Environmental Impact Assessment Report (EIAR)

Lackareagh Wind Farm, Co. Clare

Chapter 13 – Landscape & Visual - Part 1

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13. LANDSCAPE AND VISUAL

13.1 Introduction

This Chapter of the Environmental Impact Assessment Report (EIAR) includes the Landscape and Visual Impact Assessment (LVIA) of the Proposed Project. The LVIA assesses the likely significant effects of the Proposed Project on landscape and visual amenity and covers the assessment methodology, a description of the Proposed Project and the existing landscape based on relevant guidance. The Chapter also includes a description of the landscape policy of Co. Clare, with specific reference to wind energy and the LVIA Study Area in which the Proposed Project is located, as well as relevant landscape policy for Counties Limerick and Tipperary, in which some visibility of the Proposed Project occurs.

The landscape of the area surrounding the Proposed Project site is described in terms of its existing character, which includes a description of landscape values and the landscape's sensitivity to change. The LVIA of the Proposed Project conducted in this Chapter applies visibility mapping, assigns representative viewpoints and presents photomontages. The potential impacts in terms of both landscape and visual effects are then assessed, including cumulative impacts with existing, permitted and proposed wind energy developments.

A full description of the Proposed Project is provided in Chapter 4: Description. In the present Chapter, the following terminology is used in relation to Lackareagh Wind Farm, Co. Clare:

- **'Proposed Project'** refers to the entirety of the project for the purposes of this Environmental Impact Assessment (EIA) in accordance with the EIA Directive. The Proposed Project is described in detail in Chapter 4 of this EIAR;
- **'Proposed Wind Farm'** refers to turbines and associated foundations and hardstanding areas, including access roads, underground cabling, permanent meteorological mast, temporary construction compound, junction accommodation works, peat and spoil management, tree felling, site drainage, operational stage signage, battery energy storage system, 38kV on-site substation, Informational Lookout Point, all ancillary works and apparatus. The Proposed Wind Farm is described in detail in Chapter 4;
- **'The site'** refers to the primary study area for the EIAR, as delineated by the EIAR Site Boundary in green, as shown in Figure 1-1 of Chapter 1: Introduction;
- **'Proposed Grid Connection Route'** refers to the underground 38kV cabling connecting to the existing Ardnacrusha 110kV substation, and all ancillary works and apparatus. The Proposed Grid Connection Route is described in detail in Chapter 4;
- In the present LVIA Chapter, the phrase **'proposed turbines'** refers to the 7 no. turbine components of the Proposed Project.

The remainder of this Chapter is organised as follows; a detailed description of the content of the assessment sections is provided in Section 13.2:

- Section 13.2: Brief Methodology and Assessment Criteria;
- Section 13.3: Visibility of the Proposed Project;
- Section 13.4: Landscape Baseline;
- Section 13.5: Visual Baseline;
- Section 13.6: Cumulative Context: Other Wind Farms;
- Section 13.7: Likely Significant Landscape and Visual Effects;
- Section 13.8: Conclusion.

This Chapter is accompanied by one volume and five appendices as follows:

- *EIAR Volume 2: Photomontage Booklet*, presenting existing and cumulative imagery of the proposed turbines in multiple fields of view from selected viewpoints;
- *Appendix 13-1: LVIA Methodology*, outlining the detailed methodology of the assessment conducted in this Chapter;
- *Appendix 13-2: LCA Assessment Tables*, assessing landscape, visual and cumulative effects of designated Landscape Character Areas (LCAs);
- *Appendix 13-3: Photomontage Visual Impact Assessment Tables*, assessing landscape, visual and cumulative effects of the selected viewpoints presented in the *Photomontage Booklet*;
- *Appendix 13-4: A0 LVIA Baseline Map*, showing all baseline landscape features, viewpoints, and visual receptors;
- *Appendix 13-5: Photowire Visualisation Booklet*, presenting supplemental 'early draft-stage' wireline visualisations known as 'photowires' from additional selected locations representing views of the proposed turbines.

13.1.1 Statement of Authority

MKO has developed extensive expertise and experience over the last 15 years in the LVIA of a range of projects, including multiple large-scale wind energy developments.

This EIAR chapter was written by Rachel Smith, MSc., a Landscape and Visual Impact Assessment Professional who has been working with MKO since October 2023. Rachel is an Earth & Environmental Science consultant with more than 10 years of professional experience in producing and editing technical scientific reports, and collecting, analysing and reporting environmental data for regulatory compliance in both the US and Ireland, including the utilisation of QGIS mapping, organisation of field work, management of environmental databases and training of environmental science staff. Rachel's primary role at MKO is producing and reviewing the LVIA chapter of EIA reports accompanying Planning Applications for multi-scale onshore renewable energy and non-wind developments. Rachel holds an MSc. in Coastal and Marine Environments (Physical Processes, Policies & Practice) and a BSc. in Geology.

Rachel Smith was aided by Jack Workman MSc. TMLI, who reviewed this chapter. Jack is the Landscape & Visual Project Director at MKO and is a Technician Member with the British Landscape Institute. He is an LVIA Specialist with an academic background in the field of Environmental Science and Geography. Jack's primary role at MKO is conducting LVIA for EIARs. Jack holds a BSc. in Psychology, and an MSc. in Coastal and Marine Environments (Physical Processes, Policies & Practice). Since joining MKO, Jack has conducted and project managed all aspects of LVIA for a broad range of commercial infrastructure developments including wind and solar energy projects, grid infrastructure, extraction industry and Strategic Housing Developments. Jack holds a membership with the Chartered Institute of Water and Environmental Management and is also a member of the Landscape Research Group.

13.1.2 'Do Nothing' Scenario

If the Proposed Project were not to proceed, no changes would be made to the current land-use practices of low-intensity agriculture and coniferous forestry on the Proposed Wind Farm site, and public road corridor, public open space, agricultural land with significant areas of natural vegetation, and transitional woodland shrub along the Proposed Grid Connection Route. The existing land uses can and will continue in conjunction with the Proposed Project.

13.1.3 Proposed Project Description

The Proposed Wind Farm is located immediately east of the village of Kilbane, Co. Clare and 6km west of Killaloe, Co. Clare. It is proposed to access the Proposed Wind Farm via upgrades to 'The Gap

Road' (L7080 Local Road) which bisects the Proposed Wind Farm site, with proposed infrastructure located both north and south of L7080. The Proposed Project is served by multiple existing public, forestry and agricultural roads and tracks.

The Proposed Grid Connection Route will be subject to a separate planning application to the Local Authority; it includes for approximately 14.7km of underground 38kV electrical cabling connecting the proposed on-site substation to the existing 110kV Ardnacrusha substation near Ardnacrusha, Co. Clare.

A full and detailed description of the Proposed Project can be found in Chapter 4 of this EIAR. Section 4.1: Introduction of that chapter describes the development and its component parts, including the works subject of a proposed application for planning permission to Clare County Council.

13.1.3.1 Essential Aspects of Proposed Project from Landscape and Visual Impact Assessment (LVIA) Perspective

The Guidelines for Landscape and Visual Impact Assessment Third Edition (hereafter, GLVIA3) published by Landscape Institute (LI) & Institute of Environmental Management and Assessment (IEMA) (2013) state that:

> *'It is important to make sure that the project description provides all the information needed to identify its effect on particular aspects of the environment. For LVIA, it is important to understand, from the project description, the essential aspects of the scheme that will potentially give rise to its effect on the landscape and visual amenity'.*

For the Proposed Project assessed in this Chapter, it is deemed that the tall, vertical nature of the proposed turbines make them the most prominent element from a landscape and visual perspective, having the most potential to give rise to significant landscape and visual effects. In this regard, the proposed turbines are deemed to be the 'essential aspect' of the development which will give rise to effects on the landscape and visual amenity and therefore are the primary focus of the LVIA.

Ancillary elements of the Proposed Project are deemed to be less visually prominent than the proposed turbines; however, these components may also potentially give rise to localised landscape and visual effects. Although these ancillary elements are not the primary focus of the LVIA, they are also given due consideration and assessment in this Chapter.

13.1.3.2 Range of Turbine Dimensions Assessed in this Chapter

As detailed in Section 1.7.3 of Chapter 1 of this EIAR, the proposed turbines to be installed on the Proposed Project site will have a ground-to-blade tip height, hub height and rotor diameter within the following ranges:

- Turbine Tip Height: Maximum height 180m, Minimum height 179.5m;
- Hub Height: Maximum height 105m, Minimum height 102.5m;
- Rotor Diameter: Maximum diameter 155m, Minimum diameter 149m.

The range of different turbine envelopes shown above are considered and assessed in this LVIA. The different turbine models assessed include both the minimum and maximum extents of the range and are discussed below.

Primary Turbine Model used for Assessment in the LVIA and Photomontage Booklet

Throughout this LVIA, a turbine model comprising a rotor diameter of 155m and a hub height of 105m (max tip height of 180m) is considered the primary representative illustration of the Proposed Project and was used to model all graphics for the viewpoints presented in the *EIAR Volume 2:*

Photomontage Booklet as well as used to derive 'Zone of Theoretical Visibility (ZTV)' mapping in this Chapter (described below in Section 13.3.1: ZTV Mapping).

On the basis of professional judgement and on consideration of the range of turbines which could be installed, the chosen combination of rotor diameter and hub height (Maximum Hub Height and Minimum Rotor Diameter, with 180m Tip Height) has been identified as the 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 official viewpoints assessed in this LVIA (described in Section 13.5.4: Viewpoint Selection: Photomontage and Photowire Locations). The turbine configuration within the proposed range selected for inclusion for all official viewpoints within the *Photomontage Booklet* (as well as all supplementary photowires presented in *Appendix 13-5: Photowire Visualisation Booklet*) is termed as:

- **Median** (defined as 'Scenario 3' in Chapter 1) - 'Maximum Tip Height, Highest Hub Height, Shortest Rotor Diameter':
  - Maximum Tip Height: 180m;
  - Maximum Hub Height: 105m;
  - Minimum Rotor Diameter: 150m;
  - Represented by all 15 no. photomontage viewpoints assessed.

As stated above, the basis for selecting this configuration as the primary model for use in this LVIA is that this combination is likely to show the greatest extent of the entire turbine structure (hub, blades and tower) and is likely to be the most visible from the viewpoints assessed in this LVIA. The hub (or 'nacelle') of a turbine is a prominent focal point and the visual prominence of a turbine is typically increased if the hub is viewed above a landscape feature, rather than below. Therefore, the 'Median' turbine configuration above which incorporates the maximum hub height and maximum tip height is likely to increase the visual prominence of turbines and represents a worst-case scenario for likely 'Significant' landscape and visual effects within the range proposed. This turbine configuration constitutes the tallest height for the purposes of modelling Half-Blade ZTV maps (see Section 13.3: Visibility of Proposed Project) and was the model used for all ZTVs in this Chapter.

Assessing the Turbine Dimension Range using Photomontages and Comparative Wirelines

Photomontage visualisations are the best LVIA tool to assess any likely effects arising due to differences of turbine configurations used within the proposed turbine dimension range.

Irrespective of which combination of hub height and blade length within the 'Median' range outlined above is installed on-site, the significance of residual landscape and visual effects will not be altered. However, for the avoidance of doubt, two alternative turbine configurations are presented for two selected viewpoints included in the *EIAR Volume 2: Photomontage Booklet*:

- VP14: Kilbane (located 1.1km from the proposed turbines);
- VP15: Aillemore – Lower (located 1.4km from the proposed turbines).

As per Chapter 1 of this EIAR, the two alternative turbine configurations are termed as follows:

- '**Maximum Scenario 1**' - 'Maximum Tip Height, Intermediate Hub Height, Maximum Rotor Diameter':
  - Maximum Tip Height: 180m;
  - Intermediate Hub Height: 102.5m;
  - Maximum Rotor Diameter: 155m;
- '**Minimum Scenario 2**' - 'Minimum Tip Height, Minimum Hub Height, Intermediate Rotor Diameter':
  - Minimum Tip Height: 179.5m;
  - Minimum Hub Height: 105m;

- Intermediate Rotor Diameter: 149m.

The two above selected viewpoints (VP14 and VP15) are representative of short-range views where the difference in the scale of turbines is most likely to be perceptible. The photomontage assessment tables for these viewpoints contained in *Appendix 13-3: Photomontage Visual Impact Assessment Tables* include a comment addressing the alternative turbine configurations and confirm that the turbine configuration ultimately installed on-site will not alter the assessment of residual visual effects.

Differences in the turbine range are only discernible through the aid of a comparative wireline view where the different model is overlain the other configuration used for all viewpoints (see Section 1.6.5: Photowires: Early-Stage Draft Photomontages (Alternative Viewpoints) in *Appendix 13-1: LVIA Methodology* for more information on comparative wireline views presented). As demonstrated by the turbine ranges presented in the *Photomontage Booklet*, 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 as set out below in this LVIA in Section 13.7: Likely Significant Landscape and Visual Effects will not be altered.

13.1.4 Mitigation by Design

Through the iterative project design process, informed by early-stage impact assessment work and landscape modelling, as well as ZTV mapping (see Section 13.3.1: ZTV Mapping) and photomontage visualisations (see Section 13.5.4: Viewpoint Selection: Photomontage and Photowire Locations), every effort has been made to bring forward the optimum design for the Proposed Project with respect to landscape and visual factors.

This LVIA has identified the key benefits of the site location and project design, in mind of wind-energy-related and landscape-related planning considerations. The key factors with respect to landscape and visual impacts of the Proposed Project design are briefly introduced below and comprehensively analysed in Section 13.7.

The Proposed Project layout that is the subject of this LVIA incorporates the following landscape and visual design considerations for good wind farm design:

1. Optimisation of Turbine Layout Design meets LVIA Guidance for Wind Energy Development Guidelines (WEDGs)

The turbine layout and design are in accordance with the siting/design factors of the landscape classification by the Wind Energy Development Guidelines (WEDGs) for Planning Authorities published by the Department of the Environment, Heritage, and Local Government (DoEHLG) (2006) and the Draft Revised WEDGs published by Department of Housing, Local Government and Heritage (DoHPLG) (2019). The optimal factors include the location, spatial extent, spacing, layout and height of the proposed turbines within 'Transitional Marginal Landscape' type according to the guidance; these factors are comprehensively reported in this Chapter in Section 13.4.4: Landscape Character from WEDGs.

