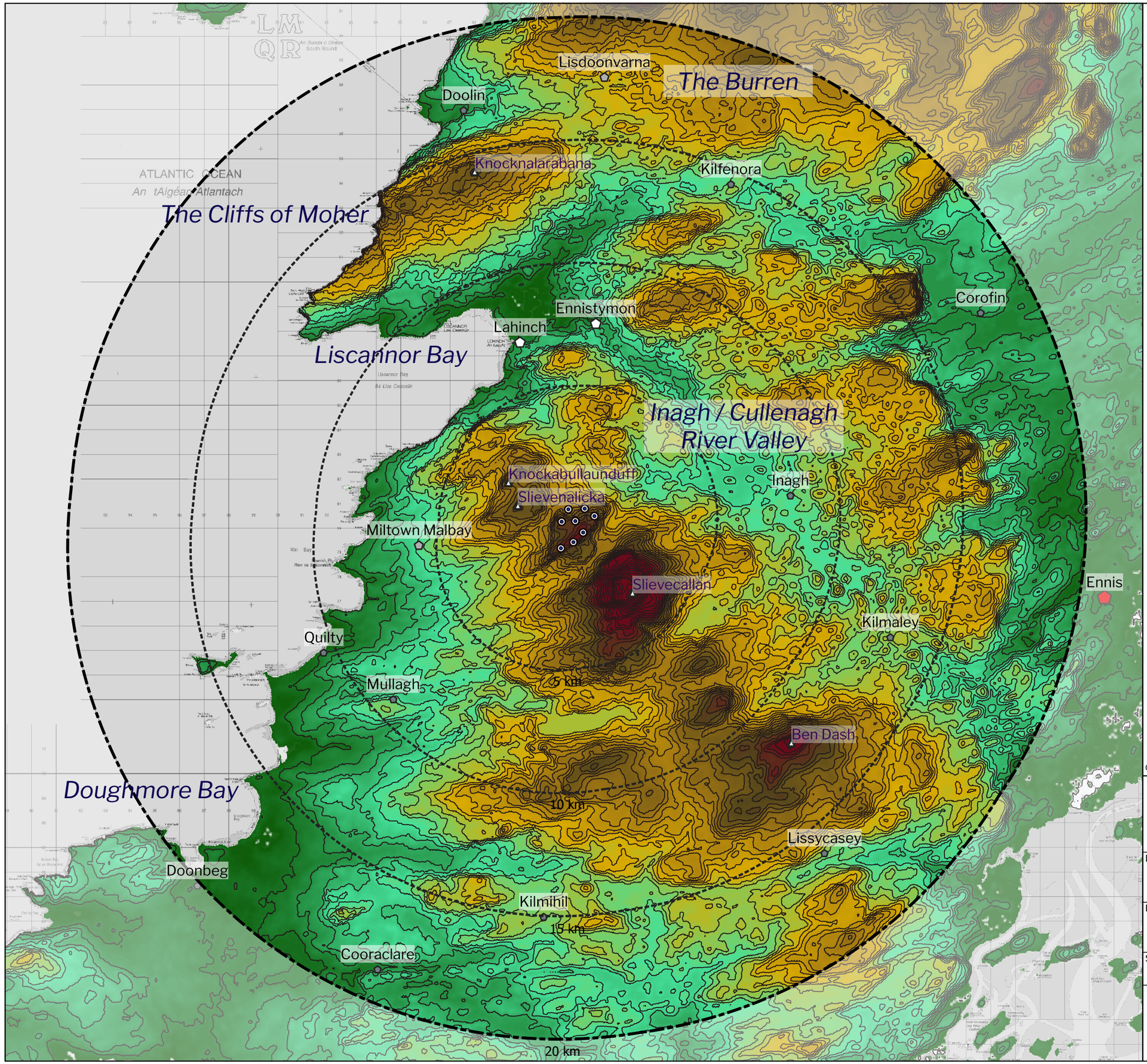
Zone of Theoretical Visibility Map

Project Title

Slieveacurry Renewable Energy Development

Scale	Project No.	Date	Drawn By	Checked By
1:185000	170224-c	18.11.2021	JW	EOS

MKO Planning and Environmental Consultants



Map Legend

- Proposed Slieveacurry Turbines
- LVIA Study Area

Elevation Above Ordnance Datum

- 1 Metre
- 50 Metres
- 100 Metres
- 150 Metres
- 200 Metres
- 250 Metres
- Contour Lines - 10 Metre Interval
- Local Peaks of High Elevation

County Clare Settlement Hierarchy

- Hub Town
- Service Town
- Small Town
- Large Village

Drawing No.

Figure 12-6

Drawing Title

Topography and Landform

Project Title

Slieveacurry Renewable Energy Development

Scale	Project No.	Date	Drawn By	Checked By
1:150000	170224-c	18.11.2021	JW	EOS

MKO Planning and Environmental Consultants

12.5 Landscape Baseline

12.5.1 Landscape of the Proposed Development Site

Site Visit Findings

The Proposed Development site was visited multiple times during 2020 and 2021 where a preliminary assessment of topography, drainage, landcover and land use was conducted in conjunction with other LVIA surveys. Information gathered during these visits have informed the following site descriptions.

Plate 12-1 Aerial Imagery of the Proposed Development Site – (Bing Maps - Microsoft product screen shots reprinted with permission from Microsoft Corporation).

Topography

The Proposed Development site is located in an upland area of western County Clare (see Figure 12-6, above), the topography of the wider LVIA study area is discussed previously in Section 12.4. The topography of the site is hilly, with elevations ranging from 90 metres A.O.D at the site boundary to a central plateau of 250 metres A.O.D. As shown in Figure 12-7 below, a ridge of elevated land extends from the south-west of the site to the north-east from Turbine T7 to T5. Turbines located to the north of the site are located upon the central plateau (T1, T2, T3, T4, T5).

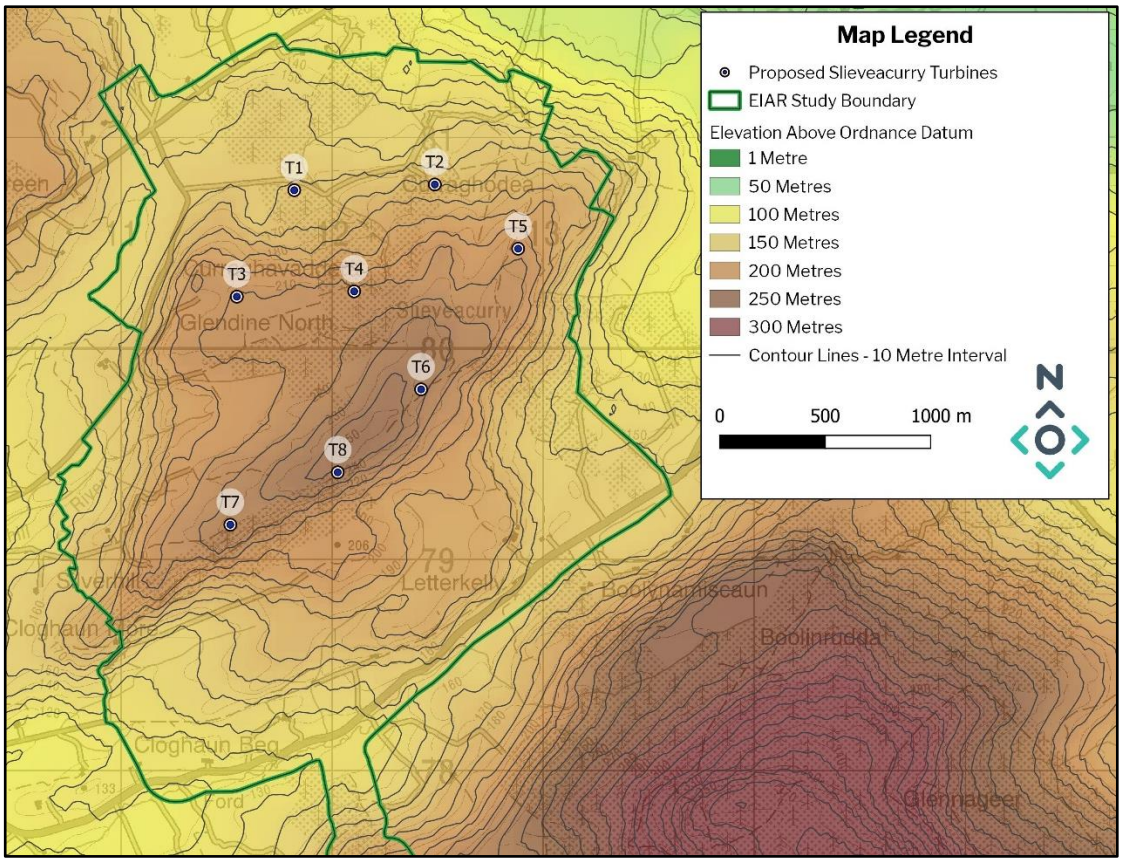


Figure 12-7 Topography of the Proposed Development Site.

The GSI (1999) '*Geology of the Shannon Estuary*' booklet states that during the Postglacial period, there has been excessive growth of blanket bog on the higher ground in western County Clare, western County Limerick and northern County Kerry. It also states that:

"Much of this has been stripped away completely or leaving a thin veneer of peat only. In recent years there has been much afforestation in these areas."

The site of the Proposed Development aligns with the quote above, it is of higher ground comprising a thin veneer of peat and mountain moorland.

Drainage

The northern and eastern sections of the Proposed Development site are located within the Inagh drainage catchment, which drains to the Inagh River. This Inagh river flows north westerly towards the estuary at Liscannor Bay, north of Lahinch.

The southern and western sections of the site are located within the Annagh drainage catchment. The western area of the site is drained by the Silverhill River, a tributary of the Glendine River, which then flows to the Annagh River. The watercourses in the southern section of the site drain to the Kildeema River, which also flows into the Annagh River. The Annagh river flows east to west, towards the coast.

Further detail on drainage of the site is included in Chapter 9: *Hydrology and Hydrogeology*.

Landcover

Landcover is the term used to describe the combinations of vegetation and land-use that cover the land surface. It comprises the more detailed constituent parts of the landscape and encompasses both natural and man-made features.

Landcover on the site and within the surrounding area comprises a mix of pasture, coniferous forest, peat bogs and transitional woodland scrub. The majority of peatlands within the study site have been cut over at some time in the past and are now classified as cutover bog. Large areas of the Proposed Development site are occupied by cutover bog, from which peat has been extracted in the past (see Plate 12-3).

Coniferous forestry is located primarily on the southern slopes, central plateau and northern section of the Proposed Development site. These areas comprise mainly Sitka Spruce and Lodgepole Pine, and range in age from recently planted to mature plantations. Coniferous forestry is also a common landcover element in the wider area surrounding the Proposed Development site, as shown in Plate 12-2. Plate 12-4 and Plate 12-5 show views from the site towards the south-east and north-east.

Plate 12-2 Typical landcover on the Proposed Development site; includes coniferous forestry and wet grassland.

Plate 12-3 Cutover bog on the site of the Proposed Development

Plate 12-4 View to the southeast from the Proposed Development site, encompassing the north-eastern slopes of Slieve Callan

Plate 12-5 View to the northeast from the Proposed Development site, showing coniferous forestry as a common landcover element within the wider landscape.

Land Use

The Proposed Development site is part of a rural working landscape, with agriculture, forestry and turf cutting being primary land-uses. Man-made features within the wider landscape include roads, residential houses and farm buildings.

Man-made features on the Proposed Development site include forestry access roads. The Proposed Development plans to upgrade the existing forestry roads or access tracks on the site. The condition of the existing tracks varies according to their use, with some built to a higher standard than others. Plate 12-6 and Plate 12-7 (below), for example, show forestry access roads in good condition, located in the north-western section of the Proposed Development site. Plate 12-8 shows an existing track used for agricultural purposes, located in the south-eastern section of the Proposed Development site.

Plate 12-6 Forestry access road in northwest section of the Proposed Development site

Plate 12-7 Forestry access road in northwest section of the Proposed Development site.

Plate 12-8 Existing agricultural track in southeast section of the Proposed Development site.

12.5.1.2 Landscape Value and Sensitivity of the Proposed Development Site

The landscape value of the site was assessed to establish the capacity of the immediate landscape in which the proposed turbines will be built, as is prescribed by best practice guidance: *"as part of the baseline description the value of the potentially affected landscape should be established"* (*Page 80,* GLVIA, 2013). The landscape value enables determination of the susceptibility and sensitivity of the landscape at a micro level (the development site) and therefore it's capacity to absorb the infrastructure of a wind farm development.

To determine the landscape sensitivity and value of the Proposed Development site, landscape characteristics pertaining to the site have been summarised in Table 12-5 below. These in turn were then summed up in a landscape value and landscape sensitivity classification of either Low, Moderate and High for the Proposed Development site.

Table 12-5 Indicators of Landscaper Value and Sensitivity.

Indicator	Description
Landscape Designations	The Proposed Development site is located in a 'Strategic Area' for wind energy development; and the Slieve Callan Upland LCA 17 and the County Clare 'Settled' Living Landscape
Landscape Quality/Condition	The condition of the landscape is Medium/Low, it has been impacted by the presence of coniferous forestry plantations, turf cutting and working farmland. Areas of bog and moorland within the site have been significantly degraded by historical peat cutting operations.

Indicator	Description
Wildness/Naturalness	The areas of open peatland and moorland incite a sense of remoteness and wildness. However, the anthropological influence of forestry operations, surrounding farmlands, peat cutting practices has diminished the perceived naturalness and wildness of the landscape.
Recreational Value	The Proposed Development site comprises privately owned land and is not used for any public recreational activities.
Cultural Meaning / Associations	There are no cultural associations on the Proposed Development site.

In consideration of the factors detailed in Table 12-5 above, the landscape value of the Proposed Development site is deemed to be Low to Moderate and the landscape sensitivity to wind farm development is deemed to be Low. The sensitivity of the site determined from the site visit and other designations aligns with the low sensitivity rating designated to this location in the CWES.

12.5.2 Landscape Receptors in the Wider LVIA Study Area

The LVIA study area does not extend beyond County Clare, therefore, landscape policy determined by Clare County Council was used to identify landscape designations in the wider landscape. The following landscape designations identified in the LVIA Study Area are discussed in detail previously in Section 0 of this chapter and mapped in Figure 12-3 above:

- 10 No. Designated Landscape Character Areas
- County Clare Living Landscapes

12.5.2.1 Landscape Character Areas

- LCA 1 - Burren Uplands
- LCA 2 - Low Burren
- LCA 3 - Cliffs of Moher and Lahinch
- LCA 4 - Fergus Loughlands
- LCA 13 - Ennis Drumlin Farmland
- LCA 15 - Kilnamona Drumlin Farmland
- LCA 16 - Cullenagh River Farmlands
- LCA 17 - Slieve Callan Upland
- LCA 19 - Kilrush Farmland
- LCA 20 - Malbay Coastal Farmland

As demonstrated in Figure 12-3 above and Figure 12-8 below, the Proposed Development site is located in LCA 17 - the Slieve Callan Uplands and in close proximity to LCA 15 - Cullenagh River Farmlands which borders the EIAR study boundary to the north-east. LCA 20 - Malbay Coastal Farmland comprises the relatively flat coastal plain located to the south-west of the Proposed Development site. LCA 3 – The Cliffs of Moher and Lahinch is located to the north of the Proposed Development site.

The geographical extent of other LCAs in the LVIA study area are shown in Figure 12-8 below, the map also illustrates the distribution of theoretical visibility of the Proposed Development in each LCA, as indicated by the ZTV.

12.5.2.2 Landscapes of National and International Renown

The Burren National Park and The Cliffs of Moher are landscapes of high geological value, as such they were awarded the status 'UNESCO Global Geopark' by the United Nations Educational Scientific and Cultural Organisation (UNESCO) in 2015.

The karst landscape of The Burren and Cliffs of Moher region is located in the north of the LVIA study area (Figure 12-6, Figure 12-8), they "*represents an intact, contiguous cultural landscape unit of major significance*" (UNESCO, 2010). Both the cultural and geological value make them landscapes of national and international renown, therefore, they are landscape receptors afforded a very high sensitivity to change.

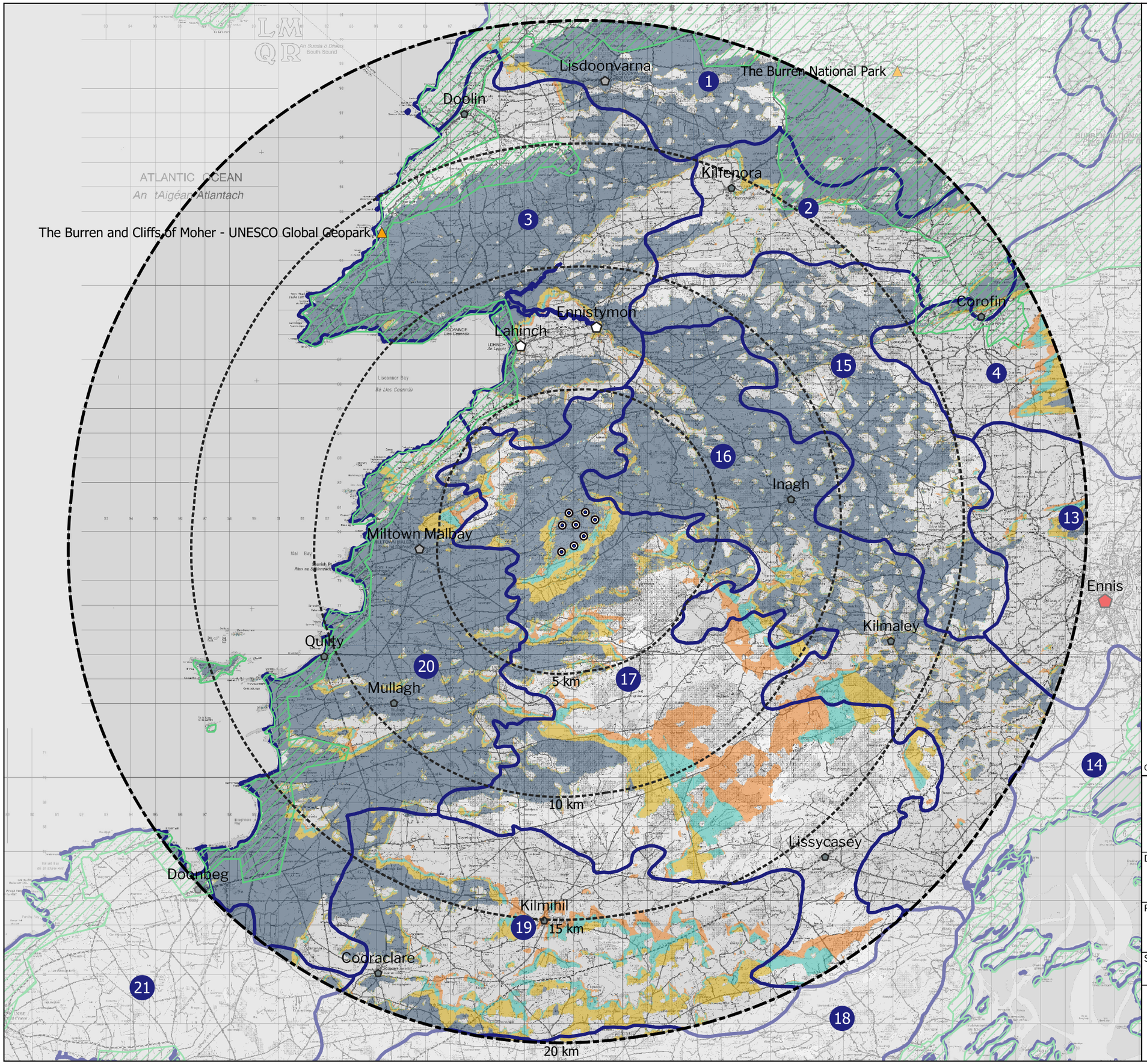
12.5.3 Landscape Receptor Preliminary Assessment

Having identified and located the landscape receptors existent within the LVIA study area, a preliminary assessment was conducted using ZTV mapping to screen out landscape receptors that will not be impacted by the Proposed Development and identify receptors requiring further assessment.

Figure 12-8 (below), shows a ZTV map and prominent landscape receptors identified in the LVIA study area. There is full theoretical visibility of the Proposed Development from many areas of County Clare Heritage Landscape and, also, from The Burren and Cliffs of Moher UNESCO Global Geopark. Likely significant landscape and visual effects arising from these areas of sensitive landscape are put forward for assessment in this LVIA (See Section 12.8 Appendix 12-2 and Appendix 12-3).

All 10 no. LCAs identified in the LVIA Study area have some form of theoretical visibility. The potential visibility of the Proposed Development was appraised on site (surveys conducted during Spring 2020) from all LCAs with limited or partial theoretical visibility.

Table 12-6 (below) details the theoretical visibility obtained from ZTV mapping and the actual visibility of the Proposed Development found on site for each LCA during site visits.



Map Legend

- Proposed Slieveacurry Turbines
- LVIA Study Area

Half Blade ZTV

- 1-2 Turbines Visible
- 3-4 Turbines Visible
- 5-6 Turbines Visible
- 7-8 Turbines Visible

Settlement Hierarchy

- Hub Town
- Service Town
- Small Town
- Large Village

Landscape Receptors

- Landscape of National and International Renown
- County Clare - Heritage Landscape
- Landscape Character Area Boundaries

LCA 1 - Burren Uplands
LCA 2 - Low Burren
LCA 3 - Cliffs of Moher and Lahinch
LCA 4 - Fergus Loughlands
LCA 13 - Ennis Drumlin Farmland
LCA 14 - Fergus Estuary
LCA 15 - Kilnamona Drumlin Farmland
LCA 16 - Cullenagh River Farmlands
LCA 17 - Slieve Callan Upland
LCA 18 - Shannon Estuary Farmland
LCA 19 - Kilrush Farmland
LCA 20 - Malbay Coastal Farmland
LCA 21 - Loop Head

Drawing No.

Figure 12-8

Drawing Title

Landscape Baseline and Half Blade ZTV

Project Title

Slieveacurry Renewable Energy Development

Scale	Project No.	Date	Drawn By	Checked By
1:150000	170224-c	18.11.2021	JW	EOS

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Table 12-6 Theoretical Visibility and Actual Visibility of Landscape Character Areas within the LVIA Study Area

LCA	Theoretical Visibility (ZTV)	Actual Visibility
17 – Slieve Callan Upland	Large areas of full theoretical visibility; Large areas of no visibility to the south-west.	Predominantly full visibility, except for areas NW and SE of the Proposed Development
Up to 5 km		
3 - Cliffs of Moher and Lahinch	Large areas of full theoretical visibility; Large areas of no theoretical visibility (approximate splits of 50:50)	Areas of both full and limited visibility
16 - Cullenagh River Farmlands	Area of full theoretical visibility within 5 km of the site; Partial or no theoretical visibility to the east and south.	Actual visibility only found in open and elevated locations. Limited visibility found in the Cullenagh River Valley
20 - Malbay Coastal Farmland	Full theoretical visibility with small areas of no theoretical visibility	Lots of visibility in this LCA
5 to 10 km		
2 - Low Burren	Small patches of full theoretical visibility.	Actual visibility is very limited.
15 – Kilnamona High Drumlin Farmland	Partial	Actual visibility is very limited.
10 to 15 km		
1 - Burren Uplands	Full theoretical visibility with patches of no theoretical visibility	Lots of visibility found within the LVIA Study Area, No visibility in locations in the northern area of the LVA
4 - Fergus Loughlands	Very small area of full theoretical visibility	No Visibility
19 - Kilmihil (Kilrush) Farmlands	Patches of Full and Partial theoretical visibility.	Very limited visibility
15 to 20 km		
13 – Ennis Drumlin Farmland	None	No Visibility

Landscape receptors listed in Table 12-7 below are screened out from further assessment in this LVIA, views towards the turbines were either entirely screened or substantially screened. This along with, in some cases, distance to the Proposed Development site precluded these locations being selected as viewpoints.

*Table 12-7 Landscape receptors with no significant visibility found on site – **Screened Out** from further assessment*

Landscape Receptor Category	Landscape Receptor with no significant visibility found on site
Living Landscape Designation	Western Corridor Working landscape
Landscape Character Areas	LCA 2 - Low Burren
	LCA 4 - Fergus Loughlands
	LCA 13 – Ennis Drumlin Farmland
	LCA 19 - Kilmihil (Kilrush) Farmlands

Following the pre-assessment exercise, the landscape receptors shown in Table 12-8 below have been selected for assessment due to their significance within the study area and the potential landscape effects they may experience due to the proposed wind energy development.

*Table 12-8 Landscape receptors **Screened In** for full assessment*

Landscape Receptor Category	Landscape Receptor
Living Landscape Designation	Heritage Landscape – Coastal regions to the south, west and north, including southern areas of The Burren.
	Settled Landscape – landscape areas surrounding the site in all directions.
Landscape of International Significance	The Burren and Cliffs of Moher UNESCO Global Geopark
	The Burren National Park
Landscape of the Proposed Development Site	Landscape of Proposed Development Site
Landscape Character Areas	LCA 1 - Burren Uplands
	LCA 3 - Cliffs of Moher and Lahinch
	LCA 15 - Kilnamona High Drumlin Farmland
	LCA 16 - Cullenagh River Farmlands
	LCA 17 Slieve Callan Uplands
	LCA 20 - Malbay Coastal Farmland

The six LCAs listed in Table 12-8 are assessed further in the Landscape Character Assessment tables in Appendix 12-2, where likely landscape effects arising as a result of the Proposed Development are addressed in detail, the results of which are presented and discussed in Section 12.8.

The other prominent landscape receptors in Table 12-8 are included in the landscape character assessment (Appendix 12-2) as they are located within the five LCAs. They are also contributing factors aiding viewpoint selection for assessment of landscape and visual effects via the photomontage assessment methodology (See Methodology Appendix 12-1).