2. Project Design meets WEDG Recommendations for Set-Back Distance from Residential Receptors

Siting of the proposed turbines adheres to the minimum 500m set-back distance from residential receptors as set out in the WEDGs (DoEHLG, 2006) and the 4-times-tip-height set-back distance from domestic curtilage as explicitly set out for residential visual amenity prescribed by the Draft Revised WEDGs (DoHPLG, 2019).

3. Co. Clare Policy indicates Siting within a Landscape Character Area (LCA) Favourable for Wind Energy

The Proposed Project is strategically sited within the LCA-8 Slieve Bernagh Uplands, designated by the Clare County Development Plan 2022–2028 (CCDP) and its *Volume 6: Clare Wind Energy Strategy* (CWES) as the area of the landscape in east Co. Clare which is favourable for wind energy development owing to its capacity to accommodate multiple wind farms and classification of the lowest sensitivity category attributed to LCAs in Co. Clare (category: 'Medium to Low' as detailed in *Table 4a* of the CWES).

4. Spatial Enclosure of Glenomra Valley Greatly Limits Visibility of Proposed Turbines

This Chapter refers to the 'spatial enclosure' of Glenomra Valley, in which 'spatial enclosure' describes space by reference to the physical landforms that define it rather than as a thing in itself. With respect to the Proposed Project, visual impacts are limited to a relatively small number of receptors within the spatial enclosure of Glenomra Valley, in line with siting and design guidance in the 2006 WEDGS (DoEHLG, 2006, p.5959) and having regard to the Draft Revised WEDGs (DoHPLG, 2019, p.111) on achieving '*respect for scale and human activity*' within small-scale spatial enclosures. The location of the proposed turbines along the ridgelines and within the 'saddle' between the peaks of Glenagalliagh Mt and Lackareagh Mt ensures that a large portion of the 20km LVIA Study Area (described below in Section 13.2.2: Scope and Definition of LVIA Study Area) is effectively visually screened by the Slieve Bernagh range. In addition, the topographical characteristics of the wider landscape substantially restrict visual exposure of the proposed turbines, obscuring visibility from higher-sensitivity areas outside Glenomra Valley such as Lough Derg and the Shannon River and estuary.

5. Limited Impact on Settlements & Receptors in the Wider Landscape Setting

Photomontage visualisations show no 'Significant' impacts to the settlement of Bridgetown within 5km of the proposed turbines, as well as the settlements of Broadford, Killaloe and O'Briensbridge within 10km; and Limerick City within 15km.

6. No 'Significant' Impact on Co. Clare 'Heritage' Landscapes

This report emphasises that the proposed turbines are not sited within any higher sensitivity 'Heritage Landscapes' of Co. Clare (as designated by the CCDP); moreover, ZTV mapping indicates very limited theoretical visibility of the proposed turbines for those landscapes existent within the 20km LVIA Study Area.

7. Informational Lookout Point is Proposed to Offset Visual Impact to East Clare Way National Waymarked Walking Route

An Informational Lookout Point is to be constructed as part of the Proposed Project along the portion of East Clare Way waymarked walking route which passes directly between turbines in the Proposed Wind Farm site on The Gap Road/L7080, at a strategic location which avails of scenic views within and beyond Glenomra Valley. The lookout point is to feature informational signage describing both wind energy development and landscape value of Glenomra Valley and Co. Clare; details on the lookout point are provided below in Section 13.7.3.2.4: East Clare Way Walking Route as well as in Chapter 4 of this EIAR, Section 4.4: Proposed Project Components.

8. Ancillary Infrastructure is Visually Screened from Co. Clare Designated Scenic Route SR-26/R466 Regional Road

The Proposed Project includes mitigation design to construct visual screening around the proposed onsite 38kV substation in the centre of the Proposed Wind Farm site adjacent to the southern turbines

T3–T7, which would otherwise be potentially visible from the higher sensitivity portion of R466 Regional Road in Glenomra Valley designated as Scenic Route SR-26 (CCDP). The visual screening may consist of berms built around the western and southern perimeter of the proposed substation, revegetated after the construction phase of the project.

9. Use of Underground Grid Connection Cable to Eliminate Landscape and Visual Effects during Operational Phase

The majority of the Proposed Grid Connection Route comprises an underground cable installed alongside the local road network. As it is underground, no landscape and visual effects will occur during the operational phase along this proposed route.

13.1.5 Assessment of Alternative Turbine Layouts

The design of the Proposed Project has been an informed and collaborative process from the outset, involving the designers, developers, engineers, landowners, environmental, hydrological and geotechnical, archaeological specialists and traffic consultants. The aim being to reduce potential for environmental effects while designing a project capable of being constructed and viable.

Throughout the preparation of this EIAR, the layout of the Proposed Project has been revised and refined to take account of the findings of all site investigations including landscape and visual, which have brought the design from its first initial layout to the current proposed layout, please see Section 3.2.6 of Chapter 3: Reasonable Alternatives for further details.

The design process has also taken account of the recommendations and comments of the relevant statutory and non-statutory organisations, the local community and local authorities as detailed in Section 2.5 of Chapter 2: Background.

13.1.6 Scoping Replies & Pre-Planning Meetings

Scoping Consultation: December 2022

A scoping consultation exercise was carried out by MKO in December 2022, as detailed in Chapter 2. All feedback and communications from the planning authorities on landscape and visual queries have been taken on board when compiling the current Chapter and LVIA.

Clare County Council Meeting: November 2023

A pre-planning meeting was held with Clare County Council on 16th November 2023. This meeting was attended by representatives of the county council, EDF and MKO. Of the topics discussed at the meeting, those relating to LVIA included:

- Upgrade works to The Gap Road/L7080, encompassing a 2.3km section of the East Clare Way waymarked walking route;
- Potential for effects on nearby designated Scenic Routes;
- Other proposed and permitted wind energy projects in the area and their potential cumulative impacts with the Proposed Project;
- Ensuring that the landscape and visual effects of other non-turbine components are given due consideration in the LVIA.

The LVIA in this Chapter takes account of all the above topics discussed in the pre-planning meeting, including potential effects on designated Scenic Routes and the East Clare Way. A key focus in this Chapter is to address and describe potential cumulative landscape and visual interactions of the Proposed Project in combination with other existing, permitted and proposed wind farm developments

within the region of LCA-8 Slieve Bernagh Uplands, the primary region of east Co. Clare which has been targeted by the CCDP for potential wind energy developments. As detailed above in Section 13.1.3.1: Essential Aspects of Proposed Project from LVIA Perspective, the essential aspects of the Proposed Project from an LVIA perspective are the proposed turbines. In this regard, the proposed turbines are the key infrastructure element presented in the *EIAR Volume 2: Photomontage Booklet* and assessed in *Appendix 13-3: Photomontage Visual Impact Assessment Tables* of this Chapter. Meanwhile, the impact assessments reported later in this Chapter and Appendices also include in-text visualisations and comprehensive description of landscape and visual effects of other non-turbine components (e.g. the proposed substation).

13.2 Brief Methodology and Assessment Criteria

This section briefly outlines the guidance and methodology used to undertake the LVIA of the Proposed Project; the full detailed description of the methodology is provided in *Appendix 13-1: LVIA Methodology*.

There are five main sections to this assessment:

- Visibility of the Proposed Project (e.g. ZTV mapping);
- Landscape baseline;
- Visual baseline;
- Cumulative context with respect to other wind farm developments within the 20km LVIA Study Area;
- Likely and significant effects – summarising all landscape, visual and cumulative effects of the Proposed Project determined by this LVIA.

13.2.1 Guidelines

Regarding legislation and general guidance on overall Environmental Impact Assessment, please refer to Chapter 1: Introduction.

The LVIA reported in the present Chapter was guided and informed by guidance documentation specifically pertaining to LVIA. Details of the guidance used to conduct this LVIA are outlined in *Appendix 13-1: LVIA Methodology* (Section 1.3: Guidelines). Meanwhile, a full list of all documents referenced in all sections of this Chapter is provided in the Bibliography at the end of this EIAR.

13.2.2 Scope and Definition of LVIA Study Area

In this Chapter, the 'Proposed Wind Farm' refers to the immediate environment in which the turbines of the Proposed Project are located, the Proposed Wind Farm is the key focus of the assessments in this Chapter as the turbines are the primary essential aspect of the Proposed Project under assessment of the LVIA (recall previous Section 13.1.3.1).

The assessment of effects on landscape and visual amenity uses wider study areas beyond the EIAR Site Boundary (defined previously in Section 13.1: Introduction). For this assessment, two study areas with different radii were defined with respect to the location of the proposed turbines:

- 20km LVIA Study Area for the assessment of effects on landscape and visual receptors, hereafter referred to as the '**LVIA Study Area**';
- 15km LCA Study Area for the assessment of effects on designated 'Landscape Character Areas' (LCAs), hereafter referred to as the '**LCA Study Area**';

Three main counties are existent within the LVIA Study Area: Counties Clare, Limerick and Tipperary. It should be noted that a very small portion (less than 1km^2) of Co. Galway is also existent

within the LVIA Study Area along the north-eastern-most edge; however, owing to its small size and the lack of theoretical visibility according to ZTV mapping, this area was excluded from assessment.

In addition, five broad topics were decidedly scoped out of this assessment, on the basis of desk studies, survey work and professional judgement of the assessment team; these are related to:

- Receptors with minimal/no visibility or no theoretical visibility as indicated by the ZTV;
- General landscape receptors beyond 20km;
- Visual receptors beyond 20km;
- Designated LCAs beyond 15km;
- Cumulative effects beyond 20km.

The full justification and rationale for use of the LVIA Study Area for assessment of effects on landscape and visual receptors, LCA Study Area for assessment of effects on LCAs, and topics scoped out of the assessment are presented in detail in *Appendix 13-1: LVIA Methodology* (Section 1.4: Scope and Definition of LVIA Study Area).

13.2.3 Baseline Landscape and Visual Information

An initial desk study of baseline information was undertaken that has informed the LVIA, divided into 'Landscape Baseline' and 'Visual Baseline' components, as follows:

Landscape Baseline

- Policies, objectives and designations contained in the relevant county development plans pertaining to landscape and wind energy:
  - Clare County Development Plan 2023–2029 (CCDP);
  - Clare Wind Energy Strategy (CWES) (*Volume 6* of the CCDP);
  - Limerick Development Plan 2023-2029 (LDP);
  - Tipperary County Development Plan 2022-2028 (TCDP);
  - TCDP *Volume 3, Appendix 3: Landscape Character Assessment & Schedule of Views and Routes*;
- Landscape character and description of the Proposed Wind Farm and its immediate surroundings, determined by site surveys in 2022, 2023 and 2024;
- Landscape sensitivity (derived from the appraisal of landscape value and susceptibility to change) of the Proposed Wind Farm and its immediate surroundings, informed by the desk study and site surveys;
- Landscape character of the Proposed Wind Farm as designated for planning authorities in *Section 6.9 'Landscape Character Types as a Basis for Guidelines'* of the WEDGs (DoEHLG, 2006) and Draft Revised WEDGS (DoHPLG, 2019); and
- Landscape character of the Proposed Project and its wider setting as designated by LCAs in county-level policies for Landscape Character Assessment.

Visual Baseline

- Identification of seven categories of visual receptors in the LVIA Study Area:
  - Designated Scenic Routes and Views;
  - Ordnance Survey of Ireland (OSi) Viewing Areas;
  - Settlements;
  - Recreational routes (multiple types);
  - Recreational, cultural heritage and tourist destinations;
  - Transport routes;
  - Residential receptors and visual amenity;

- Preliminary analysis of visibility from visual and residential receptors for the Proposed Project according to ZTV mapping and on-site visibility appraisals; and
- Visibility in close proximity (within 5km) according to Route Screening Analysis (RSA), a method developed by MKO to quantify visual screening relative to the proposed turbines; for this LVIA, RSA was carried out within a 5km radius of the proposed turbines and on major roads extending to the county hub town of Kilaloe, located approximately 6km east of the Proposed Wind Farm.

13.2.4 Assessment of Potential Impacts

The LVIA process used in this Chapter is presented in *Appendix 13-1: LVIA Methodology* and includes clearly documented methods based on guidelines of the GLVIA3 (LI & IEMA, 2013) as follows.

First, this LVIA considers landscape and visual 'Sensitivity' balanced with the 'Magnitude of Change' to determine the likely significance of effects. Second, mitigating factors are then considered to arrive at 'Residual' landscape and visual effects. Third, 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, 2022) ranging as follows: 'Imperceptible', 'Not Significant', 'Slight', 'Moderate', 'Significant', 'Very Significant' or 'Profound'.

Photomontages are used as an illustrative tool to assess potential impacts, whereby the potential landscape and visual effects arising as a result of the proposed turbines are assessed from viewpoint locations representative of prominent landscape and visual receptors located within the LVIA Study Area. Throughout this Chapter, 'theoretical visibility' is referred to, based on ZTV mapping (see below Section 13.3: Visibility of the Proposed Project), and is assessed to compare 'theoretical' versus 'actual' visibility. The detailed methods used to produce ZTV maps and photomontages are included in *Appendix 13-1*.

13.3 Visibility of Proposed Project

13.3.1 Zone of Theoretical Visibility (ZTV) Mapping

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

The ZTV mapping methodology outlined in *Appendix 13-1: LVIA Methodology* (Section 1.5: Visibility Mapping: ZTV) was used to examine the theoretical visibility of the 7 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, called the Half-Blade ZTV or ZTV, and with the associated map(s) called the ZTV map. As noted in *Appendix 13-1*, actual visibility on the ground is significantly less than predicted by the ZTV mapping due to intervening factors including on-site screening from natural and man-made features, atmospheric weather and/or localised topography.

Generation of the Half-Blade ZTV utilises large-scale topographical data (interpolation across 10m OSi contour data) and does not account for topographical variation of smaller scale (e.g. <10m). Therefore, in reality, small, localised undulations in topography are likely to further inhibit visibility of the proposed turbines that may not be represented in the ZTV maps. Other features of the landscape such as vegetation and man-made elements are also likely to obscure the proposed turbines from view from many areas where the Half-Blade ZTV indicates there is full visibility. In this regard, the ZTV maps are a useful tool to indicate where there is no visibility of the proposed turbines, and thus any receptors located in these areas can be screened out from further assessment.

13.3.2 Maps: Half-Blade ZTV and Topography

Half-Blade ZTV Map

The Half-Blade ZTV map of the Proposed Project and the LVIA Study Area is shown in Figure 13-1 below. 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 13-4: A0 LVIA Baseline Map*).

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 ZTV map shows the number of visible turbines for each corresponding colour, which are as follows:

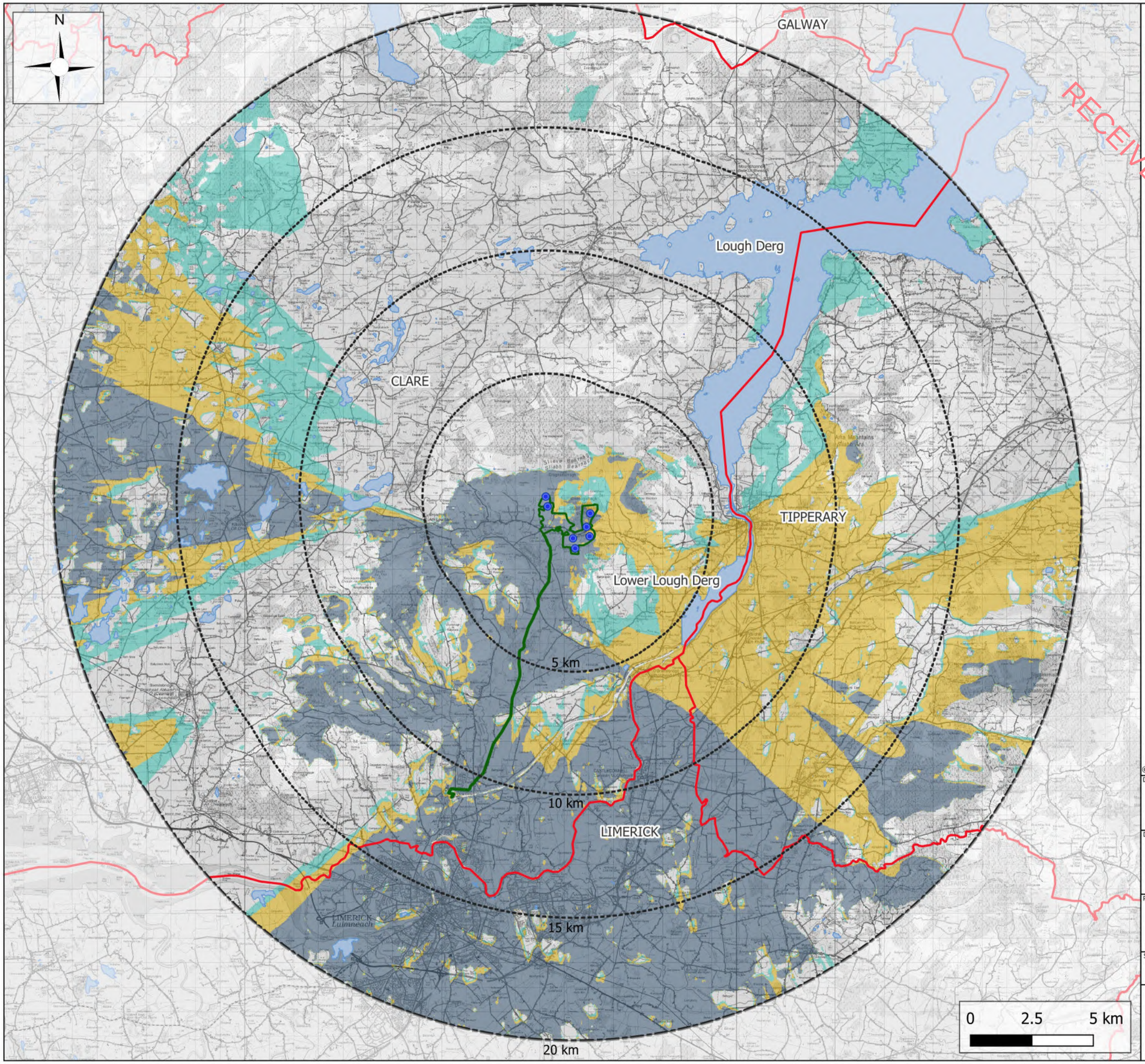
- Teal: 1–2 turbines theoretically visible;
- Yellow: 3–4 turbines theoretically visible;
- Grey: 5–7 turbines theoretically visible.

Topography: Physical Landscape Features

Figure 13-2 below shows the topographical features and elevation gradients existent within the receiving landscape of the LVIA Study Area in East Clare; the geography of these topographical features defines the distribution of theoretical visibility illustrated in Figure 13-1. In relation to landscape-related terminology and definitions of the topographical features, this Chapter uses the following:

- '**East Clare**' refers to the general landscape region of eastern Co. Clare;
- '**Slieve Bernagh Uplands**' refers to the designated Landscape Character Area (LCA) no. LCA-8 as defined by Clare County Development Plan 2023–2028 (CCDP) which includes Slieve Bernagh range, Formoyle More, Knockanuarha and Woodcock Hill;
- '**Slieve Bernagh range**' refers to the general upland mountain landscape forming the eastern boundary of Glenomra Valley, located immediately west of Lough Derg, and includes the following major peaks: Moylussa, Cragnamurragh, Feenlea Mt, Crag Mt, Ballykildea Mt, Glenagalliagh Mt and Lackareagh Mt;
- '**Glenomra Valley**' refers to the inverted L-shaped spatial enclosure where the Proposed Wind Farm is sited; the valley is bounded by Formoyle More and Knockanuarha to the west and Slieve Bernagh range to the east, with Broadford Gap forming its north-western opening and the lowlands surrounding Cappakea forming its southern opening;
- '**Glenagalliagh Mt**' and '**Lackareagh Mt**' are the peaks on which the Proposed Wind Farm is sited with its centre-point situated in the topographical 'saddle' between them; with Glenomra Valley immediately to the west and River Ardcloony Valley immediately to the east;
- '**River Ardcloony Valley**' refers to the relatively small valley immediately east of the Proposed Wind Farm, situated outside Glenomra Valley on the eastern slopes of Glennagalliagh and Lackareagh Mts;
- '**Broadford Gap**' refers to the opening at the north-western end of Glenomra Valley transitioning into lowlands to the west between Slieve Bernagh range to the north and Knockanuarha to the south;
- '**Formoyle More**' refers to the elevated hills forming the western boundary of Glenomra Valley, including the areas of Cloonyconry More and Ballyquin Beg;
- '**Knockanuarha**' refers to an upland region also known locally as 'the 12 O'Clock Hills' south of Broadford (the settlement) and Broadford Gap (the landform), comprising elevated peaks at the south-west end of Slieve Bernagh Uplands;
- '**Cappakea**' refers to the elevated hill situated at the southern opening of Glenomra Valley;

- **'Knockshanvo'** refers to the mid-elevation hills at the south-west of Glenomra Valley situated between Formoyle More and Knockanuarha;
- '**Woodcock Hill**' refers to the upland region situated at the farthest south-west end of Slieve Bernagh Uplands;
- **'Arra Mountains'** and **'Tountinna'** (peak) refer to the high-elevation mountain range outside Slieve Bernagh Uplands on the eastern banks of Lough Derg to the north-east of the Proposed Wind Farm.



Map Legend

- Ireland OSi National County Borders
- EIAR Site Boundary
- Lackareagh Proposed Turbines

Zone of Theoretical Visibility (ZTV)

- 1-2 Turbines Theoretically Visible
- 3-4 Turbines Theoretically Visible
- 5-7 Turbines Theoretically Visible

Drawing No.

Figure 13-1

Drawing Title

Half-Blade ZTV Map

Project Title

Lackareagh Wind Farm

Scale	Project No.	Date	Drawn By	Checked By
1:150,000	220245	01.08.2024	RS	NMH

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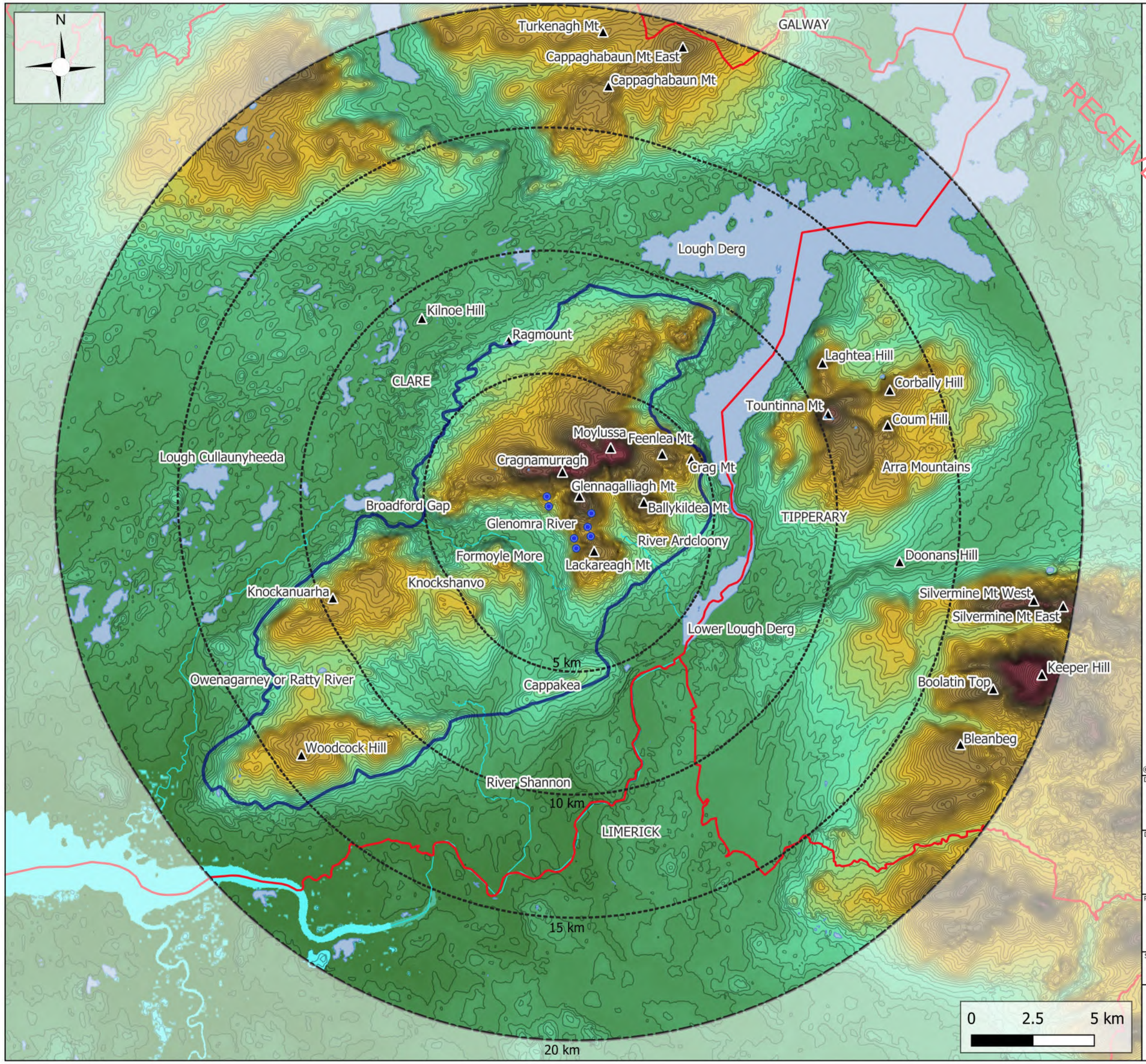

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Map Legend

- Ireland OSi National County Borders
- The Slieve Bernagh Uplands (LCA-8 Border)
- Lackareagh Proposed Turbines
- Mountains, Hills
- Prominent Rivers
- 10m Contours

DEM (Elevation in Metres)

- 1
- 100
- 200
- 300
- 400
- 500

Drawing No.

Figure 13-2

Drawing Title

Physical Landscape Features Map

Project Title

Lackareagh Wind Farm

Scale	Project No.	Date	Drawn By	Checked By
1:150,000	220245	01.08.2024	RS	NMH

Key Landform Characteristics Influencing Theoretical Visibility of the Proposed Turbines

The Proposed Wind Farm is located within Slieve Bernagh Uplands, situated at the eastern edge of the county border between Clare and (North) Tipperary. The proposed turbines are located inside the spatial enclosure of Glenomra Valley, situated immediately to the west of a steep, inverted L-shaped mountain range comprising three main peaks: Cragnamurragh, Glenagalliagh Mt and Lackareagh Mt, south-west of Moylussa, the largest peak in Co. Clare. Glenomra Valley itself forms the spatial enclosure which is an inverted L-shape, comprising lowlands bordered on the west by the lesser peaks of Formoyle More and Knockshanvo, with the higher peak of Knockanuarha to the south-west.

The major physical landscape feature influencing overall visibility of the proposed turbines is the spatial enclosure of Glenomra Valley and its associated ridgetops, essentially enclosing the Proposed Wind Farm from the north-west to the south-east. Consequently, most theoretical visibility is concentrated and localised from within the Glenomra Valley itself. As shown on the landform map above (Figure 13-2), the proposed turbines are positioned inside the 'curve' of the valley and occupy the western slope and undulating ridgetop of Glenagalliagh Mt. The peaks of Slieve Bernagh range to the north, north-east and north-west obscure visibility of the proposed turbines from almost the entirety of the northern portion of LVIA Study Area, as seen by the vast area of no theoretical visibility shown above in the ZTV map (Figure 13-1).