12.6 Visual Baseline

12.6.1 Visual Receptors

The main purpose of establishing the visual baseline is to identify the key visual receptors that should be considered for viewpoint selection, viewpoints are locations from which visual effects are assessed from photomontages (See Appendix 12-1). To this end the following visual receptors have been identified within the LVIA study Area and are listed in order of priority:

- Designated Scenic Routes
- Settlements
- Recreational and Tourist Destinations
- Viewing Areas (e.g. marked on OSi Maps)
- Transport Routes
- Recreational Routes
    - Waymarked Walking Routes
    - Cycle Routes
    - Scenic Drives
    - Tourist Routes (e.g. Wild Atlantic Way)

These visual receptors are identified in the visual baseline map (Figure 12-9 below) and listed in tables in the following sections along with theoretical visibility at those locations indicated by the ZTV map in Figure 12-10, seen below.

12.6.1.1 Designated Scenic Routes

The designated scenic routes were identified and located from the listed Scenic Routes exhibited in *Appendix 5* of the CCDP. Table 12-9 lists the scenic routes located in the LVIA study area as illustrated in Figure 12-9, and details the theoretical visibility of the Proposed Development along each scenic route as shown in Figure 12-10.

Table 12-9 County Clare Designated Scenic Routes

Map Ref.	Scenic Route Description	Theoretical Visibility (TV)
Up to 5 km		
SR1	Coast Road from county boundary (along the Kinvara Road) to Quilty including the R479 spur to Doolin	Full TV between Quilty and Miltown Malbay. No TV along the route immediately north-west of the proposed site. Full TV between Lahinch and The Cliffs of Moher. No TV in Doolin.
SR15	R474 from Connolly to Milltown Malbay.	Full TV along the westerly section of the route located south and west of the Proposed Development. No TV along the south easterly section of the route.
15 to 20 km		
SR3	R480 from Ballyvaughan to Leamaneh Castle	Full TV where this scenic route is located in the LVIA study area.

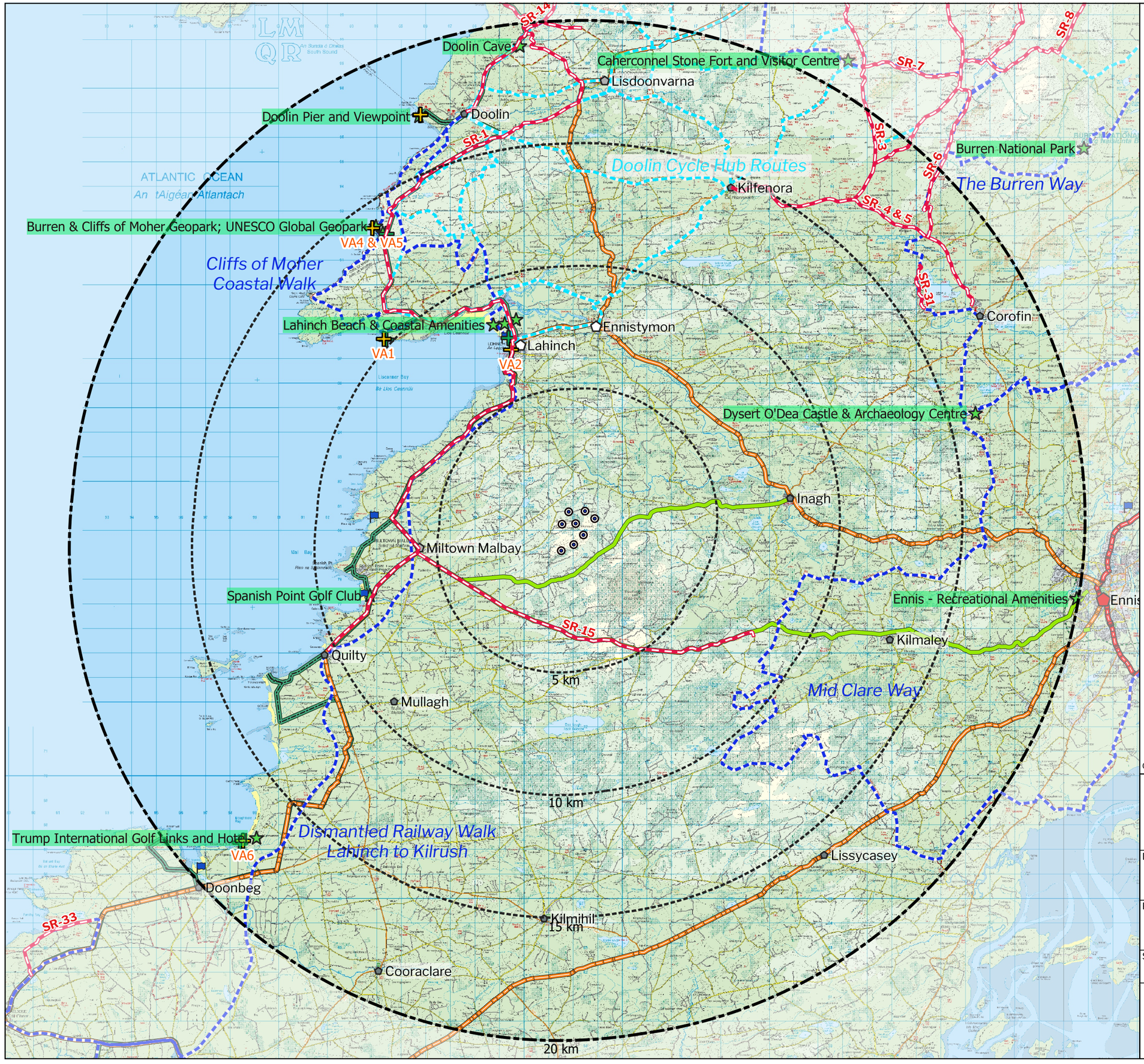
Map Ref.	Scenic Route Description	Theoretical Visibility (TV)
SR 4 & 5	R476 from Leamaneh Castle to Corofin (*Same description for both Scenic Routes in the CCDP)	Very little TV along this scenic route, no TV on the westerly and south easterly extent of the route. Intermittent patches of TV is evident to the east of Kilfenora.
SR 6	Series of roads from junction of R476 through Parknabinnia to Castletown and south west to Seshymore, northwards from Carran through Rannagh townland.	Full TV to the north of the scenic route where it remains within the LVIA study area.
SR14	Series of roads from junction at Ballynalacken Castle through townlands of Ballynalacken, Carrownacleary, Ballynahown, Poulnagun and Cloughan.	No TV
SR31	Wood Road, Corofin.	No TV

12.6.1.2 ## Settlements

In order to identify which settlements within the study area should be considered for viewpoint selection, the settlement strategies and hierarchy set out in the core strategy of the CCDP was consulted. The hierarchy of towns, villages and other centres within county Clare is shown in Map 3A: *Settlement Hierarchy* of the CCDP are as follows:

- County Town
- Service Towns
- Small Towns
- Large Villages
- Small Villages (not included in assessment)
- Clusters (not included in assessment)

Table 12-10 below lists the settlements identified in the CDP within the LVIA study area also noting their status within the settlement hierarchy and whether there is theoretical visibility indicated by the ZTV. Small Villages and Clusters were precluded from the visual baseline due to both their abundance and their insignificance in comparison to other prominent visual receptors.



Map Legend

- Proposed Slieveacurry Turbines
- LVIA Study Area

Visual Receptors

- County Clare Designated Scenic Route

Settlement Hierarchy

- Hub Town
- Service Town
- Small Town
- Large Village
- Viewing Area (OSi Viewpoint)
- Tourism and Recreational Destination
- The Wild Atlantic Way - Tourist Route
- Wild Atlantic Way Discovery Points
- Blue Flag Beach- Good Quality Bathing Waters
- Way Marked Walking Trail - Recreational Route
- Cycling Route - Recreational Route
- National Primary Road - Transport Route
- National Secondary Road - Transport Route
- Regional Road (nearby) - Transport Route

Drawing No.

Figure 12-9

Drawing Title

Visual Baseline - Visual Receptor Map

Project Title

Slieveacurry Renewable Energy Development

Scale	Project No.	Date	Drawn By	Checked By
1:150000	170224-c	18.11.2021	JW	EOS

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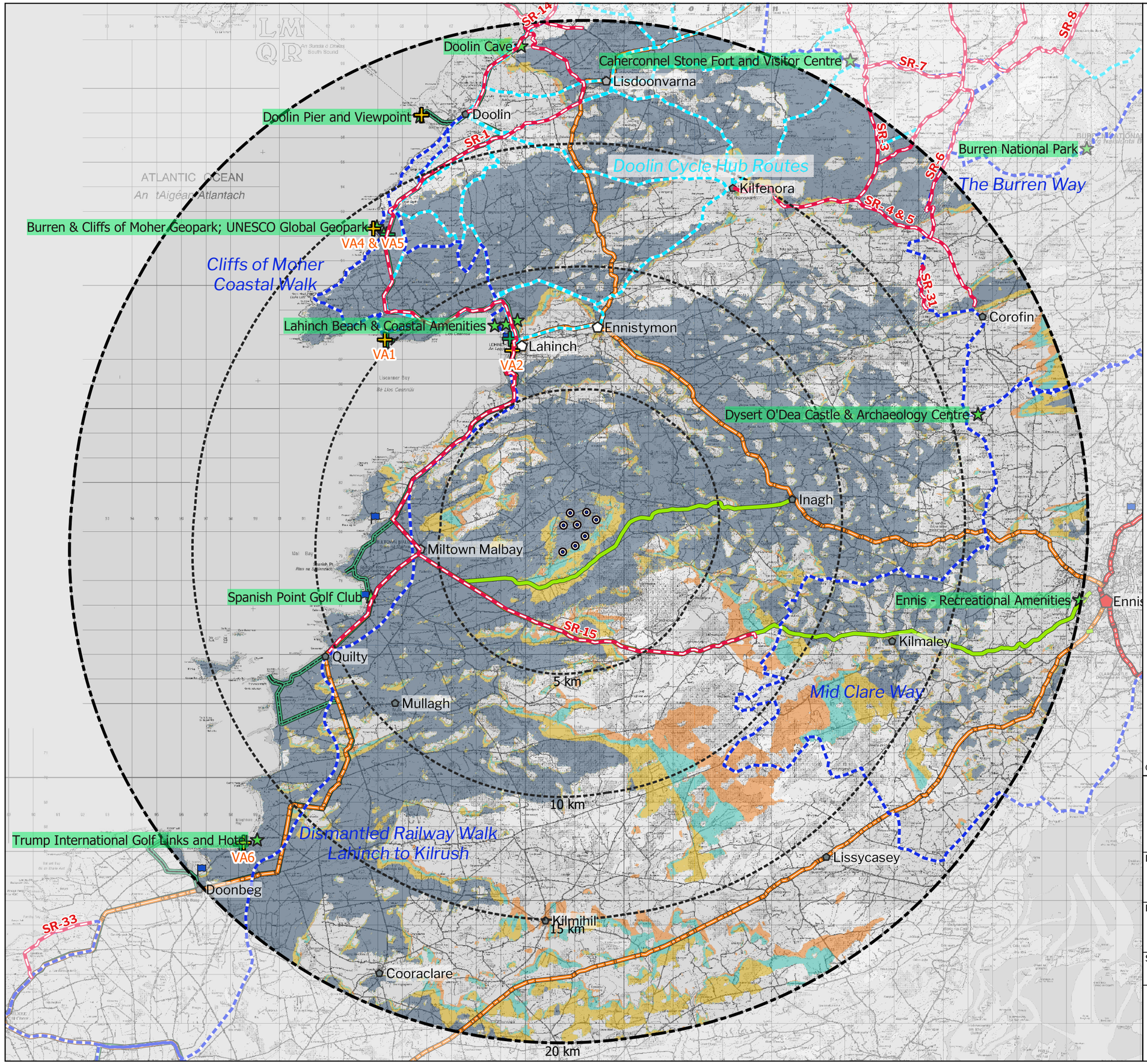

Map Legend

- Proposed Slieveacurry Turbines
- LVIA Study Area

Half Blade ZTV

- 1-2 Turbines Visible
- 3-4 Turbines Visible
- 5-6 Turbines Visible
- 7-8 Turbines Visible

Visual Receptors

- County Clare Designated Scenic Route

Settlement Hierarchy

- Hub Town
- Service Town
- Small Town
- Village
- Viewing Area (OSi Viewpoint)
- Tourism and Recreational Destination
- The Wild Atlantic Way - Tourist Route
- Wild Atlantic Way Discovery Points
- Blue Flag Beach- Good Quality Bathing Waters
- Way Marked Walking Trail - Recreational Route
- Cycling Route - Recreational Route
- National Primary Road - Transport Route
- National Secondary Road - Transport Route
- Regional Road (nearby) - Transport Route

Drawing No.

Figure 12-10

Drawing Title

Visual Receptors and ZTV Map

Project Title

Slieveacurry Renewable Energy Development

Scale	Project No.	Date	Drawn By	Checked By
1:150000	170224-c	18.11.2021	JW	EOS

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Table 12-10 Significant Settlements within the Study Area

Settlement	Settlement Hierarchy	Theoretical Visibility (TV
Up to 5 km		
Miltown Malbay	Small Town	TV of 7-8 turbines
5 to 10 km		
Ennistymon	Service Town	TV of 7-8 turbines from the northern portion of the town only. Intermittent TV of 3-4 turbines in the centre of the town. Very limited TV to the East and no TV to the west.
Inagh	Large Village	TV of 7-8 Turbines
Lahinch	Service Town	Very limited TV in the central and southern portion of the town. Intermittent TV in the northern portion of the town (between 1-6 turbines theoretically visible), with TV of 7-8 turbines occurring from residences on the coast road north (R478).
Mullagh	Large Village	TV of 7-8 turbines
Quilty	Large Village	TV of 7-8 turbines
10 to 15 km		
Kilfenora	Large Village	No TV
Kilmaley	Large Village	Very mixed and intermittent TV. One small central area where there is TV of 7-8 Turbines. The northern and southern portion of the village has no TV.
Kilmihil	Large Village	No TV
15 to 20 km		
Cooraclare	Large Village	No TV
Corofin	Large Village	No TV
Doolin	Large Village	No TV
Doonbeg	Large Village	TV of 7-8 turbines

Settlement	Settlement Hierarchy	Theoretical Visibility (TV
Ennis	County Town/Hub	Predominantly No TV. TV of 1-6 turbines limited to small localised areas in the north of the town.
Lisdoonvarna	Small Town	TV of 7-8 turbines
Lissycasey	Large Village	No TV

12.6.1.3 Recreation and Tourist Destinations

After consulting the tourism strategy outlined in the CCDP, recreational and tourist destinations were identified through a desktop exploration of localised tourism plans and policies existent within County Clare. Prominent outdoor tourism and recreational destinations identified in the LVIA study area are listed below in Table 12-11:

Table 12-11 Recreational and Tourist Destinations in the Study Area

Destination	Description	Theoretical Visibility (TV)
5 to 10 km		
Castle Course	Golf course, located North of Lahinch Town (includes Dough Castle – Iconic Castle Ruins synonymous with Lahinch)	TV of 7-8 turbines at the northern end of the course, TV of 1-6 turbines at the southern extent
Lahinch Beach	An Taisce (2019) designated Blue Flag Beach with bathing waters of Good Quality Status. Frequent recreational surfing amenity occurs at this beach.	TV of 7-8 turbines
Lahinch Golf Club	Golf course located North of Lahinch Town. A well renowned links course regularly hosting prestigious tournaments.	TV of 7-8 turbines
Spanish Point Beach	An Taisce (2019) designated Blue Flag Beach with bathing waters of Good Quality Status.	Predominantly TV of 7-8 turbines at most locations in the Spanish Point area, however, there is very limited TV on the actual beach (0 – 6 turbines TV).
Spanish Point Golf Club	Golf course, located at Spanish Point.	TV of 7-8 turbines
White Strand Beach (near Miltown Malbay)	An Taisce (2019) designated Blue Flag Beach with bathing waters of Good Quality Status.	TV of 7-8 turbines at the northern extent of the beach, no TV towards the southern end.

Destination	Description	Theoretical Visibility (TV)
10 to 15 km		
Cliffs of Moher	UNESCO Global Geopark. Tourism amenities at the Cliffs of Moher Visitor Centre.	TV of 7-8 turbines
Hags Head	Natural landmark and unique rock formation. A popular destination at the southern extent of the Cliffs of Moher.	TV of 7-8 turbines
15 to 20 km		
Doolin Cave and Visitor Centre	Award winning cave tour and visitor centre, including gardens and a small farm.	No TV
Doolin Pier	Doolin Pier is an important transport location for ferry connections to the Aran Islands and for boat tours beneath the Cliffs of Moher.	No TV
Dysert O'Dea Castle and Archaeology Centre	A restored 15th Century Castle surrounded by heritage walking trails at many archaeological sites.	No TV
Ennis Amenities	As the County Hub, Ennis has many outdoor recreational and tourist amenities within its vicinity, including: Golf Courses; Hotels; Walking Trails and Parkland.	No TV
Trump International Golf Links and Hotel	Links Golf Course, and five-star hotel and spa.	Predominantly TV of 7-8 turbines. Several Patches of mixed TV (0-6 turbines TV) at the southern extent of the course, near the hotel.
White Strand Beach (near Doonbeg)	An Taisce (2019) designated Blue Flag Beach with bathing waters of Good Quality Status.	TV of 7-8 turbines

12.6.1.4 Viewing Areas

After consulting the views and prospects strategy outlined in *Chapter 13.5* of the CCDP, viewing areas within the LVIA study area were identified by locating Wild Atlantic Way Discovery Points, 'Viewing Point' on OSi maps.

Some viewing area locations do not have official names or number designations, numbers and names have been assigned to each location for the purpose of this study which are shown on Figure 12-9 and used in Table 12-12. The viewing areas identified in Table 12-12 have car parking amenity and sometimes picnic areas, therefore, visual receptors are likely to be able to enjoy the view at their leisure, consequently they are receptors of high sensitivity.

Table 12-12 Viewing Areas (OSI points) in the LVIA study area

Location	Direction of View	Theoretical Visibility (TV)
5 to 10 km		
Clahane Wild Atlantic Way Discovery Point: Viewing Area 1	South – The view is directed both towards and perpendicular to the Proposed Development	TV of 7-8 turbines
Lahinch South: Viewing Area 2	West - Directed away from the Proposed Development	TV of 7-8 turbines
Lahinch Beach Wild Atlantic Way Discovery Point: Viewing Area 3	South-west - Directed away from the Proposed Development	TV of 7-8 turbines
10 to 15km		
Cliffs of Moher North (OSi): Viewing Area 4	North-west - Directed away from the Proposed Development	TV of 7-8 turbines
Cliffs of Moher South (OSi): Viewing Area 5	South-west - Directed away from the Proposed Development	TV of 7-8 turbines
15 to 20km		
Doughmore Bay - Wild Atlantic Way Discovery Point: Viewing Area 6	North-west - Directed away from the Proposed Development	TV of 7-8 turbines
Doolin Pier - Wild Atlantic Way Discovery Point: Viewing Area 7	South West - Directed away from the Proposed Development	No TV

12.6.1.5 Transport Routes

For the purpose of viewpoint selection National Primary and National Secondary roads were identified within the LVIA study area. Preference was given to viewpoint selection on regional roads in cases where they passed through settlement areas or coincided with scenic routes to increase the number of visual receptors. Regional road and Local Road transport routes within 2.5 kilometres of the site were also assessed as part of the route screening analysis included in Section 12.8.3.

Table 12-13 Significant transport routes within the study area

Transport Route	Description	Theoretical Visibility (TV)
Up to 5 km		
N67	National Secondary road north from Doonbeg to Lisdoonvarna via Quilty, Miltown Malbay, Lahinch and Ennistymon.	Full TV of 7-8 turbines from most sections of this route south-west of areas south-west of the site, and patches to the North.
R460	Regional Road running west-east to the south of the site, from Knockliscrane to Inagh.	Full TV of 7-8 turbines where the route is located east and west of the site. TV of 5-6 turbines along the route to the south of the site. TV of 0-4 turbines along route where is passes the south-eastern perimeter of the Proposed Development site.
R474	Regional Road running west-east, from Miltown Malbay to Ennis.	Full TV of 7-8 turbines along the westerly portion of the route until 5km east from Miltown Malbay; Predominantly No TV as the route heads easterly to Ennis. There are several intermittent patches of intermittent TV (Range of 1-8 turbines) along the route near to the villages of Conolly and Kilmaley.
5 to 10 km		
N85	National Secondary road heading west-east, from Ennistymon to Ennis	Full TV of 7-8 turbines along most of the Route. There are several areas where TV becomes intermittent in the Inagh valley, to the east of the site. There is no TV along the route beyond 12km from the Proposed Development.
15 to 20 km		
N68	National Secondary Road running north easterly from Kilrush to Ennis.	Predominantly No TV along this route; Patches of TV at the south-westerly extent of the LVIA study area, TV ranges from 1-8 turbines in these areas.

12.6.1.6 Recreational Routes

Chapters 5.4.2 and *8.2.9* of the CCDP outlines the vision and strategy of Clare County Council to preserve and support the development of outdoor trails and recreational routes in the county; and the objectives in *Chapter 9* to preserve and support tourism routes such as The Wild Atlantic Way. In order to comply with these objectives, recreational routes have been included in the visual baseline. Waymarked walking routes, cycle routes, designated tourism routes and scenic driving routes were identified within the LVIA study area as part of the visual baseline. Routes were identified and located by examination of OSi maps and online sources such as: Heritagemaps.ie and Activeme.ie. Many routes exist of differing scale and prominence, only recreational routes of County or National importance were included in this LVIA. All Routes are Shown in Figure 12-9 (above) and listed in Table 12-14 (below).

Table 12-14 Recreational Routes in the LVIA Study Area

Route Name	Description	Theoretical Visibility (TV)
Up to 5km		
Dismantled Railway – Lahinch to Kilrush	Walking Route.	Predominantly full TV of 7-8 turbines along all areas south-west of the site; No TV within 5km of the site.
Wild Atlantic Way	Designated Tourist Route	No TV within 5km of the site. Full TV of 7-8 turbines from the route south-west of the site, and also between Lahinch and the Cliffs of Moher. There is no (or very limited) TV from along the route north of the cliffs of Moher.
5 to 10 km		
Burren Cycling Route	Cycle Route	Large areas of Full TV of 7-8 turbines to the northerly and western parts of the route. No TV around the village of Kilfenora.
Burren Way	Waymarked Walking Route.	Predominantly No TV; A large patch of Full TV of 7-8 turbines from the Cliffs of Moher south to Lahinch. Several patches of TV of 7-8 turbines from areas located at the north-easterly extent of the LVIA study area near The Burren National Park
Cliffs of Moher Coastal Walk – Liscannor to Doolin	Walking Route.	TV of 7-8 turbines in all areas south of the Cliffs of Moher Visitor Centre and around Liscannor Bay. No TV north of the visitor centre.
Doolin Cycle Hub Routes	Cycle Route.	Large areas of Full TV of 7-8 turbines where the routes are proximate to Lisdoonvarna. No TV around the village of Kilfenora or Doolin.
Mid-Clare Way	Waymarked Walking Route.	Predominantly No TV. Intermittent patches of Full TV (7-8 turbines TV) and Partial TV (5-6 turbines visible) between 8-15km east of the site.

12.6.2 Visual Receptor Preliminary Assessment

After identifying the visual receptors in the study area based on designated scenic routes and views, settlements, recreational and tourist destinations, viewing areas, transport routes and recreational routes a preliminary assessment was carried out to screen out visual receptors that will not be impacted by the Proposed Development. Using the Zone of Theoretical Visibility mapping shown on Figure 12-10 the visual receptors that will have no theoretical visibility are screened out as shown in Table 12-15 below.

*Table 12-15 Visual Receptors Screened Out - **No visibility** indicated by ZTV map*

Visual Receptor Category	Visual Receptor with no visibility shown on ZTV
Designated Scenic Routes	SR14, SR31.
Settlements	Cooraclare; Corofin; Doolin; Ennis; Kilfenora; Kilmihil; Lissycasey.
Recreational and Tourist Destinations	Doolin Cave and Visitor Centre; Doolin Pier; Dysert O'Dea Castle and Archaeology Centre; Ennis Amenities;
Recreational Routes	N/A
Viewing Areas	Viewing Area 7.
Transport Routes	N/A

Directions have been indicated for viewpoints shown on OSi maps and other designated scenic views either written text or on accompanying maps. The Viewing Areas that have the focus of view directed in the opposite direction from the proposed turbines have been screened out from further assessment, these are listed in Table 12-16 below.

Table 12-16 Viewing Area Screened Out - Direction of View

Visual Receptor Category	Viewing Areas Screened Out
Viewing Area	Viewing Area 2; Viewing Area 3; Viewing Area 4; Viewing Area 5; Viewing Area 6.

For the remaining visual receptors, visibility was assessed on site during surveys undertaken in spring and summer 2020. In the case of the visual receptors shown in Table 12-17 below, views towards the turbines were either entirely screened or substantially screened. In some cases, the factor of distance to the Proposed Development site was included in screening assessment and was a contributing factor precluding these locations being selected as viewpoints.

Table 12-17 Visual Receptors Screened Out – No significant visibility found on site.

Visual Receptor Category	Visual Receptor with no significant visibility found on site
Designated Scenic Routes	SR 4 & 5;
Settlements	Doonbeg; Kilmaley.
Recreational and Tourist Destinations	Hags Head; Lahinch Beach (south end); White Strand Beach (near Doonbeg); White Strand Beach (Miltown Malbay).
Recreational Routes	The Mid-Clare Way
Viewing Areas	N/A
Major Transport Route	N68 Kilrush - Ennis

Following the pre-assessment exercise, the visual receptors listed below in Table 12-18 have not been screened out for any of the reasons outlined above. Therefore, these receptors are screened in and will be assessed further in the assessment below (Section 12.8); in order to inform the assessment, individual viewpoints were selected at or along those receptors, from which photomontages were produced.

*Table 12-18 Visual receptors **Screened In** for further assessment - utilised to establish photomontage viewpoint locations.*

Visual Receptor Category	Description	Viewpoint
Designated Scenic Routes and Scenic Views	SR1	VP07; VP08; VP12; VP14;
	*SR3	VP01
	SR6	VP01
	SR15	VP04; VP09.
Settlements	Ennistymon	VP11
	Inagh	VP02
	Lahinch	VP12
	Lisdoonvarna	VP15
	Miltown Malbay	VP09
	Mullagh	VP05
	Quilty	VP07
Recreational and Tourist Destinations	Cliffs of Moher	VP14
	Lahinch Beach (North)	VP12
	Lahinch Golf Courses	VP12
	Spanish Point Beach	VP08
	Spanish Point Golf Club	VP08
	Trump International Golf Links and Hotel	VP06
Viewing Areas	Clahane Viewing Area 1	VP13
Major Transport Routes	R474	VP04; VP09
	R460	VP03
	N67	VP07; VP08; VP11;
	N85	VP02

Visual Receptor Category	Description	Viewpoint
Recreational Routes	Burren Way	VP01; VP12
	Burren Cycling Route	VP15; VP12
	Cliffs of Moher Coastal Walk – Liscannor to Doolin	VP13
	Doolin Cycle Hub Routes	VP14; VP12; VP15
	Dismantled Railway – Lahinch to Kilrush	VP07
	Wild Atlantic Way	VP07; VP08; VP12; VP14

** Viewpoint 01 which is located on Scenic Route 6 will also be used to represent the visual effects arising on Scenic Route 3. This is due to the similarity in types of view, distance and geography in relation to the Proposed Development and the superior panoramic landscape views available at Viewpoint 01.*

Furthermore, in addition to the viewpoints listed above, which were selected according to the key visual receptors identified in the visual baseline, additional viewpoints were selected within 2.5 km to assess the visual effects on local residents living in close proximity to the Proposed Development.

Viewpoint 10 was selected to assess the visual effects from residential amenity on the Ballard Road where there is a large cluster of residential dwellings called Ballinoe in the townland of Ballynew. Viewpoints 03, 16 and 17 are located on the R460 Regional Road and are representative of residential receptors to the south-east, south and south-west of the Proposed Development.

12.7 Cumulative Baseline

In terms of cumulative landscape and visual effects, only other wind energy projects have been considered, as only these would be described as very tall vertical elements in the landscape and therefore give rise to significant cumulative effects. Other wind energy developments, within 20km of the Proposed Development, were identified by searching past planning applications lodged through the various planning authorities (Clare County Council and An Bord Pleanála) online planning portals. The information identified in the initial planning search was then used to verify, by means of a desk-based study and ground-truthing, whether the permitted wind energy developments had been constructed. The list of existing, permitted, under construction wind turbines present within the study area are listed in Table 12-19 below:

Table 12-19 Other existing, permitted, under construction and proposed wind farms within 20km of the Proposed Development

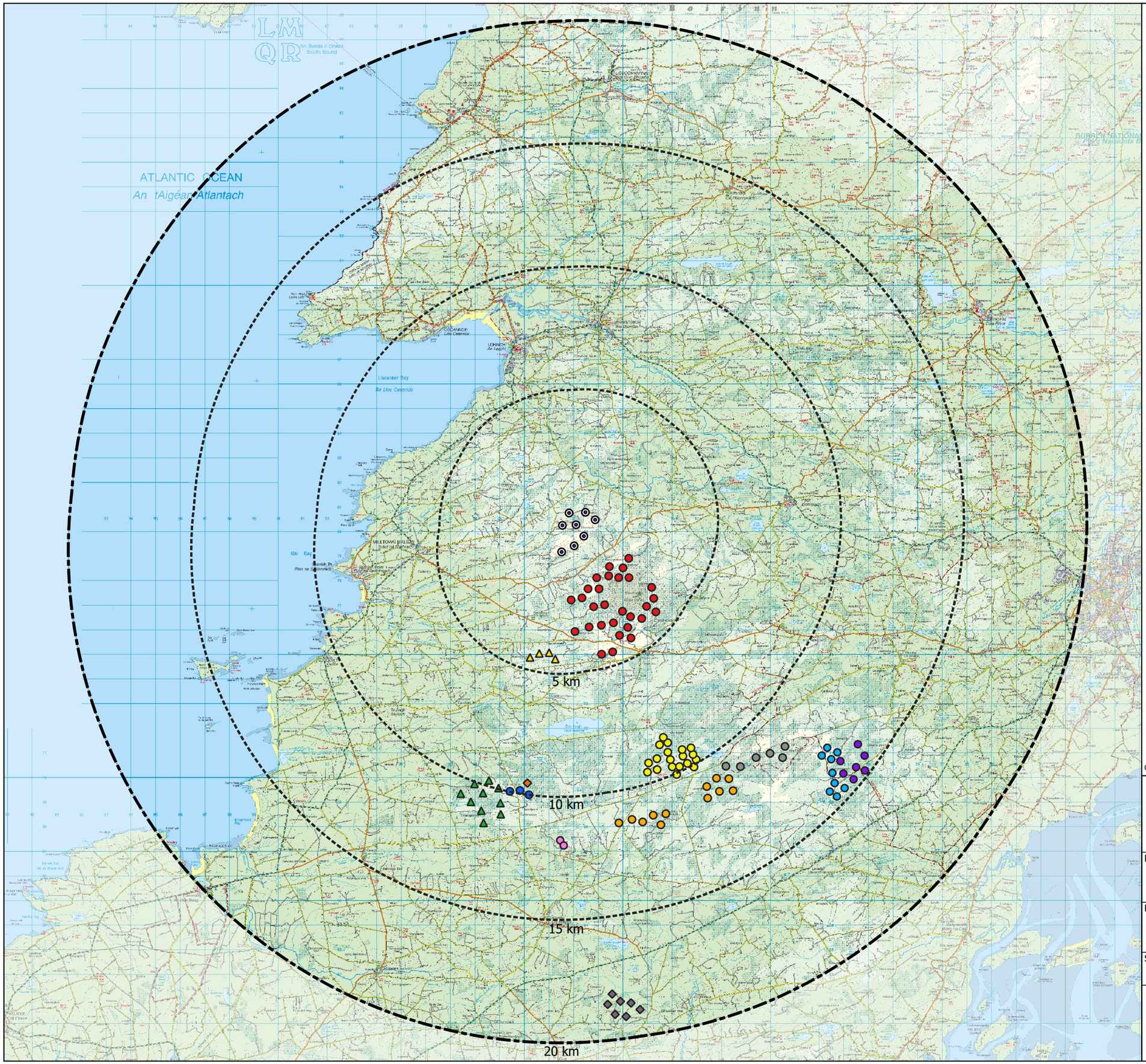
Wind Farm	Status	No. of Turbines	Turbine Tip Heights
Up to 5 km			
Coor West	Proposed (Currently Under Appeal - An Bord Pleanála)	4	126m
Slievecallan	Existing	29	125m
5 to 10 km			
Booltiagh	Existing	13	91m
Booltiagh Extension	Existing	6	120m
Cahermurphy	Existing	3	131m
Cahermurphy	Permitted	1	150m
Cahermurphy Two	Recently Proposed	10	170m
10 to 15 km			
Boolynagleragh	Existing	9	125m
Boolynagleragh Extension	Existing	7	126m
Glenmore	Existing	12	136.5m
Letteragh (Kilmaley)	Existing	6	136.5m
Kiltumper	Existing	2	98m
15 to 20 km			
Crossmore	Permitted	7	125m

There are 13 no. existing, permitted and proposed wind farms within a 20-kilometre radius of the Subject Development. The locations of the 13 wind farms can be identified on the Cumulative Baseline map (below).

12.7.1 Comparative Cumulative Visibility – Half Blade ZTV

Figure 12-12 (below) shows the cumulative visibility of all existing, permitted and proposed wind farms (represented in purple) within the LVIA study area, any additional visibility attributed to the addition of the Proposed Development is represented in light green. Only a few very small areas of green are evident in Figure 12-12, these are limited to areas immediately surrounding the site and sporadic patches to the north-west, north and north east of the site. The areas illustrated in light green are the only locations within the LVIA study area where cumulative visibility increases as a result of the Proposed Development. The very small proportion of green in the map clearly shows that due to the high proportion of existing, permitted and proposed turbines within 20 km, and the insignificant visibility of the Proposed Development from surrounding areas, the addition of the Proposed Development is a minor addition to the extent and pattern of turbine visibility. Therefore, the absence of the Proposed Development will be of minor significance to cumulative visibility. It is also worth noting that the ZTV does not account for localised undulations in topography (<10m) and other screening factors, therefore, actual visibility of turbines from the areas in 'light green' may be limited on the ground.

Likely cumulative landscape effects are assessed in the landscape character assessment tables in Appendix12-2, and likely cumulative visual effects are assessed in the photomontage assessment tables in Apendix12-3. The results of the cumulative landscape and visual assessments are detailed in Section 12.8.3, *Operational Effects.*



Map Legend

- Proposed Slieveacurry Turbines
- LVIA Study Area

Other Wind Farms within 20 km

Existing Developments

- Booltiagh (Including Extension)
- Boolynagleragh
- Boolynagleragh Extension
- Cahermurphy
- Glenmore
- Kiltumper
- Letteragh
- Slievecallan

Permitted Developments

- Cahermurphy Optimisation
- Crossmore (Extended)

Proposed Developments

- Cahermurphy Two
- Coor West (Currently Under Appeal ABP)

Drawing No.

Figure 12-11

Drawing Title

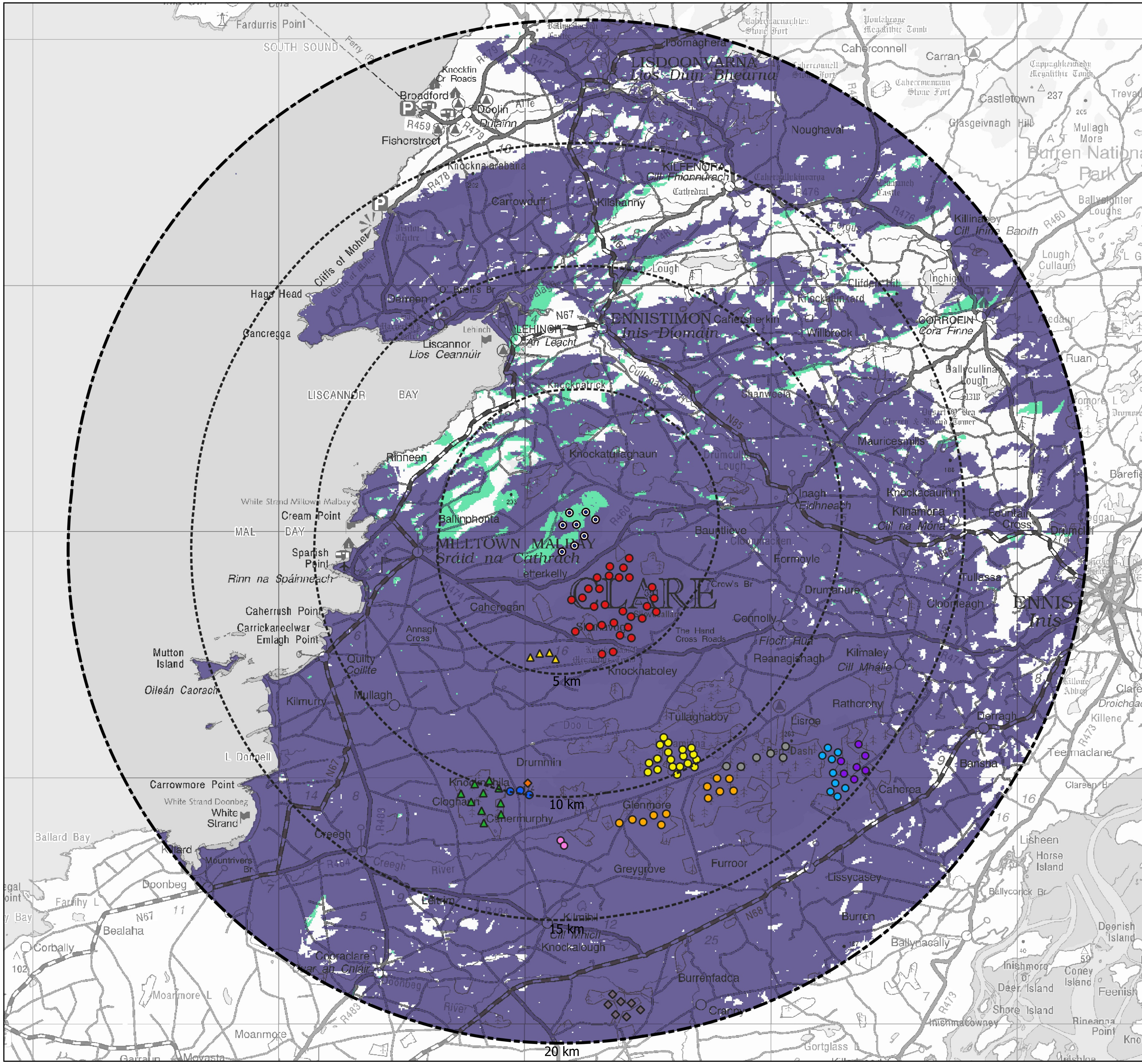
Cumulative Baseline

Project Title

Slieveacurry Renewable Energy Development

Scale	Project No.	Date	Drawn By	Checked By
1:150000	170224-c	18.11.2021	JW	EOS

MKO Planning and Environmental Consultants



Map Legend

- Proposed Slieveacurry Turbines
- LVIA Study Area

Cumulative Comparative Half Blade ZTV

- Theoretical Visibility of any Existing, Permitted or Proposed Turbines in the LVIA Study Area
- Additional Theoretical Visibility - Slieveacurry Turbines Only

Other Wind Farms within 20 km

Existing Developments

- Booltiagh (Including Extension)
- Boolynagleragh
- Boolynagleragh Extension
- Cahermurphy
- Glenmore
- Kiltumper
- Letteragh
- Slievecallan

Permitted Developments

- Cahermurphy Optimisation
- Crossmore (Extended)

Proposed Developments

- Cahermurphy Two
- Coor West (Currently Under Appeal ABP)

Drawing No.	
	Figure 12-12

Drawing Title
Comparative Cumulative Half Blade ZTV

Project Title
Slieveacurry Renewable Energy Development

Scale	Project No.	Date	Drawn By	Checked By
1:150000	170224-c	18.11.2021	JW	EOS

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12.8 Likely or Significant Landscape and Visual Effects

12.8.1 'Do-Nothing' Scenario

In a 'Do-Nothing' scenario, the Proposed Development of a renewable energy project at the proposed Slieveacurry site would be to leave the site as it is, with no changes made to existing land-use practices. If the Proposed Development were not to proceed existing commercial forestry, turf cutting and agricultural activity would continue.

In implementing the 'Do-Nothing' alternative, however, the opportunity to capture a significant part of County Clare's renewable energy resource would be lost, as would the opportunity to contribute to meeting Government and EU targets for the production and consumption of electricity from renewable resources and the reduction of greenhouse gas emissions. On the basis of the positive environmental effects arising from the project, the do–nothing scenario was not the chosen option.

12.8.2 Construction Phase Effects

It is estimated that the construction phase of the Proposed Development will last between approximately 12-18 months. The construction stage of the development will involve construction of 8 no. wind turbines, all associated hardstand areas, 2 no. temporary construction compounds, a meteorological mast, excavation of 2 no. borrow pits, construction and upgrading of access roads, extension of the existing Slievecallan substation located approximately 3 km south of the site and all the associated excavation works for the cable connection from the proposed Slieveacurry site to the substation. Construction phase effects also include the associated effects resulting from the movement of construction and turbine transport vehicles into and out of the site, to allow the construction of the turbines and associated elements.

12.8.2.1 Landscape Effects

It is considered that this is a short-term, imperceptible, negative effect in terms of landscape effects.

12.8.2.2 Visual Effects

The most substantial visual effects will arise from requisite construction activities such as building tower sections and erecting the turbines, these will be short-term, slight, negative visual effects. The equipment and vehicles required to transport and erect the wind farm components include large cranes and large haulage vehicles, these may induce minor, short-term negative visual effects.

A detailed description of other construction activities are included in Chapter 4 of this EIAR, Description of the Subject Development and the Construction and Environmental Management Plan that forms an Appendix of Chapter 4. For more details on the visual effects of the ancillary project elements see 'Ancillary Project Elements' in Section 12.8.4.

12.8.3 Operational Phase Effects

12.8.3.1 Landscape Effects

12.8.3.1.1 *Landscape Character of the Proposed Development Site*

The landscape character of the Proposed Development site will undergo a change in character from its current condition by the introduction of vertical man-made structures into the landscape of the site. Considering that the site is a landscape of relatively low value, low sensitivity and all turbines are located in a designated 'Strategic Area' for wind energy development, any highly localised landscape effects are deemed to be acceptable.

The Slievecallan Wind Farm is located on a site of similar landscape character at roughly the same elevation on an adjacent hillside to the proposed Slieveacurry site. From the Proposed Development site an array of Slievecallan turbines (approximately half) are seen to the south-west in relatively close proximity (<1.4 km from the nearest proposed turbine), therefore, the introduction of turbines into the landscape of the proposed site is not a novel prospect or occurrence, hence there is a precedent to introducing vertical structures at this site.

12.8.3.1.2 *Landscape Character Areas*

An assessment of the effects on landscape character was undertaken for the six LCAs within the study area that were identified as having notable visibility in the Landscape Receptor Preliminary Assessment above in Section 12.5.3 and listed in Table 12-8. The individual assessments for each LCA are summarised in Table 12-20 below and are included in detail in Appendix 12-2 - Landscape Character Assessment Tables. The assessment criteria and grading scales which aided the assessment of landscape effects are detailed in Section 1.5.2 of the methodology appendix – Appendix 12-1.

Table 12-20 Landscape Character Area Assessment Summary

Landscape Character Area (LCA)	LCA Sensitivity to Wind Farm Development	Magnitude of Change	Significance of Landscape Character Effect (EPA, 2017)
LCA 17 - Slieve Callan Upland	Medium to Low	Moderate	Slight
LCA 1 - Burren Uplands	Medium to High	Negligible	Slight
LCA 3 - Cliffs of Moher and Lahinch	Medium to High	Negligible	Slight
LCA 15 - Kilnamona High Drumlin Farmland	Medium to Low	Negligible	Imperceptible
LCA 16 - Cullenagh River Farmlands	Medium	Slight	Slight
LCA 20 - Malbay Coastal Farmland	Medium to High	Slight	Moderate

LCA 17: The Slieve Callan LCA is designated as a strategic area for wind energy development as the elevated ridges of mountain moorland have a strong capacity for absorbing winds energy developments of suitable scale, such as the Proposed Development; Therefore, it is a landscape of low sensitivity. The

landscape will only be materially altered in a small portion of the Slieve Callan LCA where the site is located, also, the wider landscape is already perceived as a landscape containing wind farms, therefore, the addition of the Proposed Development is only likely to have a slight effect on landscape character. The likely landscape effects occurring as a result of the Proposed Development are deemed to be 'Slight'.

Landscape effects of 'Slight' significance are likely to occur in LCA 1 The Burren Uplands and LCA 3 Cliffs of Moher and Lahinch and 'Moderate' significance for LCA 20 - Malbay Coastal Farmland. These slight and moderate landscape effects were recorded for these LCA's on account of their high sensitivity; attributed to their designations as 'Heritage' Living Landscape of County Clare and the significance of The Burren and The Cliffs of Moher as landscape receptors of National and International renown. The proposed Slievecurry site is not located in any of these LCAs. Therefore, effects likely to occur within these landscapes are indirect and implementation of the Proposed Development will not materially alter these landscapes. When visible, the proposed turbines will be seen as background elements from within these LCAs, and the turbines will be visible in a landscape character area designated as 'strategic' for wind energy development by the Clare Wind Energy Strategy.

LCA 1: The ZTV in Figure 12-5 is extended to 25 km on account of The Burren being a landscape of national and international renown, as prescribed by the Wind Energy Development Guidelines (*Page 94* DoEHLG, 2006). There is widespread theoretical visibility across the southern slopes of The Burren National Park; due to the barren nature of the Karst landscape there is minimal screening at higher elevations, therefore there is likely to be open views of the Proposed Development from the southern portion of LCA 1- The Burren Uplands. Actual visibility found within this LCA is only possible at the higher elevations which are mostly located at a significant distance (>19 km) from the Proposed Development. Photomontage Viewpoint 01 is taken from a location in closest proximity to the Proposed Development (18.9 km) whilst being fully representative of The Burren Landscape and LCA 1. As shown in the photomontage, the Proposed Development is seen as a minor background element at this distance and a person would have to actively search the landscape to identify the turbines. The Proposed Development will not materially alter this landscape, nor will it impact the cultural value attributed to the landscape character of the area.

LCA 3 and LCA 20: The sea and coastline are strong defining characteristics of both LCA 3 and LCA 20, landscape receptors of high sensitivity (The Cliffs of Moher, Spanish Point, Doughmore Bay) are located on the coast where visual amenity value of the landscape is provided by the coastline itself. Therefore, scenic landscape views are focussed north or south along the coast or westerly in an offshore direction and in most cases will not be focussed inland towards the Proposed Development. The Proposed Development will not impact the coastal character of the County Clare Heritage Landscape.

LCA 15: The undulating topographical nature of the Kilnamona Drumlin Farmland and the prevalence of dense vegetation across the landscape provide effective screening, significantly reducing visibility across the LCA and mitigating the influence of the Proposed Development on landscape character; therefore landscape effects were deemed to be 'Imperceptible'.

LCA 16: The Proposed Development is likely to cause 'Slight' landscape effects on the Cullenagh River Farmlands due to its close proximity to the north-western portion of this LCA, however, landscape effects are likely to be highly localised to landscape areas in close proximity to the site. Actual visibility assessed during site visits found very limited visibility of the Proposed Development site from lower elevations of the Cullenagh River Valley. Also, the localised topography and abundance of vegetation (dense roadside hedgerows, mature deciduous woodland, coniferous plantations) significantly screens views of the Proposed Development from within the LCA where there is theoretical visibility of the proposed turbines, mitigating landscape effects.

The other wind farms surrounding the development such as the Slievecallan Wind Farm provide grounds for mitigating effects on landscape character. For instance, the landscape viewed to the east from LCA 20 - Malbay Coastal Farmland could be considered a wind farm landscape, the Proposed

Development will therefore be contributing additional wind farm infrastructure instead of introducing a new element to the landscape.

12.8.3.1.3 *Landscape Designations*

The 'Settled' living landscape designation of the site and the immediate surrounding areas are likely to experience landscape effects of the operational phase, however as this is a landscape designation of relatively low sensitivity, landscape effects will be Slight. The forestry plantations around the site and the highly vegetated and undulating nature of the farmland to the north and east will significantly screen visibility of the Proposed Development from these landscape receptors.

The 'Heritage' living landscape designations to the north, west and south are landscape receptors of high value and sensitivity which are likely to experience 'Slight' and 'Moderate' landscape effects. Discussion of LCA 1, LCA 3 and LCA 20 in the previous section (and in Appendix 12-2) address the landscape effects on County Clare Heritage landscapes and The Burren and Cliffs of Moher Geopark.

12.8.3.2 Cumulative Landscape Effects

After identifying the cumulative baseline and cumulative status for each LCA it was considered whether the addition of the proposed turbines would change the status of the individual LCAs. Although, it was found that the proposed turbines would add to the cumulative landscape status in all LCAs, the cumulative landscape status did not change in any LCA. The Proposed Development site is located in a 'Strategic Area' for wind energy development, and the existing Slievecallan Wind Farm is located in close proximity on an adjacent ridge. The Slievecallan Wind Farm is already a well-established and accepted element of the existing landscape, therefore, addition of the Slieveacurry turbines will not be initiating a dramatic change to the current baseline landscape of that area. The Proposed Development will add additional turbines to the landscape instead of introducing a novel wind farm to a landscape without wind turbines. Cumulative landscape effects were deemed to be Low for each LCA.

12.8.3.3 Visual Effects

12.8.3.3.1 *Range of Turbine Dimensions Assessed*

The dimensions presented below are the range of hub height, blade length and overall tip height assessed within differing chapters of this EIAR and constitute a 'reasonably limited range':

- Turbine Tip Height - Maximum height 175 metres, Minimum height 173 metres
- Hub Height - Maximum height 108.5 metres, Minimum height 100 metres
- Blade Length - Maximum length 75 metres, Minimum length 66.5 metres.

The minimum turbine tip height within the limited range is 173 metres and the maximum turbine tip height is 175 metres. From a visual perspective, the two metre difference in tip height within this range will have a negligible effect, therefore the illustration of 175m tip height is also representative of 173m tip height. A blade length of 66.5m and a hub height of 108.5m was considered throughout this assessment as a representative illustration of the Proposed Development on the basis of professional judgement and on consideration of the range of turbines which could be installed. This combination of blade length and hub height (175m Tip) has been identified as a worst-case scenario for likely visual effects and is most representative for assessment, on the basis that the greatest extent of the entire turbine structure (blades and tower) would potentially be visible from the viewpoints assessed in the EIAR. This turbine configuration (blade length of 66.5m and a hub height of 108.5m) of the reasonably limited range is termed as the 'Highest Hub and Shortest Blade' and is presented for all 17 No. photomontage viewpoints.