Theoretical Visibility within 5km

Within 5km of the site, full theoretical visibility is limited to the west and south-west of the proposed turbines, that is, within Glenomra Valley where the low-lying nature of the landscape allows for open views towards the proposed turbines. On the eastern slopes of Glenagalliagh Mt and Lackareagh Mt immediately outside and to the east of the spatial enclosure of Glenomra Valley, theoretical visibility is limited to within the Ardcloony River Valley, the small, enclosed valley comprising the areas of Aillemore and Ballygarreen off The Gap Road/L7080 where partial theoretical visibility of 3-4 turbines occurs, with pockets of no theoretical visibility.

No theoretical visibility occurs immediately north of the proposed turbines, beyond Glennagalliagh Mt and the highest peak in Slieve Bernagh range, Moylussa. The majority of the area to the north and north-east of the proposed turbines has little to no theoretical visibility (see above Figure 13-1), due to topographical screening by the spatial enclosure of Glenomra Valley. Also due to this topographical screening, the majority of views from along the shores of Lough Derg and its surrounding mountains to the north-east of the Proposed Wind Farm are visually screened.

Theoretical Visibility from 5–20km

Partial theoretical visibility of 3-4 turbines occurs in the town of Killaloe, 6km east of the nearest proposed turbine. Some very small areas of theoretical visibility occur on the highest elevations of the Arra Mountains to the north-east, including the peak of Tountinna which includes an accessible viewpoint overlooking Lough Derg.

Beyond 5km to the south-east, outside Glenomra Valley, theoretical visibility is limited to mostly partial theoretical visibility along the south-eastern lowlands surrounding the River Shannon to the south of Killaloe, where the valley opens up to the east. To the south of the proposed turbines, outside Glenomra Valley, there is primarily full theoretical visibility extending to 20km towards Limerick City with some pockets of little to no theoretical visibility due to localised undulations.

To the north-west, theoretical visibility ranges from low or partial with pockets of no theoretical visibility, owing to the undulating drumlin landscape. ZTV mapping indicates full theoretical visibility in one area beyond 10km to the north-west, i.e. in areas around Lough Cullaunyheeda, a small lake in

the drumlin farmlands of East Clare. From 15–20km, west of Lough Cullaunyheeda, theoretical visibility primarily ranges from low to full with pockets of no visibility.

The undulating uplands immediately to the west and south-west of Glenomra Valley comprising Formoyle More and Knockshanvo, which enclose the western boundary of Glenomra Valley, obscure theoretical visibility of the proposed turbines from these directions. Outside Glenomra Valley further to the south-west and south, visibility is essential blocked by Knockanuarha, Woodcock Hill and Cappakea, as is evident by a large area of no theoretical visibility between 10–20km to the south-west on the ZTV map (see above Figure 13-1).

13.3.3 ZTV versus Actual Visibility

It is important to note that, in practice, vast areas of the LVIA Study Area which have an indication of 'full' theoretical visibility (i.e. 5–7 turbines) by the ZTV map (see above Figure 13-1) are likely to have little to no actual visibility of the proposed turbines, due to natural screening factors existent within the landscape.

To determine the actual likely visibility from locations where the ZTV map has indicated theoretical visibility, multiple field surveys were conducted during 2022, 2023 and 2024. These surveys determined that visual screening by localised undulations in topography, built structures and vegetation, as well as visibility being obscured by great distance from the Proposed Project site for areas such as Limerick City, the likelihood of being able to view the proposed turbines from vast regions of the LVIA Study Area is substantially reduced.

Whilst the impact assessments and analysis of visibility in this Chapter are informed by ZTV mapping and photomontage visualisations, determination of landscape and visual effects are also informed by data gathered during site visits, including visibility appraisals and capture of photos, as well as a detailed analysis of visual screening and visibility within 5km of the proposed turbines, reported in the next sections.

13.3.3.1 Visibility in Close Proximity: Route Screening Analysis (RSA)

In this LVIA, Route Screening Analysis (RSA) was carried out within a 5km radius of the proposed turbines and on major roads extending to the county hub town of Killaloe, located 6km east of the Proposed Wind Farm.

RSA was conducted to comprehensively demonstrate the varying characteristics of the degree of visual screening existent along the local road network and to record the actual visibility of the proposed turbines in comparison to the theoretical visibility indicated by ZTV mapping. The full methodology is outlined in *Appendix 13-1: LVIA Methodology* (Section 1.5.3: On-Site Visibility Appraisal: RSA).

The RSA visual screening categories are:

- **'Little/No'** visual screening: areas of the road that are mainly open with open views in the direction of the proposed turbines (see example below in Plate 13-1);
- **'Intermittent/Partial'** visual screening: areas of the road where there are intermittent or partial views in the direction of the proposed turbines (see Plate 13-2);
- **'Dense/Full'** visual screening: areas of the road with dense visual screening, sufficient to block views in the direction of the proposed turbines (see Plate 13-3).

Below, Figure 13-3 maps the quantified results of the RSA, showing the extent to which each visual screening classification is present on all public roads within 5km of the proposed turbines, and on major roads extending to Killaloe at 6km east of the Proposed Wind Farm, using the following colour scheme: Little/None (green); Intermittent/Partial (blue); Dense/Full (orange).

Plate 13-1: Example of 'Little/No' Visual Screening along L3046 Local Road

Plate 13-2: Example of 'Intermittent/Partial' Visual Screening along L3022-8 Local Road

Plate 13-3: Example of 'Dense/Full' Visual Screening along Scenic Route SR-27/R463 Regional Road

Map Legend

- Ireland OSi National County Borders
- LVIA Study Area (5km Boundary)
- Lackareagh Proposed Turbines

Route Screening Analysis

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

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Drawing No.

Figure 13-3

Drawing Title

Route Screening Analysis Map

Project Title

Lackareagh Wind Farm

Scale	Project No.	Date	Drawn By	Checked By
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13.3.3.2 RSA Summary and Visibility Appraisal

Summary of RSA Results

'Little/No' visual screening was recorded along 17.07% of the surveyed roads and was the least common class recorded. 'Intermittent/Partial' visual screening was recorded along 54.63% of the roads and was the most common class recorded. 'Dense/Full' visual screening was recorded for 28.30% of roads.

The RSA map depicted above in Figure 13-3 indicates a 'mosaic' pattern of visual screening evident along the major transport routes (The Gap Road/L7080/East Clare Way and Scenic Route SR-26/R466 Regional Road), suggesting primarily Intermittent/Partial visibility of the turbines within 5km. This means that, in a journey scenario along these routes, there will be glimpses of turbine visibility mixed with areas of open visibility which quickly transition into intermittent or Dense/Full visual screening.

Given that there is at least some level of visual screening present along the majority (82.93% = Intermittent + Dense screening combined) of all public roads within 5km and those extending to Killaloe at 6km, this demonstrates that the widespread theoretical visibility indicated on the ZTV in close proximity to the proposed turbines (primarily concentrated within and immediately east of Glenomra Valley) is not fully representative of the actual on-the-ground visibility of the proposed turbines. Site visits and the RSA determined that most open visibility of the proposed turbines occurs from occasional points along regional roads within the spatial enclosure of Glenomra Valley itself, west of the Proposed Wind Farm, whereas the local road networks outside of Glenomra Valley have very limited visibility, particularly to the east and south of Glenomra Valley where thick vegetation is prevalent along the local road network.

An overview of the visual screening recorded during the RSA along prominent transport routes within 5km of the proposed turbines is presented below in Table 13-1, followed by discussion.

Table 13-1: Distribution of Roadside Visual Screening Recorded during RSA

Visual Screening Class	Length of Road Mapped in Figure 13-3	Percentage Distribution of Visual Screening on Surveyed Roads
'Little/No' Screening	12.7km	17.07%
'Intermittent/Partial' Screening	40.7km	54.63%
'Dense/Full' Screening	21.1km	28.30%

The Gap Road/ L7080/ 2.3km of the East Clare Way

Within 5km of the proposed turbines, The Gap Road/L7080 represents the longest section of road, traversing east to west between the two peaks of Glenagalliagh Mt (to the north) and Lackareagh Mt (to the south), passing directly through the Proposed Wind Farm and overlapping with a portion of the East Clare Way waymarked walking route. East Clare Way is a well-known walking route of 180km in total length that traverses eastern Co. Clare, 2.3km of which passes directly through the Proposed Wind Farm. The road connects between the small, enclosed River Ardcloony Valley featuring sparse residences near Aillemore ('Upper' and 'Lower') and Ballygarreen on the eastern slopes of Glenagalliagh Mt and Lackareagh Mt outside Glenomra Valley and the area of Broadford and Broadford Gap at the north-west corner of Glenomra Valley.

Along The Gap Road/L7080, visual screening of the proposed turbines is primarily Intermittent/Partial and becomes Dense/Full moving up the east slope of Glenagalliagh Mt, outside Glenomra Valley. As shown above in Figure 13-3, the road called 'Aillemore – Upper' extending northward from The Gap Road has a similar

range of visual screening, with some patches of Little/No screening due to small open areas located around sparse residential properties of cleared land along that road. A second local road (called 'Lackareagh Beg/Kilroughil') extending southward to Bridgetown shows Dense/Full visual screening for its entire length.

Passing directly through the site and over the ridgetop between Glenagalliagh Mt and Lackareagh Mt, The Gap Road/L7080/East Clare Way reaches its highest elevation and has Little/No screening of the proposed turbines between turbines T3 and T4 to the north, sited on Glenagalliagh Mt, and T5 to the south, sited on Lackareagh Mt.

As the road begins descending into Glenomra Valley, turbines T6 and T7 become visible to the south on the slope of Lackareagh Mt in low-intensity agricultural land, and T2 and T1 become visible to the north in low-intensity agricultural land near the lower-most western slope of Glenagalliagh Mt, primarily with Little/No visual screening. Crossing through Glenomra Valley towards Broadford and Broadford Gap, visual screening primarily transitions equally between Little/None up to Intermittent. Views from The Gap Road/L7080/East Clare Way are assessed in this Chapter, represented by viewpoints VP03 and VP13 and photowire locations PW-K and PW-I (see Section 13.7 'Likely 'Significant' Landscape and Visual Effects').

Scenic Route SR-26/R466 Regional Road

Within 5km of the proposed turbines, a portion of the R466 Regional Road is designated as 'Scenic Route SR-26' by the CCDP (identified and discussed below in Section 13.4.1: Landscape Designations and Policy Context). The SR-26 portion of R466 traverses in a SE-NW orientation from the region west of Bridgetown, overlapping with L3022-8 Local Road (see next subsection) for a short distance (<1km) before spurring off to the north-west, following the base of Formoyle More towards Broadford Gap, adjacent to Glenomra River for a distance of approximately 3.6km.

Along SR-26/R466, from Bridgetown at the south-east end of Glenomra Valley, visual screening is primarily Intermittent/Partial and Dense/Full, with pockets of open views. One portion of SR-26/R466 along the base of Formoyle More near Cloonconry Beg (adjacent to Glenomra River) has entirely open views of the proposed turbines to the east, showing Little/No visual screening; following this point, visual screening becomes mostly Intermittent/Partial or Dense/Full along the rest of the road until Broadford.

Beyond the portion of R466 designated as SR-26, the regional road extends south-east from Bridgetown to O'Briensbridge, situated outside the spatial enclosure of Glenomra Valley and to the south-east. This portion of R466 shows primarily open views with Little/No visual screening.

Views from SR-26 are assessed in this Chapter, represented by viewpoints VP04 and VP07. Views from the wider portions of R466 are represented by VP08 and VP09.

L3022-8 Local Road

L3022-8 traverses in a S-N orientation from the region known as Fahy Beg near Bridgetown up to the village of Kilbane, then west toward Broadford Gap. As reported above, a small portion (<1km) at the south end of L3022-8 overlaps with SR-26/R466 and shows Little/No visual screening. Along L3022-8 towards Kilbane, the visual screening is highly variable, with equal very small portions of Little/None up to Dense/Full visual screening. Primarily in and around Kilbane, the visual screening is Intermittent/Partial, and the proposed turbines are situated to the east. To the west of Kilbane toward Broadford, visual screening becomes variable, primarily up to Intermittent/Partial. A small portion (<1km) of East Clare Way walking trail spurs off the north, up the hill, and has variable visual screening; primarily Dense/Full. Views from this road are assessed in this Chapter, represented by viewpoints VP08 and VP14, as well as photowire locations PW-L, PW-I and PW-K (see Section 13.7).

R465 Regional Road

Located south-west of the proposed turbines, the R465 Regional Road traverses a slightly upland landscape SE-NW from the small settlement cluster of Kilmore to the small town of Broadford at the north end of Glenomra Valley. Visual screening along this road is primarily Dense/Full, with small pockets of Little/None from elevated vantage points in the hills of Formoyle More. From the elevated points, the proposed turbines are situated to the east on the other side of Glenomra Valley. Views from this road are assessed in this Chapter, represented by viewpoint VP06 and photowire PW-O. Views from Broadford (located 5km west of the proposed turbines) are represented by VP05.

Local Roads to the East, Outside Glenomra Valley and Extending to Killaloe

To the south-east of the proposed turbines, one local road (unnamed) traverses north from Bridgetown up to a junction at The Gap Road and shows primarily Dense/Full visual screening. Likewise, other local roads extending to Killaloe in the east show primarily Dense/Full visual screening. The R463 Regional Road traversing SW-NE from O'Briensbridge (south of Glenomra Valley) to Killaloe shows primarily Dense/Full visual screening on its northern half, with pockets of Intermittent/Partial visual screening on its southern half. Views from R463 are assessed in this Chapter, represented by viewpoint VP10.