- **Highest Hub and Shortest Blade** – All 17 No. Photomontage Viewpoints.
  - Maximum Tip Height – 175 metres

- Maximum Hub Height – 108.5 metres
- Blade Length – 66.5 metres

Irrespective of which combination of hub height and blade length within the range outlined in this application is installed on site, the significance of residual landscape and visual effects will not be altered. However, for the avoidance of doubt, an alternative turbine configuration of the longest blade and lowest hub is presented for four selected viewpoints included in the photomontage booklet, this configuration is termed 'Lowest Hub and Longest Blade'. The viewpoints selected are representative of short-range views (viewpoints 03 and 17, <1.5 km from the Proposed Development), a medium-range view (viewpoint 09, 5.5km from the Proposed Development) and a long-range view (viewpoint 05, 9.1km from the Proposed Development). The following summarises the 'Lowest Hub and Longest Blade' that is presented:

- **Lowest Hub and Longest Blade** – 4 No. Photomontage Viewpoints (Viewpoint 03 Cloonanaha; Viewpoint 05 Carrowlagan; Viewpoint 09 Leagard North; Viewpoint 17 Boolynamiscaun)
  - Maximum Tip Height – 175 metres
  - Minimum Hub Height – 100 metres
  - Blade Length – 75 metres

Irrespective of which combination of hub height and blade length within the range outlined in this application is installed on site, the significance of residual landscape and visual effects will not be altered as set out in Table 12-21(seen below).

12.8.3.3.2 *Photomontage Viewpoint Assessment*

An assessment of the visual effects of the proposed turbines was undertaken from 17 no. viewpoint locations identified during the visual baseline exercise. Visual effects were assessed using the assessment methodology described in Appendix 12-1. Each viewpoint location is shown in Figure 12-13, below. A detailed assessment of each individual viewpoint is presented in Appendix 12-3 and summarised in Table 12-21 below. Appendix 12-3 and Table 12-21 should be read in conjunction with the photomontage booklet forming Volume 2 of the EIAR.

The locations chosen for photomontages follow a detailed and extensive process including review of baseline information, site visits and high-quality photo taking at multiple locations within the LVIA study area. Many locations, which based on a desktop review had the potential for views of the site, had complete intervening screening or were screened to such an extent that the development of photomontages was not considered useful in terms of the assessment process i.e. little or no visibility towards the Proposed Development.

In general, mountain moorland wind farm sites tend to be capable of accommodating suitably designed wind farm projects of scale. The highly vegetated farmland landscape and abundance of coniferous forestry that surround the site has the capacity to significantly mitigate likely visual effects. Key reasons enabling the Proposed Development to be effectively absorbed by the landscape of the site and surrounding area are outlined below and are evident in the photomontages:

- **Strategic Siting - of the Proposed Development in a landscape designated for wind energy development.**
  The Proposed Development is sited in a location specifically designated as a 'Strategic Area' for wind energy development in the current Clare Wind Energy Strategy (Volume 5 – CCDP, Clare County Council). The landscape to the south and east of the proposed site is an area where wind turbines are already visible elements within the landscape. The operational Slievecallan Wind Farm is located on an adjacent ridge, 1.5 km to the south east of the site in a similar visual unit, therefore the Proposed Development will be contributing additional turbines to the area instead of introducing an entirely new and novel visual element to the

landscape. The Proposed Development is strategically sited (Spatial extent, Spacing and Layout) and scaled to ensure visual coherence with the existing Slievecallan Wind Farm, mitigating the impact of cumulative visual effects.

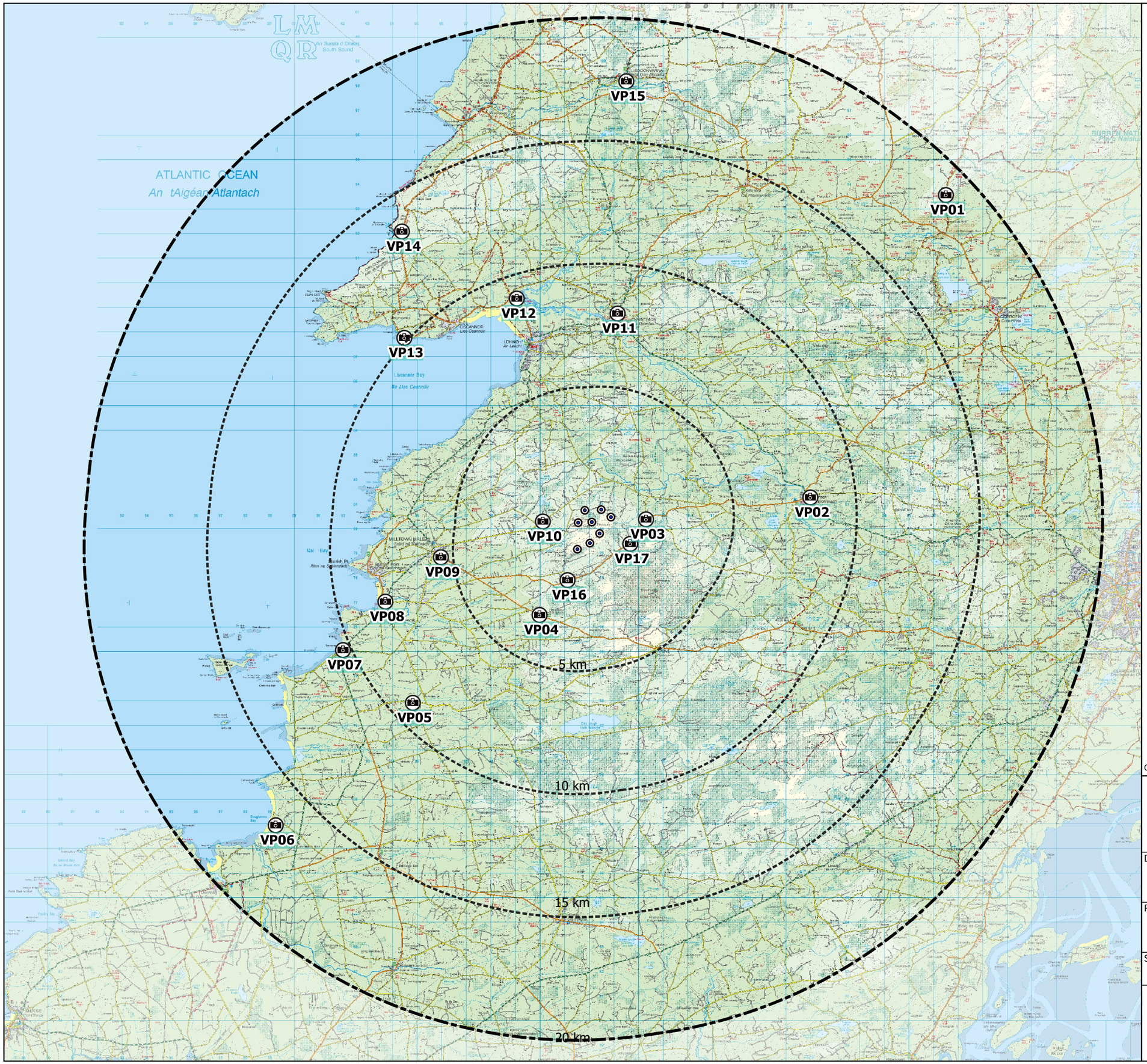
- **Strategic Siting - of the Proposed Development on a hilltop ridge.**
  The Proposed Development is sited upon a hilltop ridge adjacent to the high elevation of Slieve Callan; as the highest landform in West Clare, Slieve Callan provides significant topographical screening of the Proposed Development from most areas in the LVIA study area to the south and east, reducing visibility and mitigating visual effects in an extensive area. The exposed, and simple landform enables the Proposed Development to be seen as a neat and coherent cluster, separate from other complex landscape features surrounding the site such as farmland and settlements. This mitigates the potential for overbearing or domineering effects whilst providing adequate setback from visual receptors. Siting of the proposed turbines on the elevated ridge ensure they are predominantly viewed above the horizon, reducing the capacity for visual clutter and confusion as there is minimal overlapping with other landscape elements.

- **Screening from surrounding landscape elements - commercial forestry and highly vegetated agricultural land.**
  Stands of coniferous forestry are a prominent landscape feature of the proposed site and the surrounding landscape, also, agricultural land and roads in the surrounding areas are regularly bordered by mature hedgerows and pockets of woodland shrub. Located between visual receptors and the proposed turbines, these vegetational elements of the landscape provide screening, obscuring views towards the proposed turbines or making those views intermittent in nature. The ZTV does not take into account this screening and hence ZTV mapping can only be considered accurate where no visibility is indicated. In areas where theoretical visibility is indicated, actual visibility on the ground is diminished by screening factors, in particular for landscape types such as those immediately north and east of Slieveacurry.

- **The Proposed Development does not obstruct landscape views of the West Clare coastline and does not materially impact scenic amenity attributed to the coast.**
  Valuable scenic views located in the LVIA study area are predominantly attributed to the coastal flavour of the region, providing significant amenity for recreation and tourism, resulting in receptors of high sensitivity (e.g. The Cliffs of Moher, The Wild Atlantic Way, Lahinch, Spanish Point, Doughmore Beach). Valuable views are principally focussed in an offshore direction towards the coastline and the ocean, not inland towards the Proposed Development. The proposed Slieveacurry turbines will not materially impact any sensitive scenic amenities attributed to the coast.

The visual effect of the proposed wind turbines was assessed from each viewpoint in terms of the sensitivity of the visual receptors, along with the magnitude of change, as recommended in the GLVIA (2013) guidelines. This, in conjunction with a detailed review of the photomontages themselves and the ZTV maps, informed the assessment of visual effects.

Visualisations such as photomontages are tools that can represent the likely effect of a development and are used to inform the reader's prediction of how that development will appear in the landscape. In terms of the predicted visual quality of the proposed turbines however, i.e. whether a visual effect is deemed to be positive, negative or neutral, this involves a degree of subjectivity. What appears to be a positive effect to one viewer could be deemed to be a negative effect by another viewer. All predicted visual effects of the viewpoints below are Long Term and Direct effects.



Map Legend

- Proposed Slieveacurry Turbines
- LVIA Study Area
- Photomontage Viewpoints
  Volume 2 Photomontage Booklet

Drawing No.

Figure 12-13

Drawing Title

Photomontage Viewpoint Locations

Project Title

Slieveacurry Renewable Energy Development

Scale	Project No.	Date	Drawn By	Checked By
1:150000	170224-c	18.11.2021	JW	EOS

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Table 12-21 Viewpoint assessment summary

VP No	Description	Grid Ref. (ITM)	Approx. distance & direction from nearest turbine	Visual Sensitivity of Receptor(s) (at viewpoint)	Magnitude of Change	Residual Significance of Visual Effect
01	View from an un-named road in the townland of Parknabinnia, on County Clare Scenic Route 6 and the 'Burren Way' way marked hiking trail. The viewpoint is immediately south-west of The Burren National Park and north of Kilnaboy village. The viewpoint is also representative of views from County Clare Scenic Route 3 which is located 2.5 km north-west of the viewpoint and has very similar views of the Proposed Development.	E 526,479 N 696,633	19.2 km NE	**High**	**Negligible**	**Not Significant**
02	View from the N85 National Road as it enters the village of Inagh from the south in the townland of Carrowkeel East. The viewpoint is located opposite the Good House public house.	E 520,964 N 681,338	8.1 km E	**Medium**	**Slight**	**Slight**
03	View from Cloonanaha National School on the R460 Regional Road in the townland of Cloonanaha, the viewpoint is located opposite a local church.	E 514,280 N 680,447	1.4 km E	**High**	**Moderate**	**Moderate**
04	View from the R474 Regional Road in the townland of Doonsallagh East. The viewpoint is located on County Clare designated Scenic Route 15.	E 509,949 N 676,558	3.1 km SSW	**High**	**Moderate**	**Moderate**
05	View from the Finuremore Park Road by Mullagh Village in the townland of Carrowlagan.	E 504,794 N 672,986	9.1 km SW	**Medium**	**Slight**	**Slight**
06	View from Doonbeg Golf Course in the townland of Carrowmore. The viewpoint is located on pedestrian access to the Blue Flag beach of Doughmore. The golf course on which the viewpoint is located is part of the Trump International Golf Links & Hotel.	E 499,216 N 668,008	16.6 km SW	**High**	**Slight**	**Slight**

VP No	Description	Grid Ref. (ITM)	Approx. distance & direction from nearest turbine	Visual Sensitivity of Receptor(s) (at viewpoint)	Magnitude of Change	Residual Significance of Visual Effect
07	View from N67 National Road as it exits the village of Quilty to the north, in the townland of Quilty West. The viewpoint is located on the Wild Atlantic Way, at the start/end of County Clare Scenic Route 1 and in close proximity to the Lahinch-Kilrush Dismantled Railway walking trail.	E 501,951 N 675,132	10.4 km SW	**High**	**Slight**	**Slight**
08	View from the N67 National Road in the townland of Annagh. The viewpoint is located next to the Bealaclugga Bridge at the junction to Spanish Point, on the Wild Atlantic Way tourist route and County Clare Scenic Route 1.	E 503,678 N 677,101	8 km WSW	**High**	**Slight**	**Slight**
09	View from the R474 Regional Road as it exits Miltown Malbay to the south east, in the townland of Leagard North. The viewpoint is located on County Clare designated Scenic Route 15.	E 505,935 N 678,905	5.5 km W	**High**	**Slight**	**Slight**
10	View from the Ballard Road in the townland of Tooreen. The viewpoint is representative of local residential amenity located in close proximity to the Proposed Development.	E 510,083 N 680,359	1.4 km W	**Medium**	**Substantial**	**Moderate**
11	View from the N67 National Road and Main Street of Ennistymon Service Town in the townland of Deerpark Middle. The viewpoint is located in close proximity to the large 'Fitzpatrick's' supermarket and car parking amenities.	E 513,121 N 688,815	8 km N	**Medium**	**Slight**	**Slight**
12	View from the R478 Regional Road in the townland of Ballyellery. The view is directed across O'Briens bridge towards the Service town of Lahinch. The viewpoint is situated north of the Lahinch Golf courses	E 509,023 N 689,424	9.1 km NNW	**High**	**Slight**	**Moderate**

VP No	Description	Grid Ref. (ITM)	Approx. distance & direction from nearest turbine	Visual Sensitivity of Receptor(s) (at viewpoint)	Magnitude of Change	Residual Significance of Visual Effect
	and is located on the Wild Atlantic Way, County Clare Scenic Route 1 and various other recreational routes.					
13	View from the car park and coastal Viewing Area in the townland of Cloghaundine. It is the location of a Wild Atlantic Way Discovery Point, the viewing area is a popular tourist spot and is located on the Liscannor to Cliffs of Moher coastal walk.	E 504,448 N 687,826	10.2 km NW	**Very High**	**Slight**	**Moderate**
14	View from a pedestrian crossing on the R478 Regional Road in the townland of Lislorkan North. The viewpoint is located at the Cliffs of Moher Visitor Centre on the Wild Atlantic Way, County Clare Scenic Route 1 and the Doolin cycle hub route.	E 504,350 N 692,151	13.6 km NW	**Very High**	**Slight**	**Moderate**
15	View from Main Street in the townland of Rathbaun. The viewpoint is located outside the Imperial Hotel and opposite a large car park in the town of Lisdoonvarna.	E 513,477 N 698,258	17.4 km N	**High**	**Slight**	**Slight**
16	View from the R460 Regional Road in the townland of Cloghaun Beg. The viewpoint is representative of local residential amenity located in close proximity to the Proposed Development.	E 511,088 N 677,973	1.3 km SSW	**Medium**	**Substantial**	**Moderate**
17	View from the R460 Regional Road in the townland of Boolynamiscaun. The viewpoint is representative of local residential amenity located in close proximity to the Proposed Development.	E 513,635, N 679,449	1.3km SE	**Medium**	**Substantial**	**Moderate**

The assessment of visual effects determined the residual significance of the visual effects to range from 'imperceptible' to 'Moderate', with the number at findings at each level of significance listed in Table 12-22, below.

Table 12-22 Summary of Viewpoint Impact Assessment Results

Significance of Residual Visual Effect	Description	No. of Viewpoints
Profound	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment	0
Very significant	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment	0
Significant	An effect, which by its character, magnitude, duration or intensity alters a sensitive aspect of the environment	0
Moderate	An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends	8
Slight	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities	8
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences.	1
Imperceptible	An effect capable of measurement but without significant consequences	0

The significance of the residual visual effect was not considered to be "Profound", "Very Significant" or "Significant" at any of the 17 viewpoint locations. A residual visual effect of "Moderate" was deemed to arise at eight of the 17 viewpoint locations. All other viewpoints were assessed as resulting in Slight (8) and Not Significant (1) residual visual effects.

The viewpoint assessment results will be summarised and discussed in more detail in the following sections.

12.8.3.3.3 *Visibility of the Proposed Development in the LVIA Study Area*

Generally, overall visibility and visual effects are strongly guided by ZTV mapping (based purely on topography, in this case 10-meter contour data) as an indication of areas that will have no visibility of the proposed turbines and areas that will have theoretical visibility. The level of certainty for areas where no visibility is indicated by the ZTV is very high. On the contrary, in areas where the ZTV mapping shows theoretical visibility, this will not have taken account of local variations in ground levels not represented by the 10 metre contour data and more importantly vertical objects such as vegetation,

buildings and other structures that will act as screening factors, obstructing views of the proposed turbines.

The ZTV map for Slieveacurry shows widespread theoretical visibility to be greatest immediately surrounding the Proposed Development site (VP 03 & 10) and to the south-west as far as the LVIA study area extends (VP - 04, 05, 09, 06, 07, 08 & 09). There are large areas of full visibility on the higher elevations in the far north of the study area, where the valley slopes south from The Burren (VP 01, 14 & 15).

There is widespread full theoretical visibility across the Inagh Valley to the north-east (VP 02 & VP 11) with pockets of no visibility increasing in size and frequency as distance from the proposed turbines increases. Actual visibility of the proposed site is very limited in the Inagh Valley, especially on the N85 National Road between Inagh and Ennistymon where localised undulations in topography and vegetation screen views along most of the route.

The high elevation of Slieve Callan which neighbours the site provides significant topographical screening for most areas to the south and east where there is no or very limited theoretical visibility. Landscape elements to the north, east and south, such as drumlin farmland topography, hedgerows and treelines provide effective screening that minimise visibility and visual effects of the development in these areas.

Coastal areas have a more windswept landscape resulting in minimal vegetation cover and less screening factors. However, the scenic nature and draw of blue spaces such as that of the Atlantic Ocean and the rugged County Clare coastline has the capacity to direct the attention from visual receptors in a westerly (offshore) direction, away from the (inland) Slieveacurry Renewable Energy Development. Several viewpoints were used to assess the impact of the Proposed Development from these coastal areas (VP 06, 07, 08, 12, 13 & 14).

The photomontage assessment tables in Appendix 12-3 exhibit a detailed and comprehensive assessment of the visual effects arising from each photomontage viewpoint. Each viewpoint is summarised and discussed in the following section.

12.8.3.3.4 *Visibility Within Five Kilometres of the Site - Route Screening Analysis*

Visibility of the Proposed Development from areas in close proximity to the site (< 5km) is mitigated by screening from localised undulations in topography, and the vegetated nature of the agricultural landscape immediately surrounding the site. In order to test this objectively, a method termed Route Screening Analysis (RSA) was conducted in July and August 2020 to comprehensively assess the varying characteristics of screening factors existent on roads surrounding the Proposed Development.

The RSA determined the actual likely visibility of the Proposed Development in comparison with theoretical visibility on all Local and Regional roads within 2.5 km of the proposed turbines and other prominent roads within 5km of the site e.g. R474 (County Clare Scenic Route 15). The roads were surveyed using a methodology outlined in Appendix 12-1, small lengths of road were attributed one of three screening classifications, detailed below:

- No screening – unobstructed and open views, where views of the proposed turbines would be readily available (see Plate 12-9).
- Partial or Intermittent Screening - Partial or intermittent views of the proposed turbines would be available. Screening in the form of vegetation, local topography or built form will limit or restrict views of the proposed turbines but may not entirely prevent views. e.g. Light deciduous roadside vegetation (see Plate 12-10).
- Dense Screening - a location from which no view in the direction of the proposed turbines would be available, and from which the turbines will not be seen (see Plate 12-11).

*Plate 12-9 Example of class **'No Screening'** along a local road west of the site. The image shows open views of the surrounding agricultural landscape from the view.*

*Plate 12-10 Example of class **'Partial or Intermittent Screening'** along a local road north of the site. The image shows how the landscape on either side of the road is partially or intermittently screened from view by roadside vegetation.*

*Plate 12-11 Example of class **'Dense Screening'** along a local road north-east of the site. The image shows how the landscape on either side of the road is fully screened from view by roadside vegetation.*

The results of the route screening survey are mapped in Figure 12-14 below, this figure shows the extent at which each screening classification is present on all public roads within 2.5 km of the proposed turbines. Where roads continued beyond 2.5 km from the site, the RSA survey continued to record the screening until the road terminated in all areas where no theoretical visibility is indicated by the ZTV. The R474 Regional road is part of County Clare Scenic Route 15, screening upon this route within 5km of the Proposed Development site was surveyed due to its prominence as a visual receptor of high sensitivity located in close proximity to the site.

Figure 12-14 shows that the vast majority of residential amenity within 2.5 km of the Proposed Development are located in close proximity to the roads (routes) surveyed during the route screening analysis. Therefore, the extent of turbine visibility shown by this RSA is more representative of the actual visibility experienced by local residents than is shown by the ZTV mapping in Figure 12-5.

Map Legend

- Proposed Slieveacurry Turbines
- Photomontage Viewpoints
  Volume 2 Photomontage Booklet
- County Clare Designated Scenic Route

Route Screening Analysis

- Class 1 - No / Very Little Screening
- Class 2 - Intermittent / Partial Screening
- Class 3 - Full / Dense Screening

Properties within 2.5 km

- Dwelling
- Derelict

Drawing No.

Figure 12-14

Drawing Title

Route Screening Analysis

Project Title

Slieveacurry Renewable Energy Development

Scale	Project No.	Date	Drawn By	Checked By
1:40000	170224-c	18.11.2021	JW	EOS

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Plate 12-12 Looking North-easterly along the R460 Regional Road, Full / Dense Screening is seen to the left where the Proposed Development is located and No Screening seen to the right.

The route screening analysis determines the extent and density of screening present in the immediate vicinity of the proposed site. This allows the actual likely visibility of turbines to be considered and assessed in an objective and quantitative manner reducing the level of subjectivity involved in determining actually how visible the proposed Slieveacurry turbines will be in the local landscape immediately around the site. Table 12-23 shows the distribution of the screening classes recorded during the survey.

Table 12-23 Distribution of Screening Classes recorded during the Route Screening Analysis.

Screening Class	Length of road mapped in Figure 12-10	Percentage distribution of screening on the surveyed roads
Class 1 – No Screening	29,463 metres	54.9%
Class 2 – Partial/Intermittent Screening	17,699 metres	33%
Class 3 – Full/Dense Screening	6,468 metres	12.1%

'No Screening' was recorded for a substantial portion (54.9%) of the surveyed roads. However, there was some form of screening recorded for 55.1 % of the roads surveyed, suggesting that visibility of the Proposed Development will be significantly mitigated by screening factors in many areas surrounding the site.

The map in Figure 12-14 shows that the screening factors are unevenly distributed around the site. For instance, there is a high quantity of screening along roads immediately surrounding the site, particularly to the north, north-east, south and west. However, the Ballard road to the north-west, the R474 to the south-west and R460 to the east were shown to have very little screening and there were open, unobstructed views towards the Proposed Development site. In consideration of this, visual effects arising from these roads are

assessed in detail via photomontage viewpoints located on these routes (VP10 -The Ballard Road; VP03 – R460 East at Cloonanaha School; VP04 and VP09 – The R474, Scenic Route 15).

12.8.3.3.5 *Visual Effects on Specific Visual Receptors*

Designated Scenic Routes

The CCDP designates Scenic Routes along various stretches of road in county Clare, views from these scenic routes are not limited to one location but can stretch over several kilometres of road. Of the 7 County Clare scenic routes identified in the LVIA study area, 2 were screened out as the ZTV mapping showed that intervening landform will screen views. Another was excluded as the focus of the route was either directed away from the site or no views towards the proposed turbines could be established during site visits due to screening from vegetation, settlements or localised topography. The remaining four Scenic routes SR1, SR3, SR6 and SR15, were brought forward for viewpoint assessment.

County Clare Scenic Route 1 extends approximately 39 km along the coastal road from Quilty (south-west of the site) to Doolin (north-north-east of the site). The scenic route follows the Wild Atlantic Way tourist route, highlighting its value as a sensitive visual receptor. The ZTV mapping shows full theoretical visibility along a vast majority of the route, also, the nature of the windswept coastal landscape provides minimal screening from roadside vegetation. In consideration of the length of this route and the potential for visual effects to occur, 4 no. viewpoints were included on this scenic route; Viewpoints 07, 08, 12 and 14. These viewpoints are also representative of other prominent visual receptors.

Viewpoint 07 and Viewpoint 08: Both viewpoints represent the southerly extent of Scenic route 1. Viewpoint 07 is located by the village of Quilty and is in close proximity to the Lahinch-Kilrush Dismantled Railway walking trail. Viewpoint 08 is representative of the coastal amenities at Spanish Point. There are unobstructed, open views of the proposed turbines from both viewpoints and the perspective and scale of the Proposed Development are very similar. The valuable scenic amenity in both areas are principally focussed in an offshore direction towards the coast and the Atlantic Ocean, not inland towards the Proposed Development. The proposed turbines are seen as small background elements in a landscape designated for wind energy development. From both viewpoints, the turbines will not obstruct or intrude upon any coastal views and will not materially impact any scenic amenity attributed to the coast or Scenic Route 1. Therefore, residual visual effects were deemed to be 'Slight' for both viewpoints.

Viewpoint 12 - Lahinch: 'Moderate' visual effects were recorded for Viewpoint 12 which is located on Scenic Route 1, looking south over O'Briens Bridge towards the Service Town of Lahinch. From this viewpoint the Proposed Development is seen as a background feature of the landscape that does not obstruct or intrude upon views of the Atlantic Ocean or features such as the coastal dune complex. The viewpoint has high sensitivity as it is representative of the highly sensitive tourism and recreational amenities of Lahinch. Intervening landscape significantly screens visibility of the Proposed Development from most locations in and around Lahinch town, south of this viewpoint.

It is likely that no (or insignificant) visual effects will occur as a result of the Proposed Development on Lahinch Beach, or within the town of Lahinch. Plate 12-13 below, shows an output from an augmented reality tool (TrueViewVisuals) which showed almost no visibility of the Proposed Development from the elevated promenade at Lahinch beach, the turbine blades of T3 and T7 are identifiable upon very close inspection, although visual effects are very minor. (*Please note: Plate 12-13 is not a verified photomontage image, it is an output from a tool used to assess visibility in the field).

Plate 12-13 True View Visuals Output: Unverified photomontage of Slieveacurry from Lahinch promenade, showing very little visibility of the Proposed Development – Blades of turbines T3 and T7 may be visible.

Viewpoint 14 - The Cliffs of Moher: Due to its location at the Cliffs of Moher Visitor Centre, this is a very popular destination on Scenic Route 1 and is therefore considered a viewpoint of Very High sensitivity. The magnitude of change is considered Slight from this viewpoint. The photomontage showed that visibility of the proposed turbines will be significantly mitigated by distance as they will be seen as relatively small features in the background of the landscape from this location. The High sensitivity of this visual receptor is mainly attributed to its location at the Cliffs of Moher tourist destination. The valuable views and landscape receptors are located several hundred metres west of this viewpoint where views are directed in an offshore direction or upon the cliffs themselves, not towards the Proposed Development. No visibility of the Proposed Development is expected from viewing areas actually surrounding the cliffs. Therefore, likely residual visual effects were recorded as Moderate from this viewpoint.

County Clare Scenic Route 6 is located on a road at the northern reaches of the study area, north-east of Kilnaboy village where it navigates north to south through several remote townlands. As part of the Burren Way walking trail, the scenic route is a sensitive visual receptor and its elevated location in the Burren Uplands enables long unobstructed views across the landscape to the south.

Viewpoint 01: is located on an exposed and elevated stretch of the Scenic Route 6 that directly faces the Proposed Development where the Parknabinnia heritage landmark is located. This is a relatively remote and isolated viewpoint location and there will not be a massive volume of visual receptors passing this point, however, it is representative of views from The Burren National Park which is a landscape receptor of international renown. Due to the distance from the Proposed Development site, a viewer would have to be actively searching the landscape to clearly locate and identify the proposed turbines, therefore visual effects are deemed to be 'Not Significant'.

Due to the similarity in type of view, distance and geography in relation to the Proposed Development and the superior panoramic landscape views available on Scenic Route 6, this viewpoint (viewpoint 01) is

representative of views on County Clare Scenic Route 3. Visual effects subjected by the Proposed Development will be less for SR3 than SR6 due to multiple mitigating factors, including: reduced visibility by intermittent screening provided by topography and vegetation, and that the road does not look directly towards the proposed site.

County Clare Scenic Route 15 runs north-west to south-east through 8 townlands on the R474 Regional road. The route crosses a valley just south of the Proposed Development site which was shown to have minimal screening during the Route Screening Analysis (See Section 12.8.3.3.4). Viewpoint 04 and Viewpoint 09 are located at two points on Scenic Route 15 with open views towards the proposed Slieveacurry site.

Viewpoint 09: Represents views from the town of Miltown Malbay and views at the north-western extent of Scenic Route 15. There will be no visibility of the Proposed Development from within the townscape of Miltown Malbay due to screening from the built form of the townscape but there will be open views of the Proposed Development from this viewpoint at the south-easterly exit of the town. 'Slight' residual visual effects were recorded for the photomontage generated from this viewpoint. The Proposed Development is appropriately scaled in a neat cluster upon the elevated ground of Slieveacurry ridge in a location designated for wind energy development. Views towards the proposed turbines are in a perpendicular direction to the direction of Scenic Route 15, and road users are likely to be focussing their gaze on the landscape and road ahead, away from the proposed turbines.

Viewpoint 04: is located in the townland of Doonsallagh East and represents views of the proposed site from the south and Scenic Route 15. Residual visual effects are deemed to be 'Moderate' from this perspective as the viewpoint is located in close proximity to the proposed turbines (3.1 km) and they will be visible as relatively large and prominent features of the landscape. The Proposed Development is partially screened from view by the intervening landscape and all turbine components are seen above the horizon, therefore the turbines will not obstruct any views of the wider landscape or intrude upon any coastal views to the west from Scenic Route 15.

The CCDP emphasises that the conservation of views should not prohibit development along designated routes, but rather, development, where permitted, should not seriously hinder or obstruct these views and should be designed and located to minimise their impact. The Existing Slievecallan Wind Farm is also located in very close proximity to Scenic Route 15, therefore, the planning history of the Slievecallan Wind Farm is pertinent to considering the acceptability of visual effects arising from the Proposed Development on Scenic Route 15.

Slievecallan Wind Farm Case Study: Slievecallan Wind Farm received a Notification of Grant of Permission on the 19th August 2010 which was subsequently subject to several 3rd Party appeals to An Bord Pleanála on the 10th September 2010 (PL03.237524). In considering the appeal, in terms of landscape the Board noted the following:

> *"Board accepted that implementation of the planning authority wind energy strategy would result in an impact on the landscape in the relevant areas of the County. In this context and having regard to the overall policies of the planning authority for protection of visual amenity in County Clare, the Board considered that the proposed development would be acceptable at this location in terms of visual amenity, notwithstanding the proximity to a designated "scenic route"."*

The Board's conditional grant of permission (18th August 2011) and direction on this matter corroborates the Planning Authority's assessment of potential landscape and visual impacts associated with the Slievecallan Wind Farm. This analysis is considered relevant to the Proposed Development, having regard to its close proximity to Slievecallan Wind Farm and close proximity to Scenic Route 15, as it indicates that there is a certain degree of flexibility with regard to weighing potential landscape and visual impacts against wind energy designations within the county. Specifically, the Proposed Development, also located in a 'Strategic Area' for wind energy, has a significantly reduced footprint (8 no. turbines) compared to Slievecallan Wind Farm which should facilitate greater integration within the receiving landscape.

Scenic Views (Viewing Areas)

County Clare has no officially designated protected views, however, 7 no. Viewing Areas of high scenic value were identified within the study area from OSi maps and Wild Atlantic Way Discovery Point designations. One of the viewing areas was screened out as the ZTV mapping showed that intervening landform will screen the view of the study site. A further 5 no. of the selected Viewing Areas were screened out on the basis that the focus of the scenic view was not directed in any way towards the Proposed Development, several of the Viewing Areas were also found to have onsite screening from localised elements such as topography and settlements.

After the preliminary assessment, the only Viewing Area with potential to have scenic views effected by the Proposed Development is that of the Clahane Viewing Area, located 2km west of Liscannor with views directed south over Liscannor Bay. Photomontage viewpoint 13 was selected at Clahane next to the Wild Atlantic Way Discovery Point installation at the Viewing Area.

Viewpoint 13: This location has a very high sensitivity as the value to recreation and tourism here is attributed to the scenic amenity provided by the views across Liscannor Bay. 'Moderate' residual visual effects were recorded for this photomontage as a result of several mitigating factors. The spatial extent of proposed turbines seen within the wide-ranging panoramic view is very small and the Proposed Development does not obstruct or compromise the integrity of the scenic coastal view. The existing Slievecallan Wind Farm is visible from this viewpoint in a 'Do Nothing Scenario', it is already a well-established and accepted element of the existing landscape forming part of this view. Therefore, addition of the Slieveacurry turbines will not be initiating a dramatic or novel change to the current baseline view from this location.

Settlements

Of the 28 settlements identified in the study area, 19 were screened out in the 'Visual Receptor Preliminary Assessment', as no visibility of the Proposed Development could be established by the ZTV or on site. Hence, viewpoints were selected for the remaining 9 settlements: Ennistymon; Inagh; Lahinch; Lisdoonvarna; Miltown Malbay; Mullagh; Quilty and Spanish Point.

The following settlements have already been discussed in the previous section and will not be discussed further: Lahinch – VP12; Miltown Malbay - VP09; Quilty – VP07; Spanish Point – VP08.

Viewpoint 11: Only in the northern part of Ennistymon at the highest elevation in the town could visibility of the Proposed Development be established. Viewpoint 11 is located on the N67 National road adjacent to 'Fitzgerald's' Supermarket, the view is directed down the Main Street of Ennistymon. 'Negligible visual effects were recorded as the turbines will be seen as small and suitably scaled elements in the background of the view and visual effects are significantly mitigated by distance. Also, the built form of the Ennistymon townscape significantly screens visibility of the proposed turbines in almost all other areas of the town.

Viewpoint 02: Is located from the N85 National road as it enters the village of Inagh from the south, across the road from the 'the Good House' pub and restaurant. The built form of the Inagh streetscape significantly screens visibility of the proposed turbines in almost all other areas of the village. The N85 is primarily oriented in a direction perpendicular to the Proposed Development, therefore, road users are likely to be concentrating on the road ahead instead of actively searching the landscape for turbines in the periphery of their vision. Residual visual effects were recorded as 'Slight' from this viewpoint as the turbines will be seen as small and suitably scaled features in the background of the view and any likely visual effects are significantly mitigated by distance.

Viewpoint 15: This viewpoint is representative of the town of Lisdoonvarna which is a popular tourist destination making it a receptor of high sensitivity. located on the high elevation of the Burren, there are far-ranging views south towards the Proposed Development site, residual visual effects were deemed to be 'Slight' from this viewpoint. At this distance (>17 km) the proposed turbines are seen as small and minor

features of the landscape, particularly in comparison to other man-made elements (streetlights, communication poles) seen in the foreground of the photomontage. This viewpoint location was selected for its optimal view of the Proposed Development, however the proposed turbines are Not likely to be visible in most areas of Lisdoonvarna, as they will be screened from view by the townscape of Lisdoonvarna, mature vegetation and intervening landform.

Viewpoint 05: The small village of Mullagh is located to the south-west of the Proposed Development where there are generally open and unobstructed views across the agricultural landscape towards the higher elevations of Slieve Callan and the proposed Slieveacurry site. 'Slight' residual visual effects were recorded from this viewpoint as the Proposed Development is viewed as a neat and coherent development from this perspective. The Proposed Development is seen as a visual counterbalance to the existing Slievecallan Wind Farm in a Strategic Area for wind energy development designated by Clare County Council in the current Clare Wind Energy Strategy.

Recreational / Tourism Routes and Destinations

Viewpoints 12, 14 and 06 represent several important recreational and tourism receptors in County Clare. The visual effects arising from viewpoints 14 and 16 have been discussed in detail in the previous section (see Appendix 12-3 for a more detailed assessment), the impact that the Proposed Development is likely to have on these locations as destinations for tourism and recreation is addressed below.

Viewpoint 12 (discussed in detail previously) at Obrien's Bridge is located 2 km north of Lahinch and is a receptor incorporating many recreational and tourism routes, including: The Burren Way, The Burren Cycling Route, The Doolin Cycling Hub Route, County Clare Scenic Route 1 and the Wild Atlantic Way. The viewpoint captures the Service Town of Lahinch and overlooks the Blue Flagged beach of Lahinch and both Lahinch golf courses. 'Moderate' residual visual effects were recorded from this viewpoint and the Proposed Development will not materially impact the recreational or tourism amenities in the area.

Viewpoint 14: The Cliffs of Moher Visitor Centre at the UNESCO Cliffs of Moher Geopark is the largest tourist destination in County Clare, the high footfall of tourists crossing the road and traffic driving on the road at this location makes this viewpoint a visual receptor of very high sensitivity. Residual visual effects were recorded as 'Moderate' from this viewpoint and the proposed turbines will not materially impact the value of the Cliffs of Moher as a tourism destination.

Viewpoint 06: is located on Doonbeg Golf Course where it is intersected by pedestrian access to the Blue Flag beach of Doughmore. As part of the Trump International Golf Links & Hotel complex, this viewpoint is a deemed to be a visual receptor of significant recreational and tourism value and high sensitivity. Likely residual visual effects were determined to be 'Slight' from this viewpoint. Visual effects arising from the Proposed Development will be significantly mitigated by distance (>16 km), the turbines are seen as small and minor features in the background of the landscape and the Proposed Development does not obstruct any landscape views. The coastal flavour of this landscape is the primary factor contributing to the existence of this location as a tourism and recreational hotspot. Valuable views are principally focussed in an offshore direction towards the beach and the ocean, not inland towards the Proposed Development. The proposed turbines will not materially impact any scenic amenity attributed to the coast or the value of this location as a destination for recreation and tourism.

Transport Routes

Visual effects arising on the N67 National road have been discussed in detail in the previous sections (VP 07, 08, 11).

The N85 National Road (Ennis to Ennistymon) was assessed via viewpoint 02 in the village of Inagh which recorded 'Slight' residual visual effects. No open views of the proposed site were established of the from the

N85 between Inagh and Ennis, although there are open view of Slievecallan Wind Farm, as shown in Plate 12-14 below.

Plate 12-14 View from the N85 National road at a crossroad in the townland of Leckaun – No visibility of the Proposed Development (Blue wireframe in the right of image) was established from the N85 due to localised topographical screening.

Local topography and vegetation screening on the N85 between Inagh and Ennistymon significantly limited views of the Proposed Development from this stretch of the N85. During a site visit in August 2020, one open view of the Proposed Development was found in the townland of Ballyea between Inagh and Ennistymon; the visual effects arising from this location are very similar to that of Viewpoint 02, as shown by Plate 12-15 below - which is an unverified photomontage output from and augmented reality field assessment tool (TrueViewVisuals).

Visual effects are deemed to be 'Slight' from the view in Plate 12-15, below. It is worth noting that this was one of the only open views of the site found along the N85 between Inagh and Ennistymon and it is not truly representative of the visibility existent upon the rest of this stretch of road. Road users are likely to be concentrating on the road which runs perpendicular to this view and this view would only be visible momentarily if travelling at any speed, therefore, visual receptors would have to be scanning the landscape in order to experience this view.

Visual effects arising from the R474 and R460 Regional roads located in close proximity to the site have been discussed previously via analysis of viewpoints 03 (Moderate), 04 (Moderate) and 09 (Slight).

As the R460 exits the village of Inagh to the west (location of local Garda Station), there are open views along the regional road towards the Proposed Development site. Views from this section of the R460 are represented by photomontage Viewpoint 02 (located within Inagh Village) which as discussed previously and was found to have residual visual effects of 'Slight' significance.

Plate 12-15 True View Visuals Output: Unverified photomontage of Slieveacurry from the N85 in the townland of Ballyea - 'Slight' visual effects.

12.8.3.3.6 Local Residential Amenity (Viewpoints within 1.5 km of the site)

This LVIA was cognisant of third party and statutory body submissions made on previous planning applications for Slieveacurry Renewable Energy Development submitted in October 2020 (Planning Ref. P20/806) and April 2021 (Planning Ref. P21/370). Additional site work, visuals and assessments have been conducted with an aim of addressing specific concerns raised by local residents living in close proximity to the Proposed Development. In relation to landscape and visual effects, many of the third party submissions contained common themes and concerns. The following section addresses some of these common themes that were of a more specific and objective nature.

This design process has been cognisant of set-back distances and this project achieves the four times tip height separation distance recommended in the Draft Revised Wind Energy Development Guidelines (2019, DoHPLG), which explicitly addresses residential visual amenity.

Four photomontage viewpoints are located within 1.5 km of the proposed turbines. VP10 on the Ballard Road, VP03 at Cloonanaha School, VP16 on the R460 at Cloghaun Beg and VP17 at Boolynamiscaun were specifically selected to assess the visual effects on residential amenity and receptors of local community importance in close proximity to the Proposed Development. Visual effects are relatively significant from these areas due to the close proximity to the Proposed Development, these four viewpoints show a worst-case scenario where there are open views in very close proximity with no screening.

Viewpoint 10: Assessed the visual effects from the townland of Tooreen on the Ballard Road. Moderate residual visual effects were recorded from this viewpoint. Due to its open views and close proximity to the Proposed Development (<1.5 km to the nearest turbine) this viewpoint represents the worst-case scenario for effects on residential amenity in areas immediately west of the Proposed Development. Visual effects are mitigated by strategic siting, appropriate scaling and the large, open and simple character of the landscape.

Viewpoint 03: Is located on the R460 Regional road adjacent to Cloonanaha National School and a local church (Oratory of the Blessed Virgin Mary) to the east of the site where there is full theoretical visibility of the turbines and minor roadside screening. Although there is less residential amenity in this area, the church and school are frequently visited by local residents making the location a receptor of moderate sensitivity. Residual visual effects were determined as Moderate from this viewpoint. The proposed turbines are partially screened by the intervening landform and they are viewed as neat and coherent cluster above the horizon. The large amount of pre-existing vertical, man-made uprights visible in this area (telecommunication poles, road sign, GAA pitch uprights) mitigates the impact of the proposed turbines as they are perceived to be smaller in scale than the more prominent uprights seen in the area.

Residential Visual Amenity South of the Proposed Development

An exercise was conducted to comprehend the likely significant visual effects upon residential receptors and the residential visual amenity of dwellings south of the Proposed Development. Additional photomontages (VP16 and VP17) were captured and included in the Volume 2 photomontage booklet in consideration of submissions made by local residents who live in the townlands of Letterkelly, Boolnamiscaun, Cloghaun Beg and Cloghaun More. Some residential dwellings in these townlands are located between proposed turbines T6, T7 and T8 (closest to Slievecallan) and the existing Slievecallan Wind Farm. From these locations there is potential for views of the existing Slievecallan turbines in one direction and the Proposed Development in the other direction.

Figure 12-15 below shows the residential properties within 1.5 km south of the Proposed Development. Numbering of residences is consistent with those included in the shadow flicker assessment detailed in Chapter 5 of this EIAR. As illustrated by Figure 12-15, turbines T6, T7 and T8 of the Proposed Development are in closest proximity to the existing Slievecallan turbines. Dwellings in the townlands of Letterkelly and Cloghaun Beg denoted as red triangles in Figure 12-15 (Residences 44-53) are properties participating in this proposed project.

Many public submissions indicated that the siting of the Proposed Development is inappropriate on account of the large number of residences in close proximity to the site. There are no dense housing developments in the landscape immediately surrounding the Proposed Development. Photomontages 10, 16 and 17 show that there are very little dwellings visible between photomontage viewpoints and the proposed turbines. Residences located between the Slievecallan Wind Farm and the Proposed Development are located in the District Electoral Divisions (DEDs) of Annagh in the west and Cloonanaha in the east (see Figure 12-15 below). The average population density of both Cloonanaha DED and Annagh DED is 14.1 persons per square kilometer (ppkm^2) (2016 census). This is 59% lower than the county average of 34.4 ppkm^2 and 80% lower than the national average of 70 ppkm^2. On this basis, the area located between the two developments is deemed to be of low population density and is sparsely settled.

The low housing density in conjunction with the designation of the site as a strategic area for wind energy development in the 2017 Clare Wind Energy Strategy supports the selection of this site as an appropriate location for the Proposed Development. As illustrated in Figure 12-15 below, the Proposed Development is compliant with the minimum 500 metre set back distance in the current Wind Energy Development Guidelines (2006, DoHELG) and also the 4 times tip height set-back distance explicitly set out for residential visual amenity prescribed by the Draft Revised Wind Energy Development Guidelines (2019, DoHPLG).

Map Legend

- Proposed Slieveacurry Turbines
- Turbines of the Existing Slievecallan Wind Farm

Residential Dwellings within 1.5 km of the Proposed Development

- Residential Property - Participating
- Residential Property
- Photomontage Viewpoint Volume 2 Photomontage Booklet
- Set Back Distance Compliance - 500 metres (DoHELG, 2006)
- Set Back Distance Compliance - 700 metres, 4 x Tip Height (DoHPLG, 2019)
- Townlands

District Electoral Divisions

- Cloonanaha DED
- Annagh DED
- R460 Regional Road

Drawing No.

Figure 12-15

Drawing Title

Residential Visual Amenity Assessment

Project Title

Slieveacurry Renewable Energy Development

Scale	Project No.	Date	Drawn By	Checked By
1:15000	170224-c	11.10.2021	JW	MW

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As shown in the topography map in Figure 12-7 (*Landscape Baseline*, Section 12.5.1) there is a distinct valley that transects the elevated landforms of Slieveacurry and Slieve Callan in a south-westerly to north-easterly orientation.

Plate 12-16 View from the R460 to the east-north-east along the valley that transects Slieveacurry and Slieve Callan.

Residential dwellings to the south of the Slieveacurry site are primarily located in the lower elevations of this valley where the relatively steep nature of the ridgeline will screen many of the proposed turbines from view as indicated by the ZTV map (Figure 12-16) below.

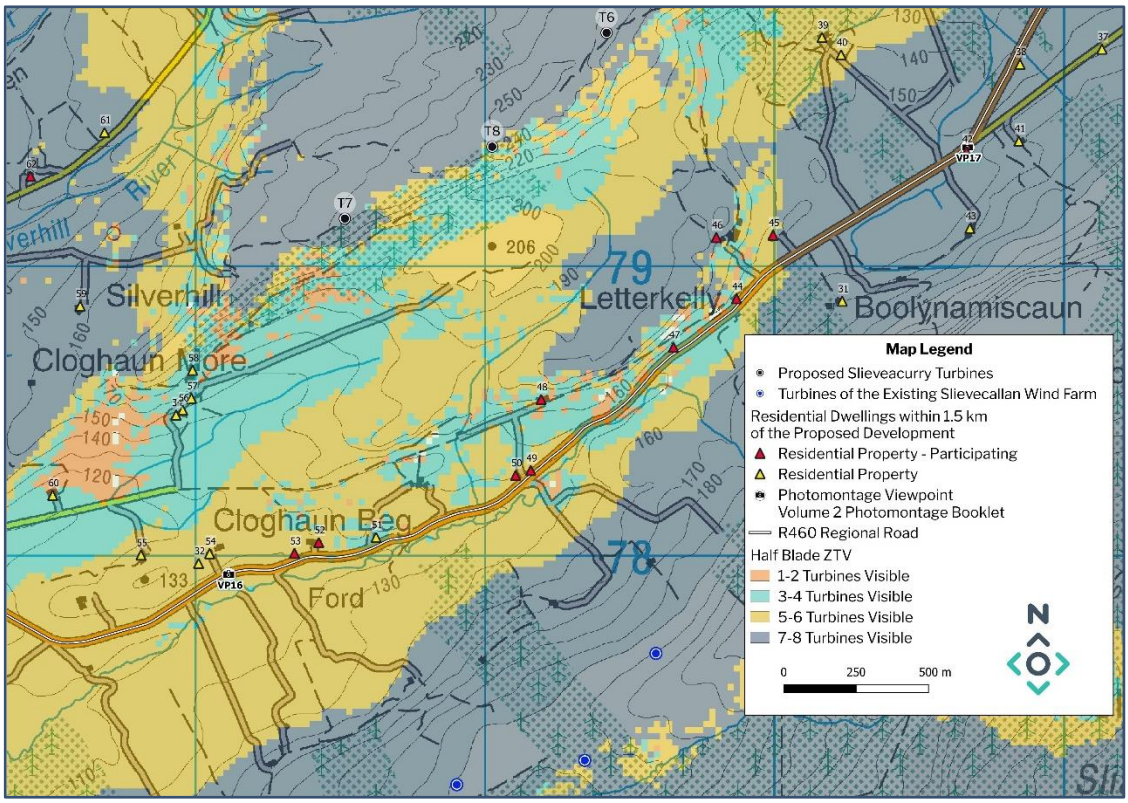

Figure 12-16 ZTV and location of residential receptors south of the Proposed Site.

Cloghaun More

Properties (Dwellings 34, 56, 57, 58) south-west of the Proposed Development in the townland of Cloghaun More are located in close proximity to turbine T7. These dwellings are built upon a steep rise of topography which will restrict potential views of most proposed turbines. As indicated by the ZTV map in Figure 12-16 (above), there is only theoretical visibility of 3-4 of the proposed turbines.

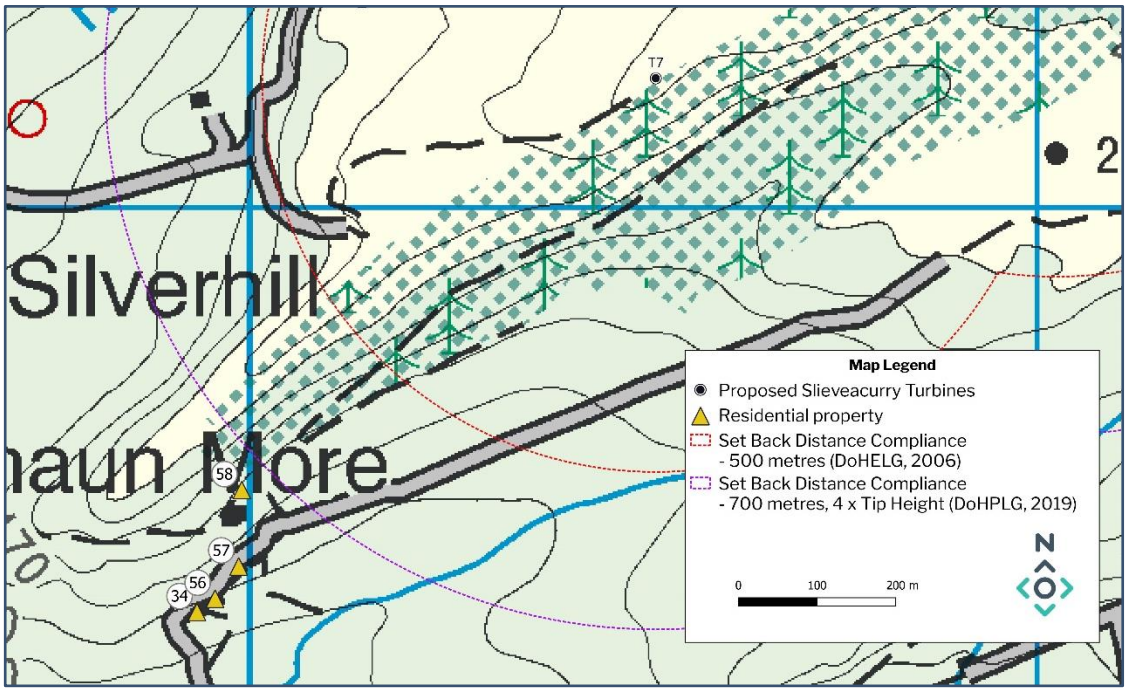

Figure 12-17 Residential Properties at Cloghaun More

As shown in Figure 12-17, the residential properties at Cloghaun More are located beyond the 4 times tip height distance from all proposed turbines including T7 as is set out in the Draft Revised Wind Energy Development Guidelines (2019, DoHPLG). These properties are located upon the southern side of the Cloghaun More ridgeline where the steep landform and a dense coniferous treeline to the north-west is likely to restrict visibility of the proposed turbines.