13.4 Landscape Baseline

The Landscape Baseline section details relevant policies pertinent to this LVIA, as well a description of the receiving landscape of the Proposed Project site and its wider setting.

This section is divided into:

- **Landscape Designations and Policy Context** pertaining to the location and features of the site and its surrounding area based on the developments plans for Counties Clare, Limerick and Tipperary and their relevant appendices;
- **Landscape Character of the Proposed Project Site** describing the localised physical characteristics of the site and its immediate setting, based on:
  - Site visit findings from 2022, 2023 and 2024;
- **Landscape Sensitivity** assigning 'Sensitivity' rating to the site and its surrounding area according to the 'Value' and 'Susceptibility to Change' based on the appraisal of multiple indicators:
  - Landscape designations;
  - Quality/condition of landscape elements;
  - Scenic/aesthetic qualities;
  - Rarity/conversation status;
  - Wildness/naturalness;
  - Recreational value;
  - Cultural meaning/associations;
- **Landscape Character of the Site as defined in the WEDGs** describing the landscape setting of the site and reviewing the relevant policies and siting guidance based on:
  - WEDGs (DoEHLG, 2006);
  - Draft Revised WEDGs (DoHPLG, 2019);
- **Landscape Character of the Wider Setting** assessing the designated character areas of the site and its surrounding area based on:
  - Identification of Landscape Character Areas (LCAs) within 15 km of the proposed turbines (i.e. LCA Study Area);
  - Preliminary assessment of LCAs based on ZTV mapping.

13.4.1 Landscape Designations and Policy Context

This subsection reviews 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 Proposed Wind Farm.

The Proposed Project is located in Co. Clare; therefore, the following development plan was primarily consulted to identify general landscape designations existent in the LVIA Study Area:

- Clare County Development Plan 2023–2029 (CCDP), and its:
- *Volume 6*: '*Clare Wind Energy Strategy*' (CWES).

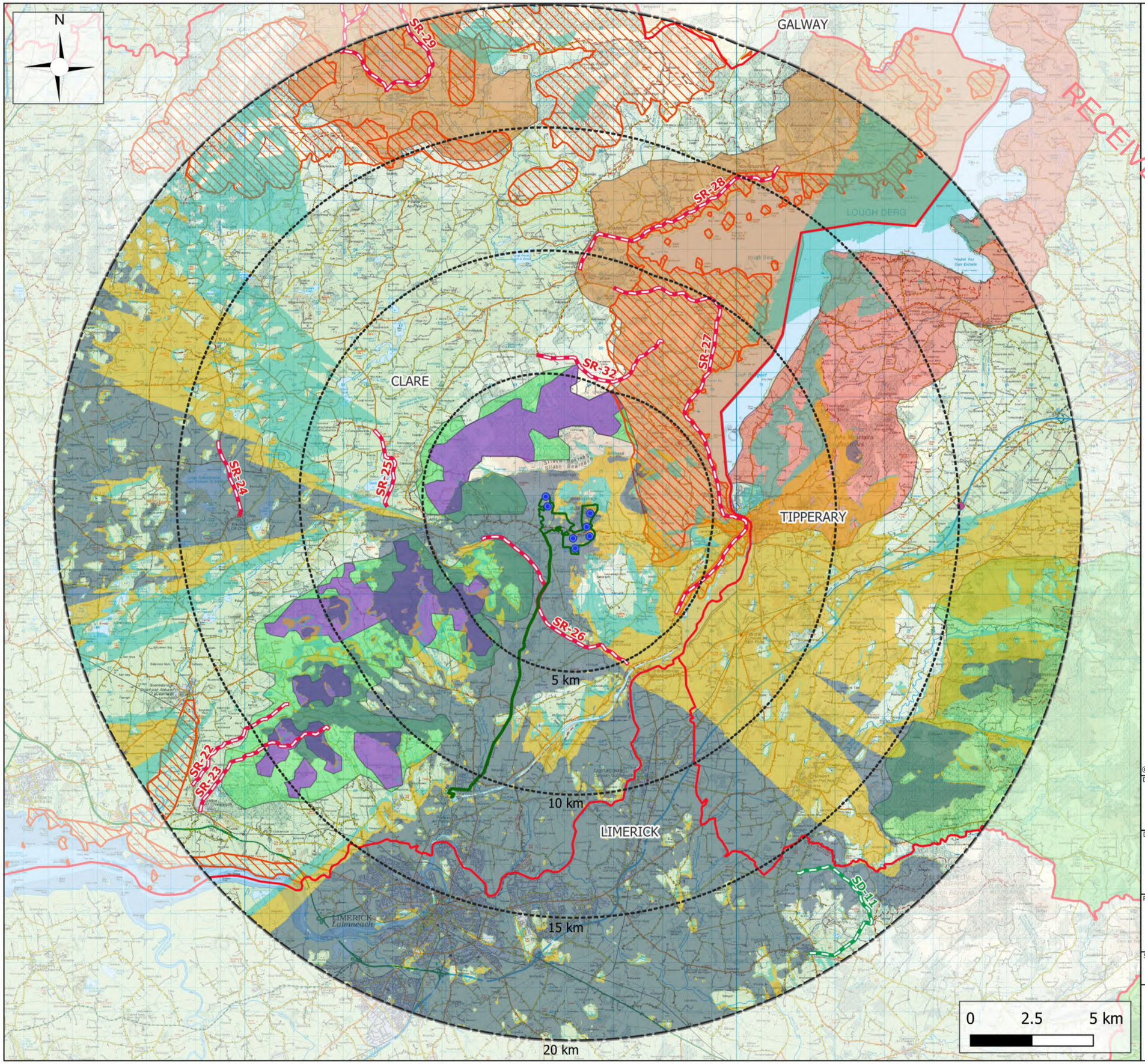
As demonstrated by the Half-Blade ZTV Map (see above Figure 13-1), two additional counties—Limerick and Tipperary—are located within the LVIA Study Area boundary and comprise regions with theoretical visibility of the proposed turbines. Consequently, the following development plans were consulted to identify relevant landscape designations within the LVIA Study Area:

- Limerick Development Plan 2022–2028 (LDP);
- Tipperary County Development Plan (2022–2028) (TCDP);
- and the TCDP *Volume 3*: '*Landscape Character Assessment and Schedule of Views and Routes*'.

In the LVIA Study Area, the following designations were identified:

- 15 no. designated Scenic Routes (CCDP, LDP and TCDP) and 1 no. designated Scenic View (TCDP);
- Protected scenic amenity areas: 1 no. Primary and 1 no. Secondary Amenity Area (TCDP);
- Multiple boundaries in Co. Clare outlining regions of designated 'Strategic Area', 'Acceptable in Principle' and 'Open to Consideration' for wind energy development (CWES);
- Multiple boundaries in Co. Clare outlining 'Heritage Landscapes' (CCDP) deemed to be of higher sensitivity, along with 'Working' and 'Settled Landscapes' (CCDP);
- 14 no. designated Landscape Character Areas (LCAs) according to county-specific Landscape Character Assessment carried out by individual counties (CCDP, LDP and TCDP) to meet national landscape management policy targets.

All landscape policy items listed above and area boundaries (except LCAs) are mapped below in Figure 13-4 and the map is overlain with the ZTV, shown below in Figure 13-5. All identified landscape policy items are explained in the subsections below.



Map Legend

- Ireland National OSi County Borders
- Lackareagh Proposed Turbines
- Co. Clare Heritage 'Living Landscapes'

Clare Wind Energy Strategy (CWES)

- Strategic Areas
- Acceptable in Principle
- Not Normally Permissable

Scenic Routes and Views

- Co. Clare Scenic Routes
- Co. Tipperary Scenic Routes
- Co. Limerick Scenic Routes
- Co. Tipperary Scenic View

Co. Tipperary Scenic Amenity Areas

- Primary
- Secondary

Drawing No.

Figure 13-4

Drawing Title

Landscape Policy Context Map

Project Title

Lackareagh Wind Farm

Scale	Project No.	Date	Drawn By	Checked By
1:150,000	220245	01.08.2024	RS	NMH

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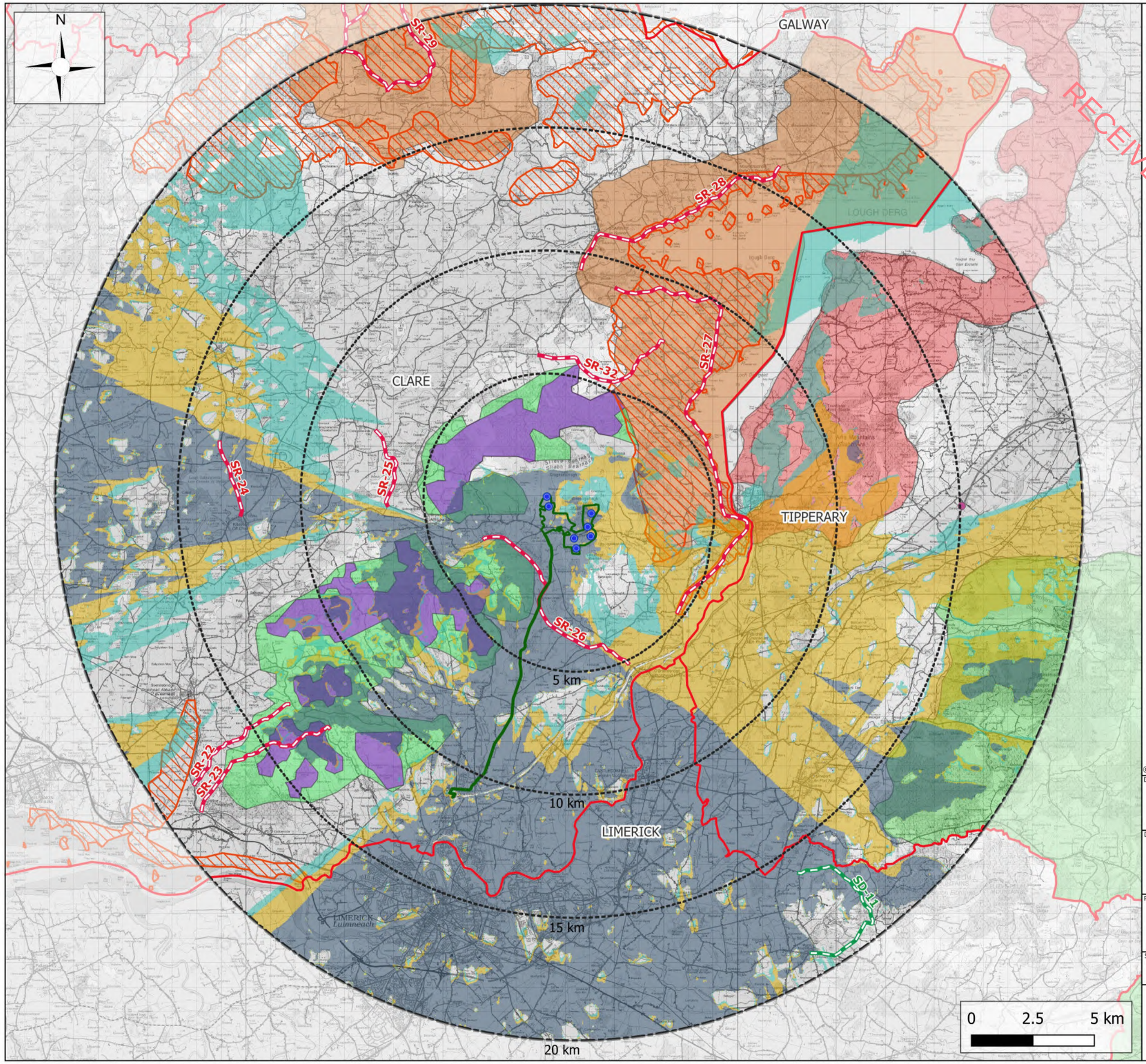

Map Legend

- Ireland National OSi County Borders
- Lackareagh Proposed Turbines
- Co. Clare Heritage 'Living Landscapes'

Clare Wind Energy Strategy (CWES)

- Strategic Areas
- Acceptable in Principle
- Not Normally Permissable

Scenic Routes and Views

- Co. Clare Scenic Routes
- Co. Tipperary Scenic Routes
- Co. Limerick Scenic Routes
- Co. Tipperary Scenic View

Co. Tipperary Scenic Amenity Areas

- Primary
- Secondary

Zone of Theoretical Visibility (ZTV)

- 1-2 Turbines Theoretically Visible
- 3-4 Turbines Theoretically Visible
- 5-7 Turbines Theoretically Visible

Drawing No.

Figure 13-5

Drawing Title

ZTV & Landscape Policy Context Map

Project Title

Lackareagh Wind Farm

Scale	Project No.	Date	Drawn By	Checked By
1:150,000	220245	01.08.2024	RS	NMH

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13.4.1.1 Clare County Development Plan 2023–2029 (CCDP)

The CCDP is the adopted plan for Co. Clare at the time of this report. According to the Clare County Council website (www.clarecoco.ie), the CCDP was adopted by the council on 9th March 2023 and came into effect on 20th April 2023.

This section reports relevant policy and objectives in the CCDP relating to landscape and the development of wind energy in Co. Clare, as well as policy relating to likely effects on landscape and visual amenity.

13.4.1.1.1 Co. Clare Landscape Strategic Aims

Section 14 'Landscape' of the CCDP is the overall landscape chapter of the development plan and the first *Section 14.1* '*Strategic Aims'* states five strategic aims with regard to landscape planning (CCDP, p.343) as follows:

1. *'To ensure the implementation of the National Landscape Strategy for Ireland 2015–2025 in County Clare;*
2. *To implement the '**Clare's Living Landscapes**' approach to landscape management and enhancement throughout the County;*
3. *To encourage the utilisation of the Clare County **Landscape Character Assessment** in both the preparation and assessment of planning applications;*
4. *To utilise the 'Clare Living Landscapes' approach to ensure that development in the County takes place in the location / landscape deemed most appropriate; and*
5. *To sustain the natural and cultural heritage of the County.'*

'Living Landscapes' and Landscape Character Assessment. Regarding the above-mentioned terminology shown in bold, it should be emphasised that this LVIA takes consideration of potential impacts based on the designations of 'Living Landscape' including higher sensitivity 'Heritage Landscape' areas, as well as LCAs from Landscape Character Assessment, as explained in the following sub-sections.