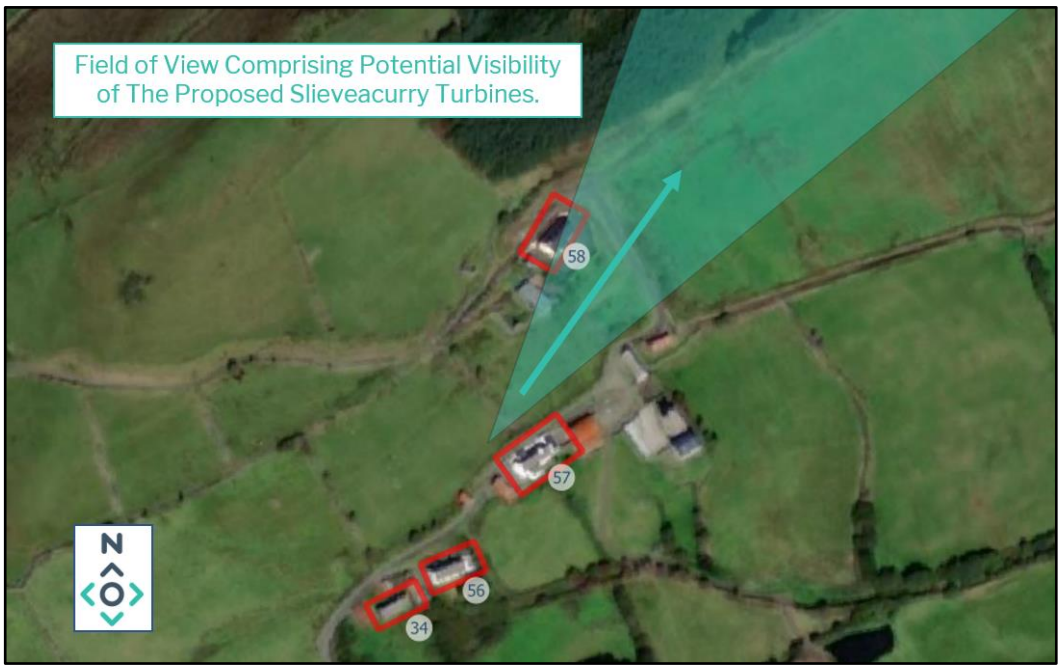

Figure 12-18 Orientation of Properties upon Cloghaun More.

The properties on Cloghaun More are generally oriented north-west to south-east with their front and rear windows directed in a direction perpendicular to that of the Proposed Development. As shown in Figure 12-18 above, only the gable end of properties 34, 56, 57 and 58 are directed towards the Proposed Development. From their elevated position, the properties at Cloghaun More have open views south-east across the valley towards the existing Slievecallan Wind Farm and across the flat coastal plain to the south. The Proposed Development does not obstruct or intrude upon scenic amenity to the south from this location.

Cloghaun Beg

Slightly more visibility of the Proposed Development occurs at Cloghaun Beg (Dwellings 51 -55) where there will be open views towards the Proposed Development to the north-east and turbines of Slievecallan Wind Farm to the south-east. Photomontage viewpoint 16 was added to the photomontage booklet and included in the assessment to represent the views from residences such as properties 54, 32 and 55 on Figure 12-15.

Photomontage 16: Moderate residual visual effects were recorded from this viewpoint. Due to its open views and close proximity to the Proposed Development (<1.5 km to the nearest turbine). This viewpoint is representative of residential amenity in areas immediately south-west of the Proposed Development. Topography significantly mitigates visual effects as only three turbines are obviously visible from this location and the surrounding area. There is no visual stacking from this perspective, no blade overlap and all turbine components are viewed above the horizon; mitigating the potential for visual confusion to occur at this viewpoint.

Although they are not visible in the 90º Baseline image, two turbines of the existing Slievecallan Wind Farm are located within 1.5 km from this viewpoint. As shown in Plate 12-17 (below), eleven turbines of the Slievecallan Wind Farm are visible in a field of view focused to the east and south-east from this location. Six of the visible Slievecallan turbines are located at a distance greater than 2 km from this viewpoint where visual effects are mitigated by distance. Five visible Slievecallan turbines are located within 2 km of this location and are prominent landscape features from this viewpoint. Whereas only three turbines of the Proposed Development are obviously visible from this location in photomontage 16.

Several existing Slievecallan turbines may be perceived in the periphery of views towards the Proposed Development from this viewpoint. There is visual separation between the two developments. As shown by the photomontage, no existing Slievecallan turbines are visible within the primary field of view (90 º or 53.5º) towards the proposed turbines. From Viewpoint 16 the turbines of the Proposed Development comprise 24º (6.6%) of a 360º field of view, and the Slievecallan turbines comprise 59º (16.4%) of a 360º field of view. When open views of both developments are available, turbines of the Slievecallan Wind Farm and the Proposed Development will cumulatively comprise 23% of possible views from this viewpoint, although both developments are not visible within the same primary viewshed.

Plate 12-17 View of the existing Slievecallan Wind Farm to the east-south-east from Viewpoint 16.

Letterkelly

As noted earlier in this section, residences to the east of viewpoint 16 (townland of Letterkelly) are participating in the proposed project (see Figure 12-15). Also, receptors east of viewpoint 16 will have restricted visibility of the proposed turbines due to screening from the steep side of the valley, as well as other vegetational screening factors - as is evident in Plate 12-18 below.

Plate 12-18 Topographical and Vegetational Screening Factors In close Proximity to Residence 42.

Photomontage Viewpoint 17 is included in the assessment to represent the visual effects arising at the north-eastern end of the valley where there are open views towards the Proposed Development from nearby residents.

Plate 12-19 A view along the R460 Regional Road – the existing Slievecallan turbines are visible to the right of the image, road side vegetation will intermittently screen views of the Proposed Development to the left along this stretch of road.

Plate 12-20 View to the north east from outside Residential Dwelling 49 in the townland of Letterkelly – significant screening of views to the north by topography and vegetation.

Plate 12-21 Overlaid wireframe from Residential Dwelling No. 45.

An open view towards the Proposed Development exists at residential dwelling No. 45 which is participating in the project. An overlaid wireframe shown in Plate 12-21 indicates the scale and position of turbines from this location. Only four turbines are obviously visible from this perspective and there is substantial topographical screening. There is likely to be very limited visibility of the proposed turbines from areas south-west of this location towards viewpoint 16.

There are 2 dwellings at the north-eastern extent of Letterkelly townland, dwelling no. 39 and no. 40 (see Figure 12-15 above). These residences are located in a depression of topography as the southern slopes of Slieveacurry meet the valley basin. The arrow annotation in Plate 12-22 (seen below) indicates where these dwellings are located, they are not visible in the photo as they are nestled in against the southern elevation of the hill beyond the small rise where the telecommunication pole is visible. As shown in both Plate 12-22 and Figure 12-19 (below) these dwellings are surrounded by dense coniferous forestry to the north and west. The combination of this vegetation to the rear of these properties and their position within the topography is likely to restrict views to the north-west and limit visibility of the proposed turbines.

Due to proximity, Turbines T6 and T8 are likely to be the most prominent turbines potentially visible from dwellings 39 and 40 and they will be immediately due west. There are open and expansive views down the V-shaped valley to the east from these properties, the Proposed Development will not obstruct or intrude upon these views.

Plate 12-22 Extract from Volume 2 photomontage booklet – View from Viewpoint 17 looking north-west with annotation indicating the location of residential dwellings No.39 and No.40.

Figure 12-19 Orientation of Dwelling No. 39 and Dwelling No.40

Boolynamiscaun

Five residential dwellings are located in the townland of Boolynamiscaun. Photomontage Viewpoint 17 is included in the photomontage booklet to represent the visual effects potentially occurring from these residences. Viewpoint 17 is located immediately outside residential dwelling no. 42 on the R460 Regional road.

Photomontage 17: Moderate residual visual effects were recorded from this viewpoint. Due to its open views and close proximity to the Proposed Development (1.3 km to the nearest turbine). This viewpoint is representative of residential amenity in areas immediately south-east of the Proposed Development. Topography and the dense treelines soften the visual effects from this perspective. The Proposed Development is viewed as a coherent and well-designed array. There is no visual stacking, no blade overlap and all turbine components are viewed above the horizon and they do not obstruct any landscape views. From viewpoint 17 the array of turbines are suitably scaled, spaced and sited within the sparsely settled landscape in an area designated as strategic for the development of renewable wind energy by the current Clare Wind Energy Strategy.

As shown in Plate 12-23 and Plate 12-24 below, turbines of the existing Slievecallan turbines are located in very close proximity (three turbines within 1 km) to viewpoint 17. The Slievecallan turbines are visible in a field of view focussed to south from this location. Seven existing turbines are visible,

however, visual effects are mitigated by screening from intervening topography and mature treelines. One turbine is relatively prominent (left of Plate 12-23 & centre of Plate 12-24), whilst the proximate turbines directly south and south-east (left of Plate 12-24) are obscured from view by a ridgeline so that only blade tips and an upper blade arc are visible.

From viewpoint 17, the proposed Slieveacurry turbines are not visible in the same primary viewshed as the existing Slievecallan turbines. The central heading of the Proposed Development is to the north-west, and the central heading of the existing Slievecallan Wind Farm is to the south. Therefore, they are viewed in opposite directions and it is unlikely a visual receptor will observe both developments at the same time.

Plate 12-23 View of the existing Slievecallan Wind Farm to the south-south-west from Residential Dwelling No.42 and VP17.

Plate 12-24 Residential Dwelling No. 42 from VP17 with turbines of the Slievcallan Wind farm visible beyond the ridge to the south.

Dwelling no. 42 is likely to have views of both the existing Slievecallan Wind Farm and the Proposed Development in either direction. Figure 12-20 (below) shows the orientation of dwelling no. 42, the front windows of this property faces north. From this location there are long-ranging landscape views to the north-east along the R460. Turbines T5 and T2 of the Proposed Development are likely to be visible in the periphery of the view from this residence. As shown in Plate 12-24 (above), a shed at the western gable end of the property will screen views of the more prominent proposed turbines visible to the west (T6, T7 and T8) from domestic curtilage in the rear of the property.

Figure 12-20 Location of Photomontage Viewpoint 17 and orientation of Residential Dwelling No. 42.

Other residential dwellings in the townland of Boolynamiscaun have a greater set-back distance from the Proposed Development, which will assist in mitigating the potential for adverse visual effects. Cumulative visual effects are addressed in a more general sense in the following section.

12.8.3.4 Cumulative Visual Effects

The proposed Slieveacurry turbines are sited in the 'Strategic Area' for wind energy development within the Slieve Callan Upland LCA as defined by The Clare Wind Energy Strategy (*Volume 5* of the current Clare County Development Plan). As a result of this site location, the proposed turbines will almost always be seen alongside the existing turbines of the Slievecallan Wind Farm, as is evident in the photomontage booklet. In this regard, the Slievecallan Wind Farm is already a well-established and accepted part of the landscape and the addition of the proposed Slieveacurry turbines will not be introducing an entirely new visual element to the landscape.

There are several other wind farms (aside from Slievecallan) located to the south of the Proposed Development, as demonstrated in the cumulative photomontages, they are rarely visible within the same viewshed as the Proposed Development and cumulative visual effects are significantly mitigated by distance and topographical screening.

Cumulative Visibility with the Existing Slievecallan Wind Farm

Depending on the perspective of view, the proposed turbines may be viewed as either a contiguous array of turbines with the Slievecallan Wind Farm or as a separate and independent development.

As demonstrated by the photomontages, most views from the south-west (VPs – 04; 05; 06; 07; 08; 09) and north-east (VP 02; 01) show the Proposed Development to be viewed as a separate independent development to the existing Slievecallan Wind Farm. From these perspectives (south-west and north-east) the Proposed Development increases the horizontal extent of turbines seen within the landscape. The south-westerly and north-easterly views show the Proposed Development as a neat cluster of turbines on the elevated ridge adjacent to the Slievecallan Wind Farm with a saddle of lower ground separating the two developments; from these perspectives the Proposed Development can be viewed as a visual counterbalance to the more dominant visual effects attributed to the larger development of Slievecallan.

The Slieve Callan Uplands is a linear topographical area oriented from the north-west to the south-east (See Figure 12-6). Such topographical characteristics cause the Proposed Development and existing Slievecallan Wind Farm to be visually read as one wind farm from areas in the north-west (no visibility of the Proposed Development from the south-west). This is particularly evident from photomontage

viewpoints 13 and 14 where there are views across Liscannor Bay towards what is perceived as a contiguous incline rising to the high elevation of Slieve Callan.

Due to strategic siting, spacing and layout design both developments (Slievecallan and Slieveacurry) visually read as two equal clusters of wind turbines with the individual wind energy projects indistinguishable when viewed from the north-west. This is in keeping with the *Wind Energy Development Guidelines December (2006)*, where in Section 6.6 *Cumulative Effect 'similarity in the siting and design approach is preferred where a number of wind energy developments are located in the same landscape character area'* and *'different wind energy developments can appear as a single collective unit if located near each other'.* The guidelines propose avoiding visual stacking, where turbines are seen '*one behind another, when viewed from highly sensitive key viewpoints'.* As demonstrated by photomontage viewpoints 13 and 14, this visual effect has predominantly been avoided through careful design.

Although there is a higher likelihood of visual effects arising from stacking and visual confusion, viewpoints 13 and 14 show that the Proposed Development does not increase the horizontal extent of turbines seen within the landscape but does increase the density of turbines seen within this narrow field of view. Therefore, the cumulative visual effects have less of an impact on any landscape or coastal views from the north-west of the Proposed Development.

Cumulative Visibility in the Overall Study Area

A comparative cumulative ZTV map (Figure 12-12, see Section 12.7.1 above) shows that the cumulative theoretical visibility of existing, permitted and proposed turbines will only increase by a small spatial extent due to the addition of the proposed Slieveacurry turbines. Therefore, it is considered that the proposed turbines will not have a significant impact on the extent of cumulative visibility within the overall LVIA study area.

The Proposed Development when viewed cumulatively with existing wind energy developments in the vicinity and wider area consolidates the provision of wind energy infrastructure at this location which has been designated as a Strategic Area in the Wind Energy Strategy for the County. Landscape and visual effects were among the primary considerations of the Planning Authority in designating this location as a Strategic Area. Accordingly this location has been identified by the Planning Authority as one of the most suitable and environmentally robust locations for the provision of wind energy in County Clare.

12.8.4 Ancillary Project Elements

For the purposes of this LVIA, a number of individual elements of the Proposed Development, ancillary to the proposed wind turbines, have been grouped together for the assessment of effects, given the similar nature of the works required. These operational project elements include the proposed roads and turbine hardstand areas, a met mast and grid connection components may all give rise to potentially similar landscape and visual effects.

Due to the topography of the Proposed Development site and surrounding areas the lower ancillary project elements will be visible in their immediate surroundings, hence, any visual effects will be localised and predominantly confined to within the Proposed Development site.

Road Construction and Turbine Hardstands
Every use will be made of the existing access tracks on site. Some tracks will be upgraded appropriately whilst several stretches of new internal roads will need to be constructed. Some vegetation clearance will occur as a result of this construction. Details of the required works are contained in Chapter 4 of this EIAR. The visual impact of these hard surfaces will be localised. The visual effect of this road construction is considered long-term, localised, but only 'Slight' in significance.

Meteorological (Met) Mast
One met mast is proposed as a part of the development, this will be a slender structure 30 metres in height, and in itself will not be an imposing structure in terms of visual impact. The visual effect of the proposed mast is considered to be long term but Not Significant, in that it will be significantly less visible than any turbine given its shorter and slender lattice form and will fade from view at a distance of anything more than a few kilometres.

Extension of the existing Slievecallan substation
The proposed plan is to extend the existing Slievecallan substation at Knockalassa by approximately 100 m x 25 m. The existing substation is located approximately 3 km south of turbine T8 at the Slievecallan Wind Farm site, this is situated 500 m north of County Clare Scenic Route 15 (R474 Regional road). The existing substation and site of the extension is completely screened from view along all sections of Scenic route 15 by both coniferous forestry and localised topography. It is anticipated that the proposed extension will also be concealed from view by the existing screening factors (topography and coniferous forestry). Hence, the visual impact of the proposed electricity substation extension will be localised, long-term and not significant.

Visual effects arising from the proposed ancillary project elements will be slight, localised and long-term where seen, but will remain largely unseen from within and outside the site.

12.8.5 Decommissioning Phase Effects

The landscape and visual effects during decommissioning are anticipated to be of a similar nature as those occurring during the construction phase.

The important element of decommissioning from a landscape and visual impacts perspective is the dismantling and removal of the wind turbines. This will occur for a limited period of time and will predominantly involve cranes adjacent the turbines during the dismantling process.

Removal of the turbines and ancillary infrastructure from the site will result in a Short-term, Slight, Negative visual effect.

If the turbines on site are not recommissioned or replaced with new turbines, the landscape will revert to its present condition. Once the turbines have been removed from the site, there will be an associated visual impact, which would either be perceived as positive or negative depending on the viewer.

12.9 Additional LVIA Commentary Regarding Clare County Council Decision on Pl. Ref. 21/370

As reported in Chapter 2 of this EIAR, the proposed Slieveacurry Renewable Energy Development was refused planning permission by Clare County Council in June 2021. The Planning Authority cited 4 no. reasons for refusal based on adverse impacts on landscape, adverse impact on residential amenities, concerns arising from potential ornithological impacts as well as hydrological and peat stability concerns.

It should be noted that the Clare County Council Planning Report prepared to recommend the refusal of Pl. Ref. 21/370 acknowledged that - ***"in support of the application, a comprehensive visual assessment has been conducted as part of Chapter 12"***.

It has not been necessary to make any material changes to the robust landscape and visual impact assessment conducted as part of the previous EIAR. Therefore, the outcomes and determination of significance of landscape and visual effects reported in this chapter has not broadly altered from what was reported in the previous application. However, additional assessments were conducted in order to address some of the specific topics and concerns highlighted by the planning authority in their previous refusal pertaining to landscape and visual.

For completeness, the following content in this section explicitly addresses the Planning Authority's concerns pertaining to adverse landscape and visual effects as articulated in the decision that was issued on Pl. Ref. 21/370. A full and detailed response to Refusal reason No.1 is set out below, as this was primarily based on LVIA and concerns relating to landscape. The response to the first refusal reason set out below are illustrated by comparative photomontage imagery contained in Appendix 12-5. In responding to the first refusal reason, consideration has also been given to matters discussed in the Planning Officers report, other internal Council reports and submissions by third parties.

12.9.1 Previous Reason for Refusal No. 1

"Notwithstanding the location of the site on lands identified as 'Strategic' for windfarm developments, the Planning Authority considers that the proposed turbine structures, by reason of their height (tip height up to 175m), scale and siting on this open and exposed upland landscape would constitute a prominent feature on the landscape from both local and long range viewpoints. Furthermore taken in conjunction with existing and permitted wind turbines in the area, it is considered that the proposed development would give rise to an excessive proliferation of wind turbines at this location, which would negatively alter the character of this rural landscape. The proposed development would therefore seriously injure the visual amenities of the area, would contravene Objective CDP 13.2 of the Development Plan and would be contrary to be proper and development of the area."

12.9.1.1 Response to Refusal Reason No. 1

This refusal reason suggests that the Proposed Development is not appropriate at this location in landscape terms for reasons including the location, turbine heights and scale, siting, site suitability, and turbine proliferation which gives rise to adverse impacts on the amenity of the area. These matters are discussed in full below, however, from the outset it must be noted that the development as proposed is plan-led. The site of the Proposed Development has been designated as a "Strategic" area for wind energy by the Planning Authority within the Clare County Development Plan (CCDP) and associated Clare Wind Energy Strategy (CWES). The overall design approach adopted ensures that the Proposed Development can be adequately accommodated within the landscape without adverse effects on the amenities of the area.

12.9.1.1.1 Site Location

As mentioned throughout this chapter, the site of the Proposed Development is located in an area identified as 'Strategic' for wind energy development, with the lands surrounding the Proposed Development designated as 'Acceptable in Principle' in the Clare County Development Plan 2017-2023 (as varied). The location of the site in the context of the County Development plans Renewable Energy Strategy is shown in Figure 12-21 below.

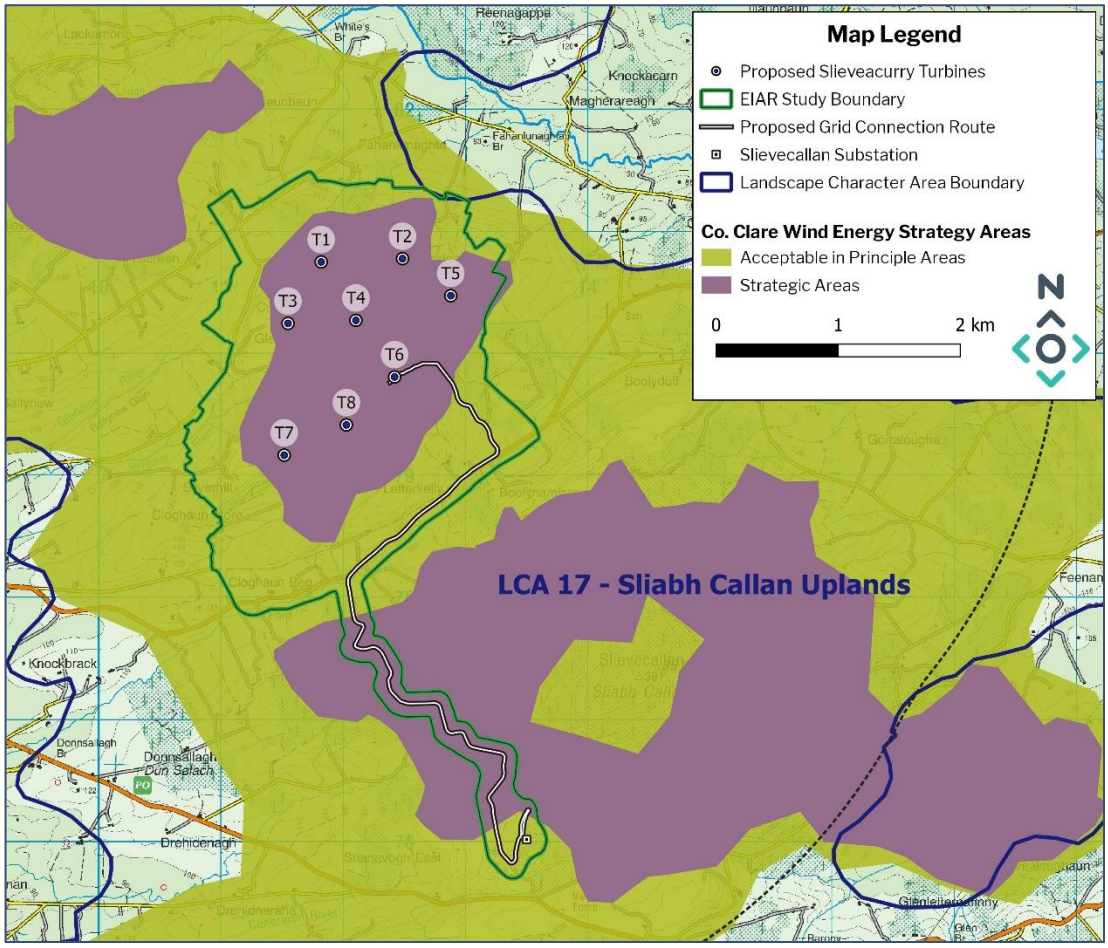

Figure 12-21 Proposed Development location relative to the Clare Wind Energy Strategy Areas

The turbine infrastructure is wholly located in a Strategic Area for wind energy development. There are further areas to the north-west of the Proposed Development that have also been designated as 'Strategic Area' for the purposes of wind energy development, however, to date no projects have been brought forward at these locations. The nearest wind farm is the Slieveacallan wind farm (Pl. Ref: 10/9) located 1.15km south of the subject turbines. The Slieveacallan wind farm comprises 29 no. operational wind turbines with an overall blade to tip height of 125 metres. Other wind farm developments exist further south, following the approximate 'Strategic Area' designation within the Plan. The proposed turbines cannot therefore be considered a new element in the wider landscape, or indeed in these 'Strategic Areas' designated for wind energy development. The landscape is one with turbines, as is to be wholly expected in an area designated for such. It is not accepted that the proposal would lead to a 'proliferation' of turbines in the landscape, it is instead a consolidation of development which allows the maximum use to be made of existing infrastructure (note for example that the connection distance to the national grid is quite short as the Proposed Development connects at the existing Slievecallan substation at Knocklassa).

The layout of the Proposed Development was constraint driven from the outset, with the policy framework of the adopted Development Plan forming part of that exercise. The turbine layout, which is

not elongated but rather grouped and wholly within the defined 'Strategic Area', will be a prominent but not unusual feature in this landscape at both local and long-range views.