13.4.1.1.2 Co. Clare Renewable Energy Resources

Section 11.8.5 of the CCDP sets out several 'Development Plan Objectives' in relation to renewable energy resources in Co. Clare. Of these, objective CDP11.47 (CCDP, p.291) contains 'Item C' (features bold text below) which relates specifically to the development of wind energy, stating:

'CDP11.47 It is an objective of Clare County Council:

- *(a) To encourage and to favourably consider proposals for renewable energy developments, including community owned developments, and ancillary facilities in order to meet National, Regional and County renewable energy targets, and to facilitate a reduction in CO_2 emissions and the promotion of a low carbon economy;*
- *(b) To assess future renewable energy-related development proposals having regard to the Clare Renewable Energy Strategy 2023–2030 in Volume 5 of this plan and associated SEA [Strategic Environmental Assessment] and AA [Appropriate Assessment];*
- *(c) To support the sustainable development of renewable wind energy (on-shore and offshore) at appropriate locations and of its related grid infrastructure in County Clare, in accordance with all relevant policies, guidance and guidelines pertaining to the protection of the environment and protected habitats and species, and **to assess proposals having regard to the Clare Wind Energy Strategy in Volume 6 of this plan***

and the associated *SEA and AA, or any subsequent* ***updated adopted Strategy and to national Wind Energy Guidelines;***

- *(d) To prepare a new and updated Wind Energy Strategy for County Clare during the lifetime of this plan, subject to the publication of the update to the Wind Energy Development Guidelines for Planning Authorities 2006;*
- *(e) To strike an appropriate balance between facilitating renewable and wind energy-related development and protecting the residential amenities of neighbouring properties; and*
- *(f) To support and facilitate the development of new options and technological advances in relation to renewable energy production and storage, that may emerge over the lifetime of this Plan'.*

13.4.1.1.3 Clare Wind Energy Strategy (CWES)

In accordance with Item C in bold in the above Section 13.4.1.1.2 and CCDP *Section 11.8.5*, this LVIA was carried out against and with regard to the *Clare Wind Energy Strategy* (CWES) which forms *Volume 6* of the CCDP.

The CWES is an appendix to the CCDP and provides extensive landscape designations and relevant policy to developing wind energy projects in Co. Clare. The CCDP describes the CWES as follows:

> *'This volume comprises a detailed countywide Wind Energy Strategy, supplemented by maps which set out Clare County Council's strategy for informing wind energy development, having regard to economic, environmental and visual issues'.*

Section 3 '*Wind Energy Objectives'* of the CWES outlines twelve general and specific wind energy strategies (WESs) for the county. Of these, WESs One through Six are general strategies pertaining to this LVIA (CWES, p.28):

- Development of Renewable Energy Generation;
- Development of Low Carbon Economy;
- County Partnership Approach;
- Response to National Policy;
- Promotion of Community Involvement;
- Infrastructure Development Proposals.

The specific area objective WESs Eight through Eleven identify and designate different areas of the landscape of Co. Clare into 4 no. classifications relating to their suitability for wind energy development (CWES, p.30). Figure 13-6 (modified from the *'Wind Energy Designations'* map of the CWES *Chapter 4*, p.34) below indicates the location of the site with relation to the wind energy objective land area designations. The four wind energy designations are as follows:

- Strategic Areas;
- Acceptable in Principle;
- Open to Consideration;
- Not Normally Permissible.

The Proposed Project site is located within the area designated as 'Open to Consideration' and is proximal within <1km to 3.5km of both 'Strategic' and 'Acceptable in Principle' designated areas. This report considers that the total amount of land area in Co. Clare with these latter two designations is relatively small (2.9%), thus the site's proximal location to these ideal areas is favourable to the policy objectives.

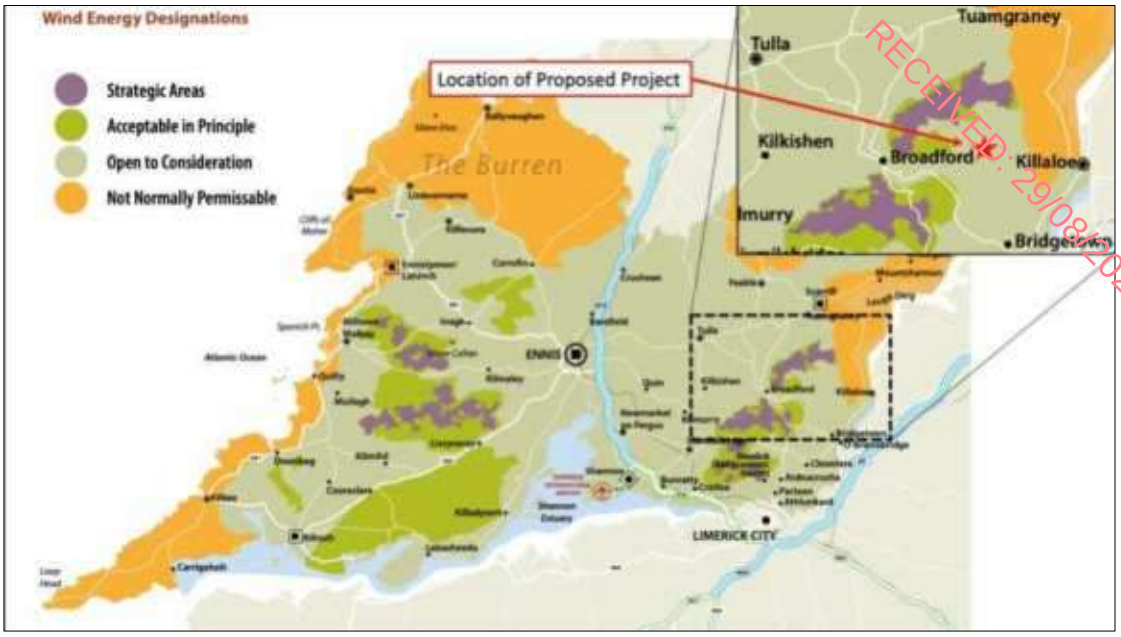


Figure 13-6: Co. Clare Wind Energy Landscape Designations and Proposed Project Location (modified from CWES, p.34)

The WES Ten 'Open to Consideration' policy states (CWES, p.30):

> *'Wind energy applications in these areas will be evaluated on a case-by-case basis subject to viable wind speeds, environmental resources and constraints and cumulative impacts'.*

This LVIA also considers *Annex A* of the CWES called '*Best Practice and General Considerations for Wind Energy Developments in County Clare'* which emphasises a quotation from the WEDGs (DoEHLG, 2006) on the visibility of proposed wind farms (CWES, p.47):

> *'The* ***visibility*** *of a proposed wind energy development from designated views or prospects* ***would not automatically preclude an area from*** *future* ***wind energy development*** *but the inclusion of such objectives in a development plan is a material factor that will be taken into consideration in the assessment of a planning application'.*

13.4.1.1.4 Co. Clare Landscape Character Assessment Policy

Landscape Character Assessment, as carried out by counties in Ireland to meet the objectives of the National Landscape Strategy Framework 2015–2025 published by the Department of Arts, Heritage and the Gaeltacht (DAHG) (2015), forms an important basis of this LVIA.

The Landscape Character Assessment is intended to analyse the character, value and sensitivity of landscapes identified within a particular area (i.e. counties) as part of efforts by the DAHG to achieve national-level consistency in terms of landscape decision-making and uphold compliance of European Landscape Convention best practices. Landscape Character Assessments have been carried out by counties in Ireland, including Clare, Limerick and Tipperary, producing designated regions known as Landscape Character Areas (LCAs).

Landscape Character Types to derive LCAs. As part of national-level Landscape Character Assessment, the CCDP categorises 26 no. Landscape Character Types into upland, lowland and coastal groups. No specific guidance is given referring to the consideration of wind energy development within Landscape Character Type designations; however, these types are used as the basis for deriving LCAs specifically related to wind energy. Since the Landscape Character Type categories were used to derive LCAs but are not specifically mentioned in the GLVIA3 forming the basis for assessment, this section briefly describes the Landscape Character Type in which the Proposed Project site is located but does not primarily consider it for the overall LVIA.

The CCDP defines 'Landscape Character Types' as follows (CCDP, p.345):

> *'[D]istinct types of landscape that are relatively homogenous in character. [...] [T]hey commonly share similar combinations of geology, topography, land cover and historical land use'.*

The Proposed Wind Farm is located in the Landscape Character Type of 'Upland Hills', which is surrounded in close proximity by the types of 'Upland Fringe' and 'Glacial Valley'.

The CCDP uses the Landscape Character Type designations, along with the two other landscape designations of Habitat Types ('*area in which an organism or group of organisms live*') and Historic Landscape Types ('*physical, chemical and geographic factors, in addition to human impact or management*') (CCDP, p.345), to produce a combined assessment that designates overall LCAs for Co. Clare. These LCAs are the subject upon which the wind energy policies are based; see details in the next subsection.

13.4.1.1.5 Co. Clare Designated LCAs

Section 14.2 of the CCDP outlines the official '*Landscape Character Assessment of County Clare 2004*' (LCACC) (ERM Ireland Ltd., 2004), undertaken by the county to meet Ireland's national landscape strategy scheme of 2015–2025, identifying Landscape Character Types and LCAs, and lists the relevant planning objectives.

The CCDP objectives relating to the Landscape Character Assessment (CCDP, Objective CDP14.1, p.346) are:

- *'(a) To encourage the utilisation of the Landscape Character Assessment of County Clare, the forthcoming Regional Landscape Strategy and other relevant landscape policy and guidelines and to have regard to them in the facilitation, protection and management of appropriate landscape change in County Clare;*
- *(b) To review and update the County Clare Landscape Strategy as soon as is practicable following the publication of the National Landscape Character Assessment and taking any associated guidelines.'*

Co. Clare is divided into 21 LCAs, based on distinctive patterns of geology, landform, land use, and cultural, historical and ecological features. Of these, 8 no. LCAs are existent within the 15km LCA Study Area (prefixed by 'C' to indicate the county) as follows:

- C-LCA-5: Slieve Aughty Uplands;
- C-LCA-6: Lough Graney;
- C-LCA-7: Lough Derg Basin;
- **C-LCA-8: Slieve Bernagh Uplands (contains all proposed turbines)**;
- C-LCA-9: River Shannon Farmland;
- C-LCA-10: Sixmilebridge Farmland;
- C-LCA-11: East Clare Loughlands;
- C-LCA-12: Tulla Drumlin Farmland.

All turbines of the Proposed Project are sited within LCA-8: Slieve Bernagh Uplands. Its key characteristics are listed in the LCACC (p.4-37) as:

- '*Area of gentle and rolling hills reaching 530m at Sliabh Bernagh;*
- *Settlement is scattered, confined to lower fringes;*
- *Hedgerows create a wooded feel and are often planted with fuchsia around dwellings;*

- *Historically little settlement other than ritual, as evidenced by a number of cairns, barrows and standing stones identified on the eastern slopes. Broadford Gap is an important Bronze Age passing route;*
- *Remote and isolated with panoramic views afforded to Lough Derg, lower drumlin farmland and Shannon estuary;*
- *Vegetation dominated by heather moorland with plantation forests and semi-natural deciduous woodland on lower slopes and along water courses'.*

13.4.1.1.6 CWES Policy for Co. Clare LCA-8: Slieve Bernagh Uplands

This LVIA draws on additional, specific policy for the design of wind energy projects based on LCAs provided for Co. Clare, as follows. *Section 4* of the CWES is called '*Advice on Landscape Capacity for Wind Energy Developments based on Landscape Character Areas'* and outlines considerations for LCA-8 Slieve Bernagh Uplands, where the Proposed Project site is located, in Co. Clare.

LCA-8 Slieve Bernagh Uplands is designated 'appropriate' for 'large' wind farms (defined as 11–20 turbines) and has 'Medium to Low' sensitivity to wind farm development, which is the lowest possible category of sensitivity provided in the CWES. Owing to these factors, LCA-8 Slieve Bernagh Uplands has been rated in this LVIA as having 'Low' sensitivity to wind energy development. The primary reason for this rating is due to the landscape's designated capacity to absorb multiple wind farm developments and its having been rated as low as possible in terms of sensitivity in the local planning policy (CCDP and CWES).

Below, Table 13-2 summarises the relevant details of *Table 4a* '*Strategic Guidance on Landscape Capacity for Wind Energy Developments*' from the CWES (p.36) with respect to LCA-8 Slieve Bernagh Uplands. The table outlines the capacity of this LCA specifically for the development of wind energy.

Table 13-2: Landscape Capacity Details of LCA-8: Slieve Bernagh Uplands; extracted from the CWES (p.36)

CWES *Table 4a: 'Strategic Guidance on Landscape Capacity for Wind Energy Developments'*	
'LCA	*Slieve Bernagh Uplands*
Description	*This LCA encompasses the Sliabh Bernagh Range and Broadford Hills.*
Overall Sensitivity to Wind Farm Developments	*Medium to Low* [this is the lowest designation in the CWES].
Appropriate Size of Wind Farms	*Large* [defined in the CWES as 11–20 turbines]
Capacity	*There are certain parts of this LCA that are highly sensitive due to their nature designations and scenic qualities. In particular, the foothills and mountains over-looking Lough Derg and the unenclosed bogs of Lackeragh and Glenagalliagh Mountain.*
Cumulative Advice from 2006 Planning Guidelines	*Acceptable, depending on topography as well as siting and design of wind energy developments involved'.*

Under two exceptional circumstances, parts of LCA-8 Slieve Bernagh Uplands are to be categorised as 'highly sensitive' and these circumstances are described here with respect to the location of the Proposed Wind Farm.