12.9.1.1.2 Suitability of the Proposed Development Design (Height, Scale, Siting and Visual Coherence)

Height and Scale: The proposed turbines will be visible as prominent features from some short and long distance views regardless of their tip height. A comprehensive rationale for the proposed tip height and alternative options is illustrated by the use of photomontage graphics later in this chapter (Section 12.9.1.2). In terms of scale, the Proposed Development comprises 8 turbines with a maximum tip height of 175 metres. Section 1.4 of the Clare Wind Energy Strategy defines wind farm project size as follows:

- Small – 1 to 5 turbines.
- Medium – 6 to 10 turbines
- Large – 11 to 25 turbines
- Very Large – more than 25 turbines

On the basis of the definitions outlined above and in the context of current trends in the development of renewable energy from wind in Ireland, the proposed 8 turbine wind farm at Slieveacurry is categorised as a 'Medium' sized development.

Section 4 of the Wind Energy Strategy (WES) provides general advice on the landscape capacity for wind energy developments across the county's different landscape character areas (LCAs). All proposed Slieveacurry turbines are located within LCA 17 'Slieve Callan Uplands' (also referred to as the 'Sliabh Callan Uplands'). Figure 12-22 below has been extracted from Table 4a of the Strategy, it reports that the Slieve Callan Uplands LCA is recognised as an appropriate LCA for "large" sized wind farms with regards to turbine numbers. Considering its categorisation as a wind farm of 'Medium' size, the Proposed Development is of an eminently suitable scale with regards to the number of proposed turbines in an LCA with the capacity to accommodate wind farms of 'Large' size.

LCA's within areas designated as Strategic Areas					
LCA	**Overall Sensitivity to Wind Farm Developments**	**Appropriate size of wind farms (turbine numbers)**	**Capacity**	**LCTs in Co. Clare. LCA and Corresponding LCTs in 2006 Planning Guidelines**	**Cumulative Advice from 2006 Planning Guidelines**
Sliabh Callan This LCA encompasses upland hills and slopes of Sliabh Callan and Ben Dash	Medium to Low	Large	The rolling hills, low settlement, extensive plantations reduce the overall sensitivity of this LCA to wind farm development. The area could accommodate a number of large or medium wind farms subject to careful siting to avoid significant impacts on skylines. Potential Renewable Energy Generation for this area is 250 MW (Limerick Clare Energy Agency).	Upland Hills Moorland Hills Planning Guidelines: Moorland Mountain	Acceptable, depending on topography as well as siting and design of wind energy developments involved.

Figure 12-22: Table 4(a) Strategic Guidance for Landscape Capacity for Wind Energy' - Section 4 of the Clare Wind Energy Strategy, Volume 5 of the Clare County Development Plan 2017-2023

Siting and Visual Coherence: The scale and layout of the proposed turbines has been a key consideration for the applicant and the landscape and visual impact assessment team since the inception of this project. With regards to siting and visual coherence, the final proposed wind farm design and turbine layout is the product of an iterative process informed by landscape and visual assessments using tools such as photomontages and Zone of Theoretical Visibility (ZTV) maps. The outcome of this is a well-spaced cluster of turbines that read coherently within the landscape with no visual stacking or visual clutter from key visual receptors. A comprehensive assessment of the visual coherency of the turbine layout and rationale for choice of proposed tip height and turbine configuration is detailed further below in Section 12.9.1.2 via the use of photomontage visuals (Appendix 12-5).

Suitability of an elevated, upland site: The Proposed Development site is designated as a strategic area on account of its remote and elevated upland characteristics. The exposed, and simple landform of the elevated moorland landscape enables the Proposed Development to be seen as a neat and coherent

cluster, separate from other complex landscape features surrounding the site such as farmland and settlements. Siting of the proposed turbines on the elevated ridge ensure they are predominantly viewed above the horizon, reducing the capacity for visual clutter and confusion as there is minimal overlapping with other landscape elements. The Proposed Development is sited upon a hilltop ridge adjacent to the high elevation of Slieve Callan; as the highest landform in West Clare, Slieve Callan provides significant topographical screening of the Proposed Development from most areas to the south and east, reducing visibility and mitigating visual effects in an extensive area.

The landscape immediately surrounding the site is sparsely settled enabling greater set-back distances and reduced visual effects from more receptors than if the Proposed Development was sited in a more densely populated area. A majority of the visual and residential receptors with likely visibility of the Proposed Development are located at lower elevations where set back distances are greater in the more densely populated agricultural landscapes of the coastal plain to the south-west and the Inagh Valley to the north. Topography undulations, banks of coniferous forestry and other vegetation provides screening from many of the lower elevated locations immediately surrounding the site, reducing visibility and the potential for significant visual effects.

Absence of Visual Stacking from key visual receptors: While not directly referenced in the cited Reason for Refusal, the matter of visual stacking was noted in the Council's Environment Section's report. It is considered to be related to the Reason for Refusal set out and is therefore being addressed. In the current case it is not considered that stacking of wind turbines is an issue which leads to any significant landscape or visual effects at this site for a number of factors which are set out below.

Firstly, it's important to understand what visual stacking is and what it isn't in the context of the potential to genuinely create visual confusion and it is important to understand that it is related to the sensitivity of the receptor. Visual stacking is where turbines and in particular the blades of the turbines appear in layers one behind the other giving the impression that there are 6, 9, 12 (and so on) blades in a position where you might only expect to see the 3 related to the nearest turbine. Where this tends to be an issue is on larger grid layout wind farms with multiple wind turbine arrays. In cases such as these it's important to understand where the most sensitive viewpoints (e.g. high value landscapes, scenic views and routes etc.) are and arrange the layout to be as coherent as possible from these viewpoints.

It is also important to acknowledge that some stacking from certain angles is inevitable for the majority of wind farm projects. The key consideration is the magnitude of that stacking as well as the sensitivity of the viewpoint location and the type of location. For example, if stacking is perceived to occur from a scenic route location as shown in a photomontage this effect may in fact be momentary as the angle of view is constantly changing for the receptor using that route.

The draft 2019 Wind Energy Guidelines issued for public consultation state:

> *"It is preferable to avoid locating turbines where they can be seen one behind another, when viewed from highly sensitive key viewpoints (for example, viewing points along walking or scenic routes, or from designated views or prospects), as this results in visual stacking and, thus, confusion. This may not be critical, however, where the wind energy development to the rear is in the distant background."*

Section 12.6 of this chapter provides a comprehensive and detailed identification of the visual receptors within the study area. It also puts these in the context of the ZTV outputs and allows for consideration of receptors with a least some potential for effects. This process is then expanded by visiting these locations on the ground, taking images and developing photomontages in order to show and assesses the actual visual impacts from the most sensitive locations.

The Volume 2 photomontage booklet demonstrates that there is a substantial absence of visual stacking from the most sensitive visual receptors located within 10 km of the Proposed Development (Lahinch, VP12; Liscannor, VP13; Spanish Point, VP8; Scenic Route 15 VP4) as well as residential receptors

within 1.5 km of the proposed turbines (Cloonanaha VP03; Tooreen, VP10; Cloghaun Beg VP16; Boolynamiscaun VP17).

12.9.1.1.3 Excessive Proliferation of Turbines at this Location

Consideration has been given to the Planning Authorities Reason for Refusal that 'excessive proliferation' of turbines at this location would occur as a result of the Proposed Development. Particularly in this regard, the Reason for Refusal states:

> *"Furthermore taken in conjunction with existing and permitted wind turbines in the area, it is considered that the proposed development would give rise to an excessive proliferation of wind turbines at this location, which would negatively alter the character of this rural landscape."*

Where the Proposed Development is likely to be visible within the landscape, it is most often viewed in conjunction with the existing Slievecallan Wind Farm which is located on the adjacent hillside. The Slievecallan Wind Farm is now a well-established element of the receiving landscape and contributes to the existing character of the Slieve Callan Uplands and its rural landscape. The term 'excessive proliferation of turbines' used in the refusal reason suggests an excessive multiplication of the existing turbines in the landscape within the vicinity of the Proposed Development site. The Proposed Development is a medium sized wind farm of 8 turbines. It extends the spatial extent of turbines visible across the elevated 'Strategic' area for wind energy development within the Slieve Callan Uplands (LCA 17).

As shown in the photomontage image extracts below (Plate 12-25, Plate 12-26), the Proposed Development is sited and scaled so that it is visually separate from the Slievecallan Wind Farm as a coherent cluster on an adjacent hill which is designated for turbines. The two developments are not a continuous array and they are not viewed as one large wind farm, however, similarities in spacing distances does give them some visual balance when viewed side by side within these views.

Plate 12-25 (below) is an extract from a photomontage showing a view to the north from Mullagh. The Proposed Development is seen to the left and the existing Slievecallan Wind Farm is seen to the right. There is an addition of turbines to the landscape, however, the phrase 'excessive proliferation' is unwarranted when considering the separate turbine clusters framing the V-shaped valley in this view.

Plate 12-25 Extract from Photomontage Viewpoint 05 at Mullagh – Extract Photomontage Booklet which forms Volume 2 of this EIAR

Plate 12-26: Extract from Photomontage Viewpoint 09 at Miltown Malbay extracted from the Photomontage Booklet which forms Volume 2 of this EIAR

Plate 12-26 (above) is an extract from a photomontage showing a view to the north-east from outside Miltown Malbay, the Proposed Development is seen to the left and the existing Slievecallan Wind Farm is seen in the distance to the right. The addition of the proposed Slieveacurry turbines increases the spatial extent of wind turbines visible in the landscape, however, the difference in turbine scale and positioning on separate ridgelines clearly defines each as separate developments. Similarities in siting (elevation and inter-turbine spacing) enables both developments to be visually coherent and balanced within the landscape when visible in the same viewshed.

Whether the addition of the Proposed Development would negatively alter the character of the landscape is a subjective matter. It is agreed there would be some change to the character of the landscape, however, the addition of eight turbines will not be adding a novel feature to the wider receiving landscape of the Slieve Callan Uplands. As stated in the WES, this is a location designated for wind turbines, and a coherently designed development of appropriate scale, visually balanced with the existing Slievecallan Wind Farm is an appropriate addition to the landscape, where it is envisioned that turbines should be visible.

12.9.1.1.4 Visual Amenities of the Area

High value is attributed to the visual amenities derived from coastal seascape views existent in the regions of West Clare to the north, north-west, west and south-west of the Proposed Development. Turbines of the Proposed Development are located inland and do not obstruct or significantly intrude upon any valuable coastal or seascape views.

Objective CDP13.2 of the Clare County Development Plan is a general policy relating to the sustainable development in the County Clare 'Settled' Living Landscape designation, in which the Proposed Development is located. Settled Landscape comprises 51.6 % (1782 km^2) of County Clare, therefore this policy pertains to a large area and is very general in nature. Item B in Objective CDP8.40 of the Clare County Development Plan cites that it is an objective of the plan to "*assess future renewable energy-related development proposals having regard to the Clare Renewable Energy Strategy 2017-2023".* The Clare Wind Energy Strategy only designates approximately 2.6% of County Clare as 'Strategic Areas' for wind energy development. Considering the trade-off in a spatial context between the clear and specific designations of the Clare Wind Energy Strategy (and Objective CDP8.40) and the very general policy objective of CDP13.2, the limited (approx. 2.6% of County Clare) viable areas reserved as 'Strategic' must take precedence over policy designations for Settled Landscape which comprises a vast area (51.6% of County Clare). It is therefore reasoned that the "*proper planning and development of the are*a" should align with planning and development objectives designated in the Clare Wind Energy Strategy (Item B in Objective CDP8.40 of the Clare County Development Plan)

when considering the Proposed Development site which is located in a Strategic Area for wind energy development.

While refusal reason no. 1 raises concern that the provision of additional wind turbines at this location could give rise to proliferation of such infrastructure at this location, as noted above, the Planning Authority have set out in the adopted Development Plan areas where wind energy is deemed acceptable in principle. The subject site is located in a Strategic Area. The Strategic Areas as illustrated in the Plan have been designated due to the good/excellent wind resources, access to the national grid, distance from properties and being located outside of any Natura 2000 designated sites. Accordingly these areas are robust landscapes that have been identified in the County Development Plan as being highly appropriate locations for the provision of wind turbines. Such designation will of course result in the introduction of wind turbine structures to the landscape and will therefore have a visual impact. Comprehensive cumulative assessments (Section 12.7.1 *Comparative Cumulative Visibility*; Section 12.8.3.2 -*Cumulative Landscape Effects*; and Section 12.8.3.4 *Cumulative Visual Effects*) fully address the likely effects of the Proposed Development in combination with the existing, permitted and proposed wind farms identified within a 20-kilometre radius of the Proposed Development.

12.9.1.1.5 Overall Tip Height of Turbines

The Planning Officers report noted that:

> *"the turbines as proposed have an overall tip height of 175 metres which is 50 metres higher than the existing turbines on Slieve Callan."*

The necessity to balance the imperative to develop a project which makes the most efficient use of the wind resource at this site while being cognisant and complementary to the existing Slievecallan Wind Farm has been to the forefront of the iterative design process.

It is fully acknowledged that there is a difference in tip height between the two developments, however, the elevation of Slieve Callan is greater than that of Slieveacurry, offsetting potential visual impacts of such differences in tip height. As shown by the red box in in Plate 12-27 below (annotated version of the photomontage shown in Plate 12-25 previously) the vertical spatial extent that the two developments (Proposed Slievecurry turbines to the left, Slievecallan turbines to the right) comprise within the landscape is very similar when viewing from a location equidistant from the two developments. In this regard both developments are visually balanced within the landscape.

Plate 12-27 Annotated extract from Photomontage Viewpoint 05 Mullagh – Extract from Photomontage Booklet, Volume 2 of this EIAR

The scale and configuration of the layout of the Proposed Development was cognisant of two primary objectives:

- Mitigate the potential for significant landscape and visual effects from all geographic perspectives in the surrounding area.
- Maximise the potential energy output from this designated 'Strategic Area' of land, suitably located in close proximity to grid infrastructure at Slievecallan and contribute to the objectives of the Clare Wind Energy Strategy and Clare County Development Plan.

Lower proposed tip heights would reduce the capacity of this 'Strategic Area' to generate renewable energy, therefore lower tip heights would require the proposal of more turbines to be included in the development or alternatively another site would have to be identified to accommodate more smaller turbines. The proposed maximum tip height of 175 metres is deemed to be appropriate from a visual perspective, enabling a viable development of only 8 no. turbines and maximising the potential of this strategic area to contribute towards county and national renewable energy targets.

12.9.1.2 Photomontages – Turbine Tip Height Comparison

Within the Planning Officers report recommending that permission be refused for the previous application, specific concerns regarding the size of the turbines from certain photomontage viewpoint locations are noted.

The EIAR and wind farm design process was an iterative process, where findings at each stage of the assessment were used to further refine the design, always with the intention of minimising the potential for environmental impacts.

12.9.1.2.1 *The Iterative Design Process – Alternative Turbine Specifications*

As part of the early-stage iterative design process, alternative turbine specifications were assessed from a visual perspective using photomontages. The proposed maximum turbine tip height of 175 metres was compared with a preliminary lower turbine tip height (156.5 metres) from local residential receptors and a scenic route in proximity to the site. The lower tip height of 156.5 metres was considered in this assessment as these parameters represented a scale of turbine that is available in the market. It was not considered realistic to model turbines of the same dimension as the existing Slievecallan turbines (Nordex 125 metres - constructed 5 years ago) that would not be available in the future for the construction of the Proposed Development should favourable consideration be forthcoming. It was considered appropriate to carry out visual comparative assessments using turbine dimensions that are actually likely to be available in the market.

These early-stage photomontages are presented below in Plate 12-28 (Viewpoint 03), Plate 12-29 (Viewpoint 04) and Plate 12-30 (Viewpoint 17).

Plate 12-28 Early Stage Photomontages - Comparison of Turbine Tip Heights from Photomontage Viewpoint 03

Plate 12-29 Early Stage Photomontages - Comparison of Turbine Tip Heights from Photomontage Viewpoint 03

Plate 12-30 Early Stage Photomontages - Comparison of Turbine Tip Heights from Photomontage Viewpoint 17

As shown in the images above, the lower tip height (156.5 metres) does not drastically alter the view of turbines in the landscape compared to the proposed turbines (maximum 175 metres) and would not alter the significance of visual effects arising from these viewpoints. The only discernible difference that would result from the installation of a turbine at the lower tip height would be to reduce the amount of renewable energy that could be generated from this 'Strategic Area'. In this regard, the proposed maximum tip height of 175 metres was the preferred option chosen for the Proposed Development as it was capable of being accommodated within the landscape without significant adverse effects on the environment while also allowing the most efficient use to be made of the wind resource at this site.

12.9.1.2.2 Additional Comparative Photomontages

In order to address comments in the Planning Officers report (supporting the Refusal Reason No. 1), additional comparative photomontages have been prepared to show a comparison of differing turbine dimensions from key receptors specifically identified in the planning report. Images of these comparative photomontages are copied below for ease, however, they are also included in as large-scale images in Appendix 12-5 of this EIAR.

12.9.1.2.3 Viewpoints 12 and 13, Liscannor and Lahinch – Comparative Photomontages

The Planning Officers report on the previous application raised concern that in viewpoints from Lahinch/Liscannor (VPs 12 and 13) the turbines would appear as prominent features.

Photomontage 12 is located outside of Lahinch, 9 km north of the Proposed Development and photomontage 13 is located 10 km north-west. Comparative photomontages have been prepared to show an alternative tip height of 156.5 metres (Hub Height 90, Rotor Diameter 133) from both of these viewpoints, see Plate 12-31 and Plate 12-33 below (high resolution visuals are included in Appendix 12-5).

Plate 12-31: Comparison of Turbine Tip Heights from Photomontage Viewpoint 12-Lahinch

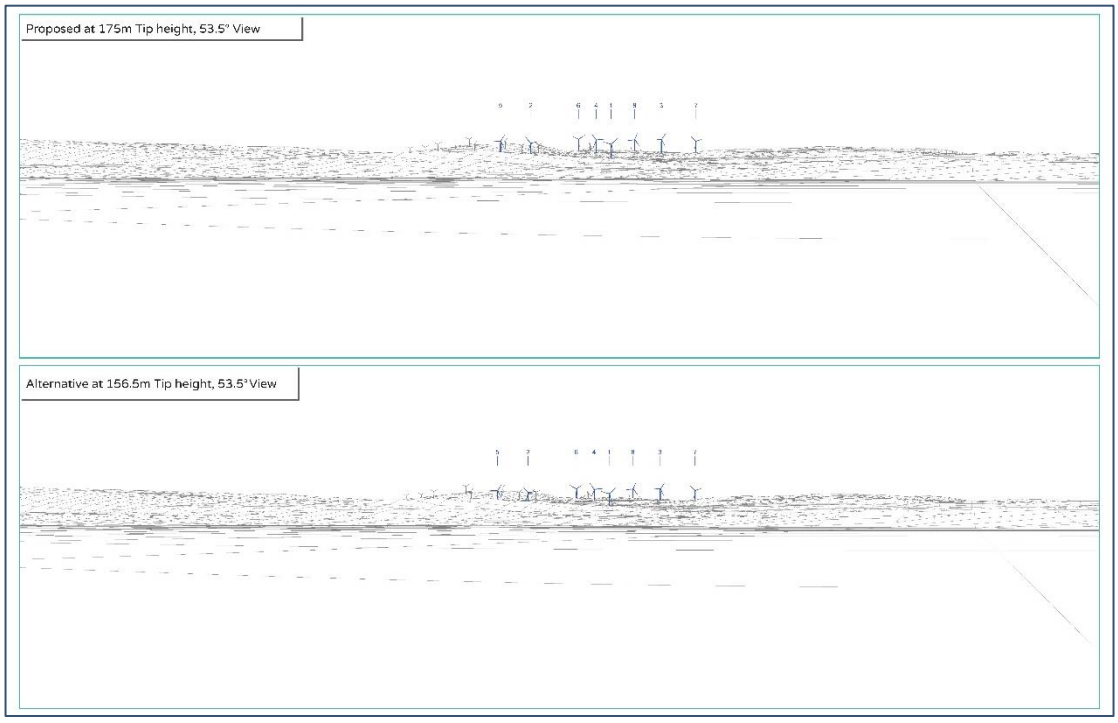

Plate 12-32: Comparison of Turbine Tip Heights using Wireframes from Photomontage Viewpoint 12 – Lahinch

Plate 12-33: Comparison of Turbine Tip Heights from Photomontage Viewpoint 13 - Liscannor

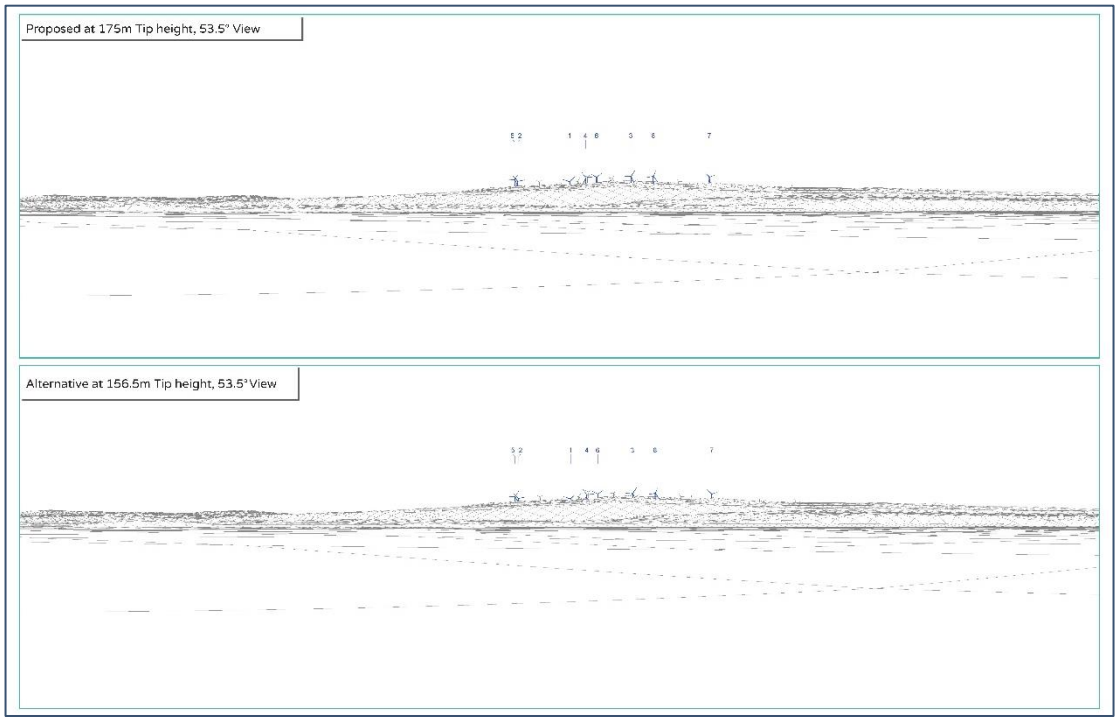

Plate 12-34: Comparison of Turbine Tip Heights using Wireframes from Photomontage Viewpoint 13 – Liscannor

As stated previously, the turbines will be seen from these locations and they will be visible within a 'Strategic' area designated as appropriate for turbines. Visual effects are deemed to be of 'Moderate' significance for the proposed maximum tip height of 175 metres from these two locations considering the sensitivity of the visual receptors at these viewpoints. It is noted that the set-back distances (> 9 km) and visual coherence and limited visual stacking of the turbines from these receptors substantially mitigates visual effects. As shown in the photomontage visuals in Appendix 12-5 (and above), the turbines scaled at 156.5m tip height do not materially alter the prominence or significance of visual effects from these locations.

12.9.1.2.4 Viewpoint 8, Spanish Point – Comparative Photomontage

The Planning Officers report on the previous application also noted that from points on the N67 (VP 8) the turbines could be considered to be more dominant than the existing Slievecallan turbines, although, it was clearly accepted in the report that along this scenic route the main visual points of interest are along the coast line.

As shown below in Plate 12-35 (see Appendix 12-5 for larger image), the linear array of proposed turbines (left of images) are only visible above the ridgeline where they do not overlap or obstruct any landscape views. The coherent layout of the Proposed Development (with an absence of visual stacking) is visually separate from the existing Slievecallan turbines. Some of the existing turbines are viewed against the landform of Slieve Callan and are likely to be more noticeable than the proposed turbines from this perspective. As previously stated the proposed turbines are located in a 'Strategic Area', where it is envisioned for turbines to be located.

Plate 12-36 below shows a comparison of potential tip heights from viewpoint 8 using wireframes with the turbines modelled at differing scale. The difference in turbine size is negligible and will not materially alter the views within the photomontages, nor alter the significance of visual effects.

Plate 12-35: Comparison of Turbine Tip Heights from Photomontages Viewpoint 8 – N67 Spanish Point

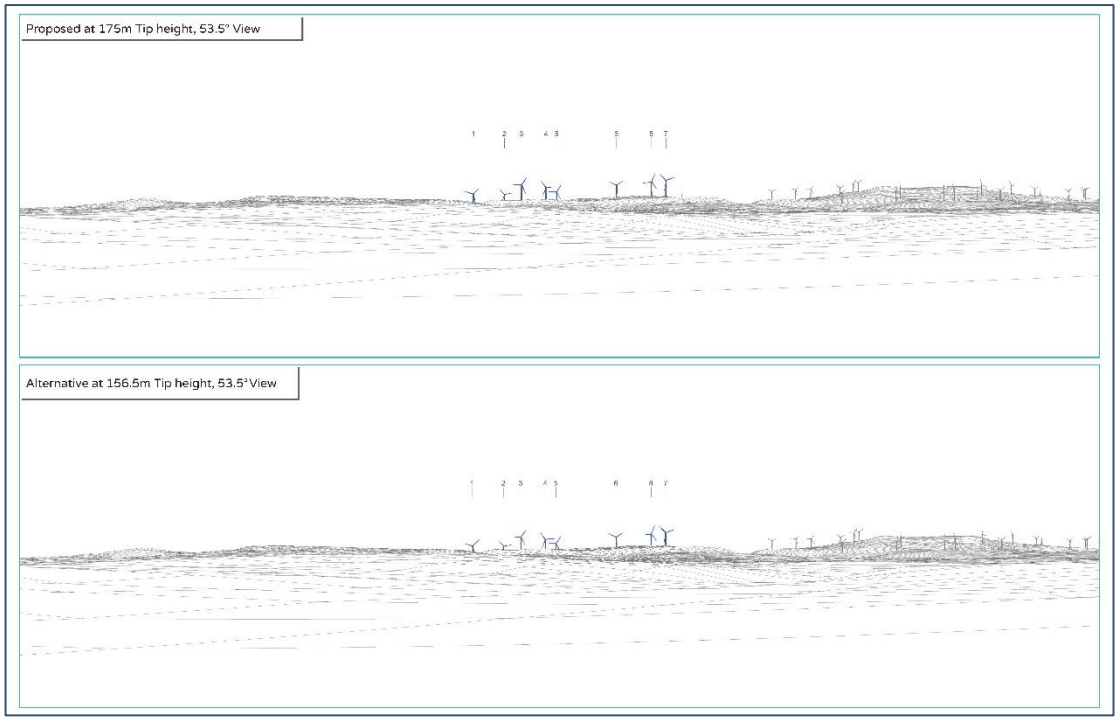

Plate 12-36: Comparison of Turbine Tip Heights using Wireframes from Photomontage Viewpoint 8

12.9.1.2.5 Viewpoint 1, The Burren – Comparative Photomontage

The Planning Officers report also raised concerns in relation to viewpoint no. 1 and considered that the impact here is somewhat similar to Viewpoint 8.

This chapter determines that the likely residual visual effects arising at Viewpoint 01 as being 'Not Significant' (see Appendix 12-3 for a comprehensive determination of visual effects from these locations). Viewpoint 01 (and 08 as discussed previously above) were deemed to be of high sensitivity due to their locations on designated scenic routes, however the magnitude of change visible within the photomontages were deemed to be different based upon distance and the spatial extent the turbines comprise within the view.

Viewpoint 01 is located 19.2 km from the nearest proposed turbine, consequently the turbines are visible as very small features and comprise a very small horizontal and vertical extent within the landscape view compared with the proposed turbines viewed from viewpoint 08 at a distance of approximately 8 km.

The red annotations in Figure 12-23 and Figure 12-24 below show a direct comparison of photomontages and wireframes produced from the two viewpoints within the 53.5 degree field of view. The red annotations set a boundary around the horizontal and vertical extent of proposed turbines visible in the image. The area of proposed turbines visible in viewpoint 01 is half that of those seen from viewpoint 08. This results in a differing magnitude of change and subsequently a differing likely significance rating of visual effects.

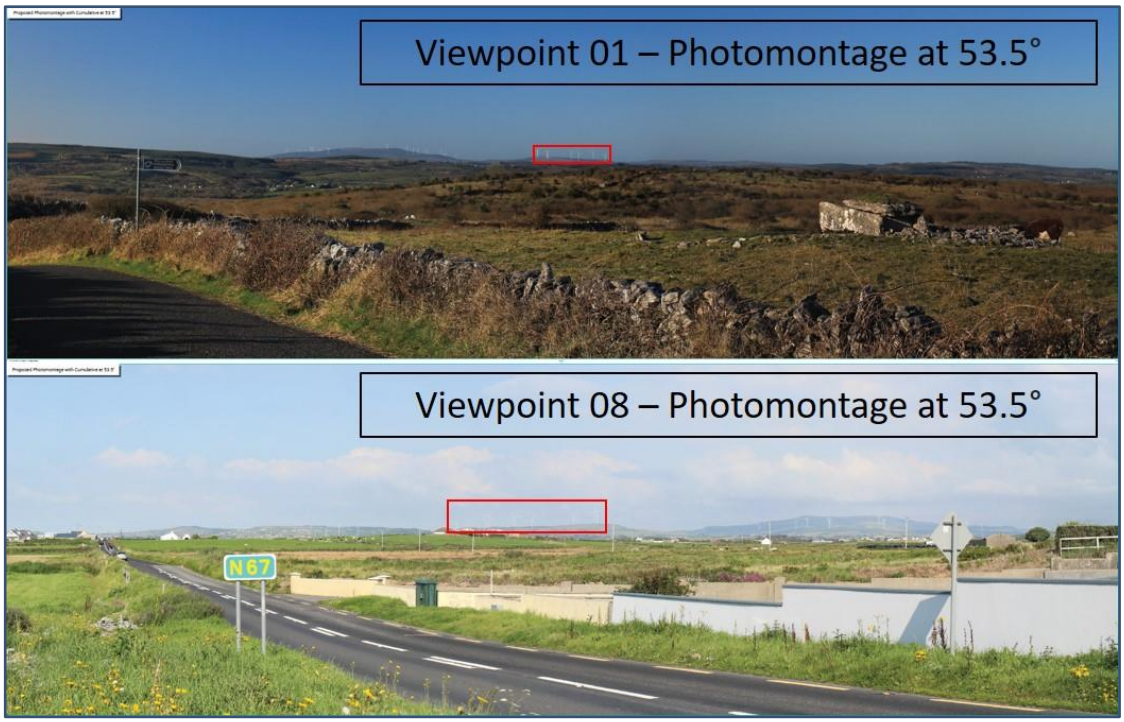

Figure 12-23 53.5 degree photomontages from Viewpoint 01 and Viewpoint 08 from the Volume 2 photomontage booklet. Comparison of the spatial extent of proposed turbines visible in the landscape from Viewpoint 01 and Viewpoint 08.

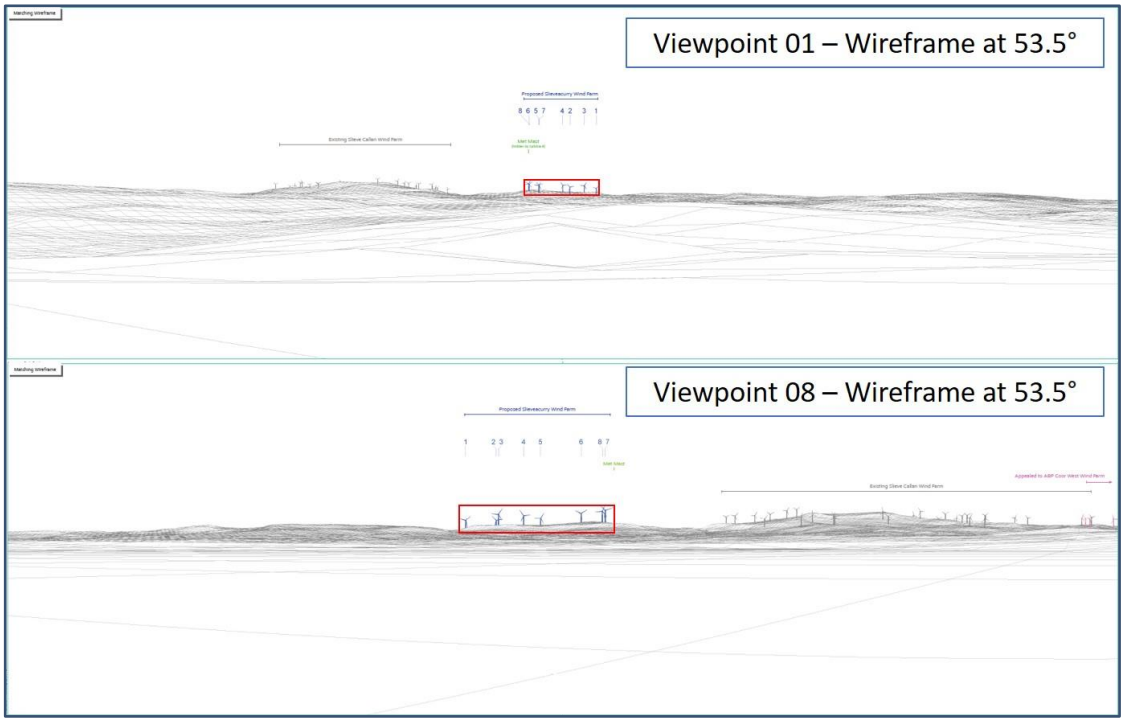

Figure 12-24 53.5 degree wireframe graphics from Viewpoint 01 and Viewpoint 08 from the Volume 2 photomontage booklet. Comparison of the spatial extent of proposed turbines visible in the landscape from Viewpoint 01 and Viewpoint 08.

As shown in Plate 12-37(below) use of a smaller turbine tip height (156.5 metres) will not materially alter the visibility and visual effects arising from the Burren and (photomontage viewpoint 01).

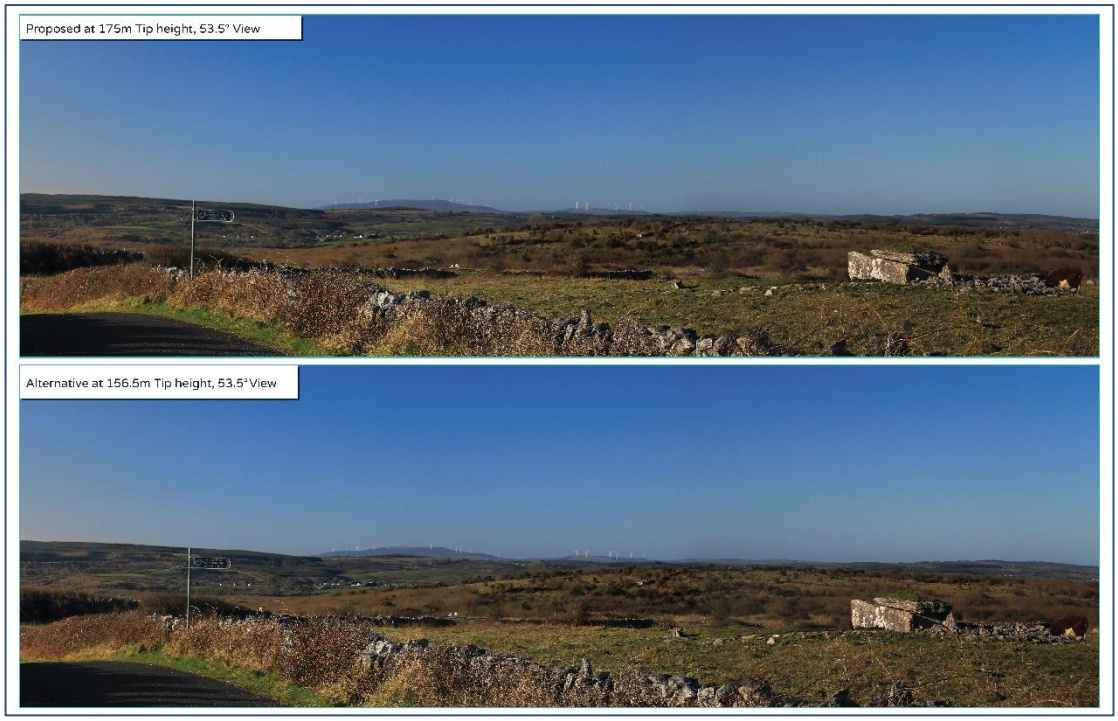

Plate 12-37 Comparison of Turbine Tip Heights from Photomontage Viewpoint 1 – The Burren

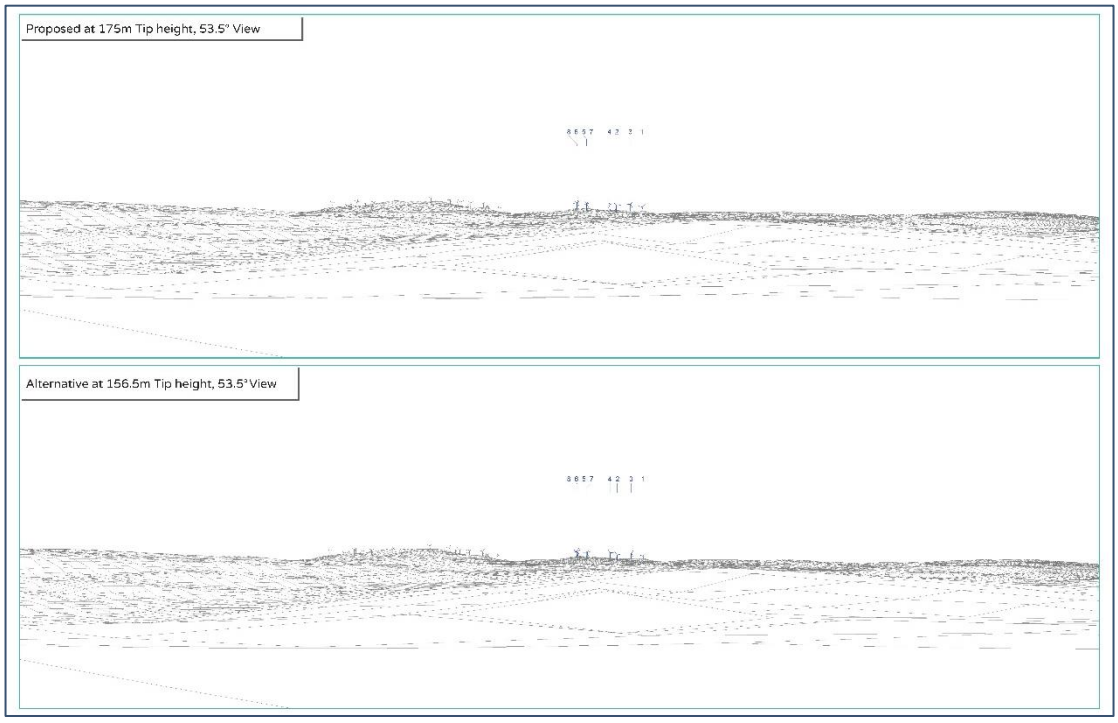

Plate 12-38 Comparison of Turbine Tip Heights using Wireframes from Photomontage Viewpoint 1 – The Burren

12.9.1.2.6 Viewpoints 03, 10, 16 and 17, Residential Visual Amenity – Comparative Photomontages

The planners report prepared in support of the previous refusal reason makes reference to Viewpoints 03 and 10, stating that the size and siting of the turbines are dominant. Appendix 12-5 (see also Plate 12-39, Plate 12-40, Plate 12-41 and Plate 12-42 below) shows comparative photomontages for viewpoints 03, and 10, showing how other potential turbine sizes will be viewed from residential receptors surrounding the Slieveacurry site.

Plate 12-39 Comparison of Turbine Tip Heights from Photomontage Viewpoint 03

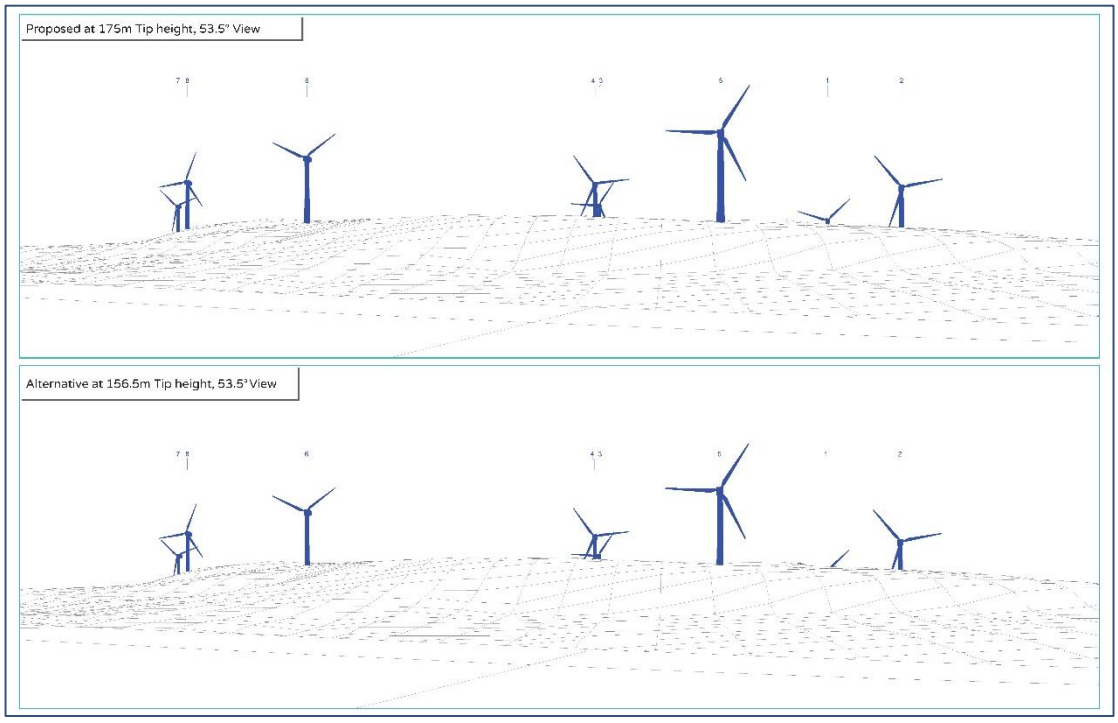

Plate 12-40 Comparison of Turbine Tip Heights using Wireframes from Photomontage Viewpoint 03

Plate 12-41 Comparison of Turbine Tip Heights from Photomontage Viewpoint 10

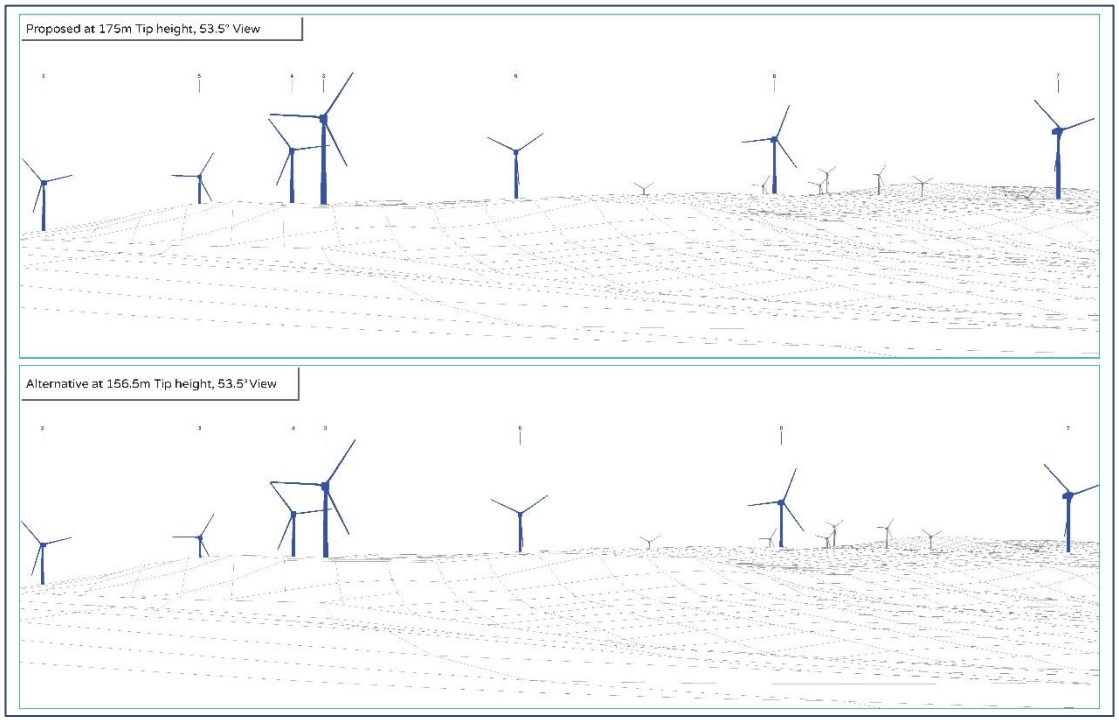

Plate 12-42 Comparison of Turbine Tip Heights using Wireframes from Photomontage Viewpoint 10

The images above show that there is a slight difference in the vertical extent of turbines visible when comparing the two turbine sizes. The lower tip height (156.5 metres) does not drastically alter the view of turbines in the landscape compared to the proposed turbines (maximum tip height at 175 metres) and would not alter the significance of visual effects arising from these viewpoints. However, the lower tip height would reduce the capacity of this 'Strategic Area' to generate renewable energy and reduce contributions towards national and county renewable energy targets.

The comparative photomontages (Viewpoint 03 and Viewpoint 10), show that where the Proposed Development will be visible it will be a linear coherent layout and lower tip heights will not drastically alter the visibility of turbines.

Through the iterative project site selection and design process, informed by early-stage impact assessment work, landscape modelling, ZTV mapping and photomontage preparation, every effort has been made to bring forward the optimum site selection and design for the project now proposed with respect to landscape and visual factors. As noted previously, a thorough assessment of the likely visual impacts upon residential visual amenity is presented in Section 12.8.3.3.5 of this chapter– *Local Residential Amenity*. The designation of the site as a strategic area for wind energy development, the low housing density and adherence to designated set-back distance for residential visual amenity supports the selection of the site as an appropriate location for the Proposed Development.

The Proposed Development accords with the 4 times tip height set-back distance set out in the Draft Revised Wind Energy Development Guidelines (2019, DoHPLG) and while we note that these guidelines are not yet in effect they do offer an appropriate benchmark in terms of set-back distance requirements.

12.9.1.3 Summary Conclusion on Refusal Reason no. 1

The detailed assessment set out in this EIAR including photomontages and the design approach adopted, clearly demonstrates that site identification has been plan led (the site of the Proposed Development having been designated as a "Strategic Area" for wind energy development) and that the design and layout of the turbines has been carefully considered to allow the landscape to accommodate the Proposed Development while also ensuring protection of the amenities of the area. Accordingly, the Proposed Development is fully capable of being accommodated within the landscape, does not lead to a proliferation of turbines at this location, and is appropriately designed/sited.

12.10 Conclusion

The Proposed Slieveacurry Renewable Energy Development and associated infrastructure is sited in an appropriate location for a wind farm development of this scale, on an elevated mountain moorland in a 'Strategic Area' for wind energy development designated by Clare County Council.

The design of the Proposed Development was informed by a detailed iterative process, resulting in a suitably scaled and appropriate design for this location. Strategic siting was cognisant of the potential cumulative visual effects arising from the existing Slievecallan Wind Farm located in close proximity on an adjacent hillside.

Visibility of the site is predominantly limited to areas upon the flat coastal plain to the south-west of the site or upon the southern slopes of the Burren to the north. Due to screening from the high elevation of Slieve Callan, no visibility is evident from a vast area to the south-east of the LVIA study area and visibility from Ennis and drumlin farmland to the north-east of the site is also screened by intervening topography. Visual and landscape effects in close proximity are mitigated by topographical and vegetation screening factors (approx. 54% full or partial screening found within 2.5 km of the proposed site) present in the hilly and flat farmland landscape surrounding the site and within the wider study area.

In terms of landscape character, only LCA 17 - The Slieve Callan Upland, in which the proposed Slieveacurry turbines are located will experience direct effects on landscape character as a result of the Proposed Development.

Due to their designations as 'Heritage' Living Landscape of County Clare and the significance of The Burren and The Cliffs of Moher as landscape receptors of National and International renown, LCA 1 The Burren Uplands, LCA 3 Cliffs of Moher and Lahinch and LCA 20 - Malbay Coastal Farmland were identified as landscape character areas of high sensitivity. As such, the likely significant effects of the Proposed Development upon these landscapes was assessed in detail in this LVIA (See Appendix 12-2). The Proposed Development is visible from within these landscapes but located outside them, therefore effects on landscape character are indirect and the Proposed Development will not materially alter these landscape receptors and landscape effects were not deemed to be significant.

The visual assessment concluded that residual visual effects of "Moderate" significance was deemed to arise at eight of the 17 viewpoint locations. All other viewpoints were assessed as resulting in Slight significance (8) and Not Significant (1) residual visual effects. The assessment accounted for a limited range of turbine tip heights, hub heights and blade lengths which did not alter the significance of residual visual effects (as shown in the photomontage booklet).

The likely significant visual effects arising from local residential amenity was assessed from four viewpoints in very close proximity to the Proposed Development site (VP03, VP10, VP16 and VP17). Residual visual effects were found to be 'Moderate', which is appropriate and acceptable for a wind energy development of this scale and type.

Several locations were identified as highly sensitive and prominent visual receptors due to their reputations as important centres for tourism and recreation (e.g. The Cliffs of Moher; The Burren National Park; Lahinch coastal and recreational amenities; the Trump Hotel and Links and Doughmore Beach), in all cases the likely visual and landscape effects were assessed from representative viewpoints via a photomontage methodology. It was found that the Proposed Development will not induce any significant visual effects from these locations and will not impact these locations as tourism and recreational hotspots.

A comparative cumulative ZTV showed that the Proposed Development will not significantly increase the areas from which turbines are visible from within County Clare. Although the Proposed Development will slightly increase the extent of turbines visible within the landscape, from most

perspectives surrounding the site it will be viewed in conjunction with the existing Slievecallan Wind Farm. The Slievecallan Wind Farm is an established and accepted part of the landscape, therefore, implementation of the Proposed Development will not be a novel change to the existing baseline conditions. The Proposed Development when viewed cumulatively with existing wind energy developments in the vicinity and wider area consolidates the provision of wind energy infrastructure at this location which has been designated as a Strategic Area in the Wind Energy Strategy for the County. Landscape and visual effects were among the primary considerations of the Planning Authority in designating this location as a Strategic Area. This location has been identified by the Planning Authority as one of the most suitable and environmentally robust locations for the provision of wind energy in County Clare.

In conclusion, the Proposed Development is an appropriately designed and scaled project, suitably sited in a location which mitigates the likelihood of significant landscape or visual effects.