The first exception of higher sensitivity is for '*the mountains overlooking Lough Derg*.' This LVIA emphasises that the proposed turbines have **no theoretical visibility from the mountains on the western edge of Lough Derg**. In addition, from certain elevated areas along the eastern shore of Lough Derg, ZTV mapping indicates low to partial theoretical visibility (ranging from 1-4 turbines); therefore, the relevant areas were carefully considered in the scoping process to ensure that all representative views were evaluated.

The second exception of higher sensitivity is for '*the unenclosed bogs of Lackareagh and Glenagalliagh Mountain*'. This report emphasises that the Proposed Wind Farm is **not located in unenclosed bogs**, as indicated in Chapter 6: Biodiversity; further, of the 7 no. proposed turbines, T3 and T4 are situated on the south-eastern slope and over the ridgetop of Glennagalliagh Mt within coniferous forestry land that is not generally accessible to the public in that no public roads leading to these locations currently exist. A comprehensive description of the character of the landscape of the Proposed Wind Farm is reported below in Section 13.4.2: Landscape Character of the Site.

13.4.1.1.7 Co. Clare 'Living Landscapes'

The entirety of Co. Clare is divided into three broad categories of 'Living Landscapes': Heritage, Settled, and Working as designated in the CCDP; each with different allocations in terms of development planning. Of these, 'Heritage' areas are considered higher sensitivity. The Proposed Wind Farm is located within 'Settled Landscape'. Development in Settled Landscape is guided by the development plan Objective CPD14.2, a general policy relating to sustainable development. The three living landscape designations cover the entirety of Co. Clare, comprising a total area of approximately 3,450 km^2. Settled landscape comprises approximately 51.6% (1782 km^2) of the entirety of Co. Clare, therefore this policy pertains to a large area and is very general in nature.

Heritage Landscape: A key focus of the baseline investigations in this LVIA is to identify the highest sensitivity receptors in the LVIA Study Area with the greatest potential for significant landscape and visual effects to occur. Co. Clare 'Heritage Landscape' is the most sensitive of the Living Landscape designations, comprising sensitive landscape areas such as The Burren and Lough Derg, as well as coastal areas such as the Atlantic coastal corridor and Shannon Estuary. Development proposals within and in close proximity to these landscapes must be highly cognisant of potential visual impacts under the CCDP Objective CDP14.2. In relation to wind energy development, the Co. Clare Heritage Landscapes generally mirror the 'Not Normally Permissible' areas designated in the CWES.

Three areas of Co. Clare Heritage Landscape are existent in the LVIA Study Area; these are mapped above in Figure 13-4 and Figure 13-5 and described below. Two of the areas, '*Lough Derg Basin*' and '*Slieve Aughty Uplands*' are designated together under the same name as 'Heritage Landscape 1: Lough Derg and the Eastern Uplands', while the third area '*Shannon Estuary*' is designated under 'Heritage Landscape 3: The Fergus/Shannon Estuary'.

Lough Derg Basin Heritage Landscape. Ranging from 2.2–10km from the proposed turbines, this portion of Heritage Landscape is situated in a N-S orientation on the western banks of Lough Derg and encompasses the eastern-most peaks of Slieve Bernagh range within LCA-8 Slieve Bernagh Uplands. In this area, the Heritage Landscape has an average width of 2–3km. Moving northeast along the western banks of Lough Derg, between 10–15km of the site, this Heritage Landscape designation continues as a thin strip hugging the western shoreline.

Slieve Aughty Uplands Heritage Landscape. At the northernmost edge of the LVIA Study Area, outside the LCA-8 Slieve Bernagh Uplands, multiple relatively small, intermittent portions of this Heritage Landscape are interspersed between 10–20km from the proposed turbines.

Shannon Estuary Heritage Landscape is located west of Limerick City at the south-westernmost extent of the LVIA Study Area outside the LCA-8 Slieve Bernagh Uplands; the northern banks of the estuary along with the River Ratty (also known as the Owengarney River) corridor are designated as Heritage Landscape.

This report emphasises that the Proposed Project site is not directly sited within any Heritage Landscapes of Co. Clare and therefore, will not materially alter the physical fabric of these sensitive landscapes. In relation to visual effects, as shown by the ZTV mapping previously in Figure 13-5, this LVIA notes the following:

- ZTV mapping shows little to no theoretical visibility of the proposed turbines from within *Slieve Aughty Uplands* Heritage Landscape; and,
- ZTV mapping shows almost entirely no theoretical visibility from within the *Lough Derg Basin* Heritage Landscape, except for at the southern-most tip along the west bank. Site visits determined that no visibility of the proposed turbines is likely to occur from the southern-most tip of this areas of Heritage Landscape;
- ZTV mapping shows no theoretical visibility from the portion of *Shannon Estuary* Heritage Landscape existent at the south-west edge of the LVIA Study Area and a very small portion of theoretical visibility in the Ratty River Corridor. Visibility appraisals during site visits determined that no visibility is likely to occur from this area of Heritage Landscape.

In light of the above points, all Heritage Landscapes are scoped out of further assessment in this LVIA and are not considered further in this Chapter.

Settled Landscape: The Proposed Wind Farm is located within an area designated as 'Settled Landscape', for which one of the '*envisaged uses*' is '*energy*' (see list below). Settled Landscape comprises most of the county's land area and is characterised by the following (CCDP, p.348):

- *'Farmlands, villages, and towns comprising most of the county;*
- *Contains resources sustaining the economy (land, soils, minerals, water);*
- *Accommodate developments that service settlements and industry (roads, power-lines, quarries, piped services);*
- *Strict compliance for site suitability, design, and management of effluents affecting ground and surface waters;*
- ***'Energy' is one of the 'envisaged uses' within this living landscape category'.***

Further, Objective CDP14.2 of the CCDP (p.349) for developments in Settled Landscapes states:

- *'It is an objective of Clare County Council: To permit development in areas designated as 'settled landscapes' to sustain and enhance quality of life and residential amenity and promote economic activity subject to:*
  - Conformity with all other relevant provisions of the Plan and the availability and protection of resources;
  - Selection of appropriate sites in the first instance within this landscape, together with consideration of the details of siting and design which are directed towards minimising visual impacts;
  - Regard being had to the need to avoid intrusion on scenic routes and on ridges or shorelines.
- *Developments in these areas will be required to demonstrate:*
  - (a) That the site has been selected to avoid visual prominence;
  - (b) That the site layouts avail of existing topography and vegetation to reduce visibility from scenic routes, walking trails, water bodies, public amenities and roads;

- (c) That design of buildings and structures reduces visual impact through careful choice of forms, finishes and colours, and that any site works seek to reduce visual impact'.

Working Landscape: Within 5–15km of the site, a region of 'Working Landscape', defined as '*intensively settled and developed areas within Settled Landscapes or areas with a unique natural resource*' (CCDP, p.348), stretches along the southwestern part of the LVIA Study Area in a NW-SE orientation.

13.4.1.1.8 Co. Clare Designated Scenic Views and Prospects

Section 14.5 of the CCDP outlines planning objectives pertaining to 'valuable views and prospects', meaning visual receptors that offer attractive views of differing landscapes over the county, primarily designated Scenic Routes.

Objective CDP14.7 of the CCDP (p.356) relating to views and prospects (i.e. Scenic Routes) states:

> *'It is an objective of Clare County Council:*
>
> - *(a) To protect sensitive areas from inappropriate development while providing for development and change that will benefit the rural community;*
> - *(b) 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; and*
> - *(c) To ensure that appropriate standards of location, siting, design, finishing and landscaping are achieved'.*

In addition, *Section 14.5* of the CCDP (p.356) states the following with respect to designated Scenic Routes in the case where a proposed development may be visible from the route:

> *'In conserving views, it is not proposed that* ***this should give rise to the prohibition of development*** *along these routes* ***but development****, where permitted,* ***should not seriously hinder or obstruct these views*** *and should be designed and located to minimise their visual impact'.*

In light of this, this LVIA has identified all designated Scenic Routes within the LVIA Study Area and considered the impact with respect to protecting and conserving views according to the policy stated above.

For this LVIA, 9 no. Scenic Routes in Co. Clare were identified within the LVIA Study Area; these were mapped previously in Figure 13-5 and are listed below in Table 13-3.

These designated Scenic Routes are of a visual nature and are representative of visual receptors. Each route is therefore addressed and analysed in Section 0: Visual Baseline, where ZTV mapping and on-site appraisals determined the likely visibility of the proposed turbines from the Scenic Routes and it was determined which routes were scoped in for assessment in this Chapter.

Note on Map Ref. numbers: For purposes of clarity, continuity and reference to mapping figures in this chapter, designated Scenic Routes are labelled with 'SR', and each is prefixed by the first letter of the county in which it is located, e.g. 'C' for Clare. The last number in each label corresponds to the label or number assigned to each designation in the respective county development plan (e.g. C-SR-22 = Clare – Scenic Route No. 22).

Table 13-3: Identified Scenic Routes of Co. Clare in the LVIA Study Area

Scenic Route No.	Map Ref. (Figure 13-4 and Figure 13-5)	Description from County Development Plan (CCDP, p.515)
Co. Clare		
SR-22	C-SR-22	*'From Brickhill Bridge north-east to road junction at Reaskcamoge'.*
SR-23	C-SR-23	*'Road from Cratloe north-east through Gallows Hill to Glennagross'.*
SR-24	C-SR-24	*'Views in and out of Lough Cullaunyheeda'.*
SR-25	C-SR-25	*'Views in and out of Doon Lough'.*
SR-26	C-SR-26	*'R466 between Broadford and O'Briensbridge'.*
SR-27	C-SR-27	*'R463 from O'Briensbridge through Killaloe to outside Ogonnelloe'.*
SR-28	C-SR-28	*'R463 from Tuamgraney to Mountshannon'.*
SR-29	C-SR-29	*'Roads surrounding Lough Graney'.*
SR-32	C-SR-32	*'Road from Church at Ballylaghan crossroads as far as the crossroads at Caherhurly (part of the East Clare Way)'.*

13.4.1.2 Landscape & Visual Designations in Other Counties: Limerick and Tipperary

While the Proposed Project is located in Co. Clare, portions of Co. Limerick and Co. Tipperary are also existent within the LVIA Study Area and ZTV mapping indicates some theoretical visibility of the proposed turbines in these counties (recall Section 13.3: Visibility of Proposed Project). Therefore, relevant designations pertinent to this LVIA are identified and listed below from the LDP and TCDP and their associated appendices.

13.4.1.2.1 *Protected Views: Co. Limerick and Co. Tipperary*

Counties Limerick and Tipperary protect scenic amenity within their respective borders through the designation of Scenic Views and Prospects (by Co. Limerick, LDP, p.190) and Scenic Routes and Views (by Co. Tipperary, TCDP, p.170), herein collectively referred to as 'Protected Views'.

In a general sense, it is a policy objective for both counties to take additional care in the protection of the unique and valuable protected views. As mentioned above, each county has a different naming convention and policy objective pertaining to their respective designations, as follows.

Regarding Scenic Views and Prospects of Co. Limerick, Objective EH 031 in *Section 6.4.2* '*Views and Prospects'* of the LDP (p.190) states:

> *'Views and Prospects. It is an objective of the Council to:*
>
> - *(a) Preserve, protect and encourage the enjoyment of views and prospects of special amenity value or special interests and to prevent development, which would block or otherwise interfere with views and/or prospects;*
> - *(b) In areas where scenic views and prospects are listed in the Plan, there will be a presumption against development, except that required to facilitate farming and appropriate tourism and related activities. The development must be appropriately designed so that it can be integrated into the landscape'.*

Regarding Scenic Routes and Views in Co. Tipperary, *Section 11.7* '*Landscape'* of the TCDP (p.170) states:

> *'The Council has designated a series of scenic views and routes in the county, which include views of key heritage sites, and inter-county scenic tourism routes. In assessing new development, consideration will be given to ensuring that views are not obstructed or significantly altered, and that the visual impact of new development be minimised by careful design and siting'.*

Scenic Views and Prospects in Co. Limerick are identified and mapped in the LDP (*Map 6.2* in *Section 6.4.2* of the LDP). Scenic Routes and Views of Co. Tipperary are identified and mapped in the TCDP *Volume 3*: '*Landscape Character Assessment and Schedule of Views and Routes'*.

For this LVIA, a total of 8 no. Protected Views in Co. Limerick (one Scenic Route) and Co. Tipperary (one Scenic Viewpoint and six Scenic Views) were identified within the LVIA Study Area; these were mapped previously in Figure 13-5 and are listed below in Table 13-4.

These designated Protected Views are of a visual nature and are representative of visual receptors. Each view is therefore addressed and analysed in Section 0: Visual Baseline, where ZTV mapping and on-site appraisals determined the likely visibility of the proposed turbines from the Protected Views and it was determined which views were scoped in for assessment in this Chapter.

Note on Map Ref. numbers: For purposes of clarity, continuity and reference to mapping figures in this Chapter, designated Protected Views are labelled 'V', along with the county-letter prefix, as explained above.

Table 13-4: Identified Protected Views of Co. Limerick and Tipperary in the LVIA Study Area

Protected View no.	Map Ref. (Figure 13-4 and Figure 13-5)	Description in County Development Plans
Co. Limerick (LDP, p.192)		
Slieve Felim Scenic Drive	L-SR-1	*'In the east of the County, the Slieve Felim way route close to Murroe, makes an attractive walking route to complement the attractions of the Clare Glens'.*
Co. Tipperary (TCDP *Volume 3*, p.152)		
V44	T-V-44	*'Views west and sections of the Road to the east of the R494.'*

Protected View no.	Map Ref. (Figure 13-4 and Figure 13-5)	Description in County Development Plans
V45	T-V-45	*'Views along lakeside roads north of Portroe'.*
V46	T-V-46	*'Views west south of Dromineer'.*
V55	T-V-55	*'North and South of the R503 from Newport to Balycahill'.*
V57	T-V-57	*'View west on the Cork Road approach to Newport'.*
V59	T-V-59	*'View of the surrounding landscape from M7 including Annaholty and Rosfinch'.*
V60, Scenic Viewpoint	T-V-60	*'Views of landscape from M7 at Gortmore, SW of Nenagh'.*

13.4.1.2.2 Protected Landscape Amenity Areas: Co. Tipperary

Section 11.7 'Landscape' of the TCDP designates and protects certain landscapes of Co. Tipperary as 'Primary' and 'Secondary Amenity Areas' due to their scenic quality and opportunities for tourism development.

The TCDP's policy for the protection and management of Amenity Areas (TCDP, p.169) states:

> *'The Council will seek to ensure that a balance is achieved between the protection of sensitive landscapes and the appropriate socio-economic development of these areas. In this respect, development proposals will be required to demonstrate that they integrate and respect the visual quality of the amenity area'.*

Within the LVIA Study Area, portions of one Primary and one Secondary Amenity Area are existent, both situated to the east of the Proposed Wind Farm; these areas are mapped above in the 'Landscape Baseline' maps (Figure 13-4 and Figure 13-5).

The identified portion of Primary Amenity Area is orientated SW-NE along the southern banks of Lough Derg, extending between 5–20km to the east of the site. ZTV mapping indicates primarily no visibility from most of this region; however, a minimal area shows theoretical visibility of 1–2 turbines along the eastern bank of Lough Derg and ranges up to theoretical visibility of 3–4 turbines from a small portion at the south tip of this region, immediately east of Killaloe. Although the likelihood of visual impact is low from the Primary Amenity Area, this report considers the generally higher sensitivity of the Lough Derg landscape; therefore, one representative viewpoint (VP01) and two supplementary photowire viewpoints (PW-A, PW-B) were included in this LVIA for assessment (see Section 0: Preliminary Analysis: Visual Receptors).

The identified portion of Secondary Amenity Area extends along the south-eastern edge of the LVIA Study Area, between 15–20km from the site, and ZTV mapping indicates no theoretical visibility from most of this region. Small, intermittent portions of the area have theoretical visibility ranging from 3 to 7 turbines; however, the region generally comprises dense forestry and is therefore not considered to be a particularly sensitive part of the landscape. This is owing to the localised views being focussed on the surrounding forest, the trees of which also serve as natural visual screening of distant views of Slieve Bernagh range. The Proposed Project is therefore unlikely to have any impact upon the setting or key landscape sensitivities of the Secondary Amenity Area, thus the area was scoped out of further assessment and is not considered further in this Chapter.

13.4.1.2.3 LCA Designations in Other Counties: Limerick and Tipperary

Co. Limerick LCAs

Chapter 6 'Environment, Heritage, Landscape and Green Infrastructure' of the LDP details information and mapping of the Landscape Character Assessment of Co. Limerick and the designated LCAs in the county. Information and mapping of LCAs is also included in the '*Background Paper'* document of the same name (also called '*Environment, Heritage, Landscape & Green Infrastructure'*), forming part of the LDP. Both documents list, map and describe 10 no. designated LCAs. Of these, 2 no. LCAs are located within the LCA Study Area for the assessment of effects on landscape character; these are (prefixed by 'L' to indicate the county):

- L-LCA-01: Agricultural Lowlands;
- L-LCA-06: Shannon Coastal Zone.

A third designation is given to Limerick City in the LCA assessment of this report, explained in the subsequent paragraph:

- L-City (not a designated LCA, contains 'Urban Character Areas' or UCAs).

The LDP does not designate Limerick City as an LCA, rather it is described as containing multiple UCAs, three of these occur within the LCA Study Area: UCA-1: City, UCA-3: Casteltroy and UCA-5: Caherdavin; however, owing to the distance of Limerick City from the proposed turbines, this LVIA considers 'L-City' to be a landscape area of lower sensitivity and does not deem it necessary to include an impact assessment for individual UCAs within the city. Instead, a comprehensive assessment of landscape and visual effects of the Proposed Project from multiple representative viewpoints in Limerick City is provided, aided by photomontage and photowire visualisations (see Section 13.7: Likely Significant Landscape and Visual Effects).

Co. Tipperary LCAs

The TCDP *Volume 3*: '*Landscape Character Assessment and Schedule of Views and Routes'* contains the Landscape Character Assessment for Co. Tipperary and designates 23 no. LCAs. Of these, 4 no. LCAs are existent within the LVIA Study Area for the assessment of effects on landscape character; these are (prefixed by 'T' to indicate the county):

- T-LCA-3: Nenagh Corridor;
- T-LCA-12: River Shannon – Newport;
- T-LCA-13: Arra Mountains – Lower Lough Derg;
- T-LCA-18: Silvermines – Rearcross.

13.4.2 Landscape Character of the Site

This subsection deals with assessing the localised landscape character specifically of the Proposed Project site, including both the Proposed Wind Farm and the Proposed Grid Connection Route, based on-site visit findings from 2022, 2023 and 2024.

'Landscape character' in this case refers to the distinct and recognisable pattern of elements that occurs consistently in a particular type of landscape, and how people perceive that pattern. It reflects particular combinations of geology, human settlement, land use, landform, soils and vegetation, and creates the particular 'sense of place' found in an area.

The identification of landscape character as outlined in the '*Landscape and Landscape Assessment Consultation Draft of Guidelines for Planning Authorities'* (DoEHLG, 2000) comprises the identification

of primarily physical units (areas defined by landform and landcover) and, where appropriate, of visual units.

Information gathered during the site visits outlined below has informed the following description of the site, with a primary focus on the Proposed Wind Farm. The landscape character of the Proposed Grid Connection Route is discussed below in Section 13.4.2.2: Proposed Grid Connection Route.

13.4.2.1 Site Visit Findings

The Proposed Wind Farm and Proposed Grid Connection Route were visited six times throughout 2022, 2023, and 2024 (dates: 12 August 2022; 24 October 2023; 10 January, 15 March and 25 April 2024). These site visits included assessments of the following:

- Landform & drainage;
- Land use & landcover;
- Views of the proposed turbine locations;
- Land use of Proposed Substation location;
- Walking routes within the Proposed Wind Farm.

13.4.2.1.1 *Landform & Drainage*

The Proposed Wind Farm is located on undulating and relatively steep upland terrain comprising the ridgetops of Glenagalliagh Mt and Lackareagh Mt of the Slieve Bernagh Range in East Clare, forming the eastern boundary of the 'inverted L-shaped' spatial enclosure of Glenomra Valley.

The 2 no. northern proposed turbines, T1 and T2, are situated on the eastern flank of Glenagalliagh Mt in low-intensity agricultural land at mid-elevations relative to Glenomra Valley floor. The remaining 5 no. southern proposed turbines, T3–T7, are situated at higher elevations across the ridgetops and within the topographical 'saddle' between Glenagalliagh Mt and Lackareagh Mt, with T3, T4 and T5 spanning the eastern backside of the ridge, sited in coniferous forestry land, and T6 and T7 below the western side of the ridge, sited in relatively steep low-intensity agricultural land.

Figure 13-7 shows the localised topography of the Proposed Wind Farm, as well as its associated roads and infrastructure. The subsequent Plate 13-4 shows drone imagery looking north-west on the Proposed Wind Farm between Glenagalliagh Mt and Lackareagh Mt peaks, with Glenomra Valley, Kilbane village and Broadford Gap to the west, Slieve Bernagh range in the background, and River Ardcloony Valley immediately to the east; in the plate, the general location of the centre of the site is indicated with an arrow.

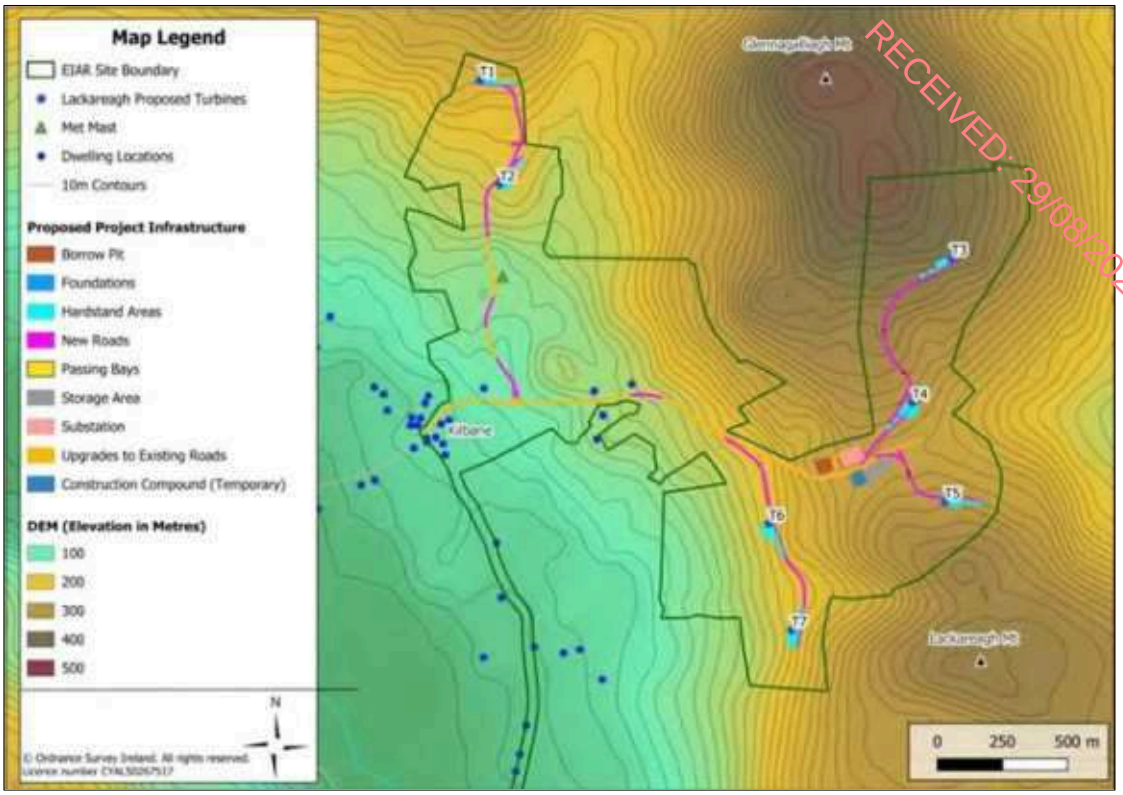


Figure 13-7: Topography of Proposed Wind Farm with Proposed Infrastructure

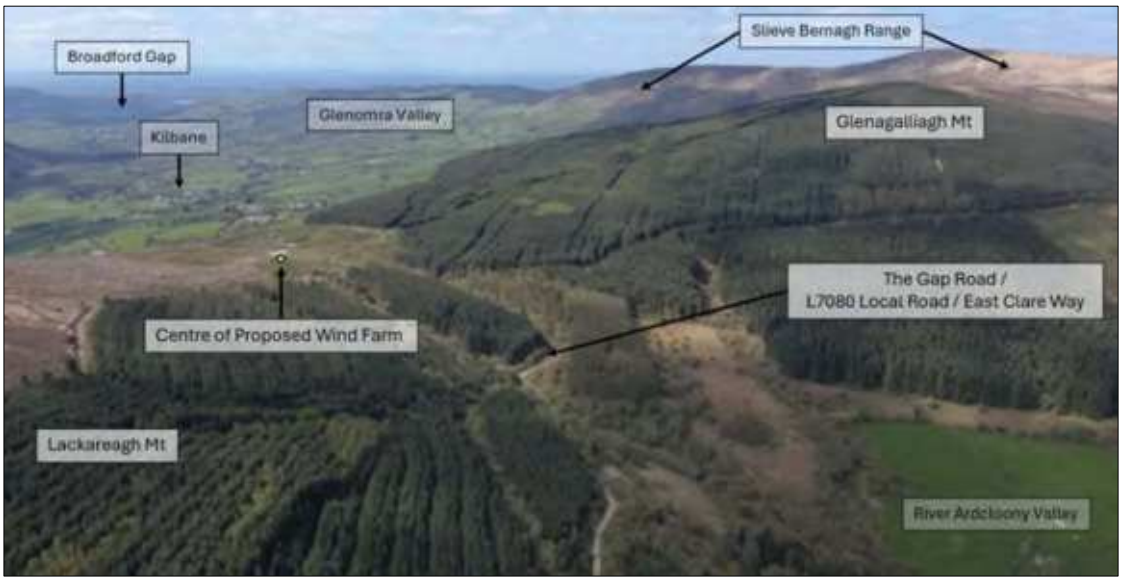


Plate 13-4: Proposed Wind Farm in Relation to Surrounding Mountain Peaks

To the west of the Proposed Wind Farm, the primary watercourses adjacent to the site comprise localised streams between the undulating peaks of Cragnamurragh, Glenagalliagh Mt and Lackareagh Mt. These drain to the south and west, down into the main Glenomra River which drains overall Glenomra Valley, ultimately flowing to the north-west toward Broadford and the Broadford Gap.

Immediately east of the Proposed Wind Farm in the River Ardcloony Valley, outside Glenomra Valley, the River Ardcloony drains between Lackareagh Mt and the eastern peaks of Slieve Bernagh range, down into Lower Lough Derg, ultimately flowing south-east into the River Shannon and Shannon Estuary. A comprehensive description and assessment of drainage is included in Chapter 9: Hydrology and Hydrogeology. The below Plate 13-5 shows aerial imagery of the Proposed Wind Farm in relation

to Glenomra River in Glenomra Valley to the west and River Ardcloony and Lower Lough Derg to the east, as well as highlighting the minor stream drainages throughout the area.

Plate 13-5: Site Drainage: Localised Streams, Glenomra River, River Ardcloony and Lower Lough Derg

13.4.2.1.2 Land Use & Landcover

'Land use' refers to the type of activity taking place on the land (e.g. coniferous forestry, low-intensity agriculture, etc.), while 'landcover' describes the combinations of vegetation and land use that cover the land surface. Landcover comprises the more detailed constituent parts of the landscape and encompasses both natural and man-made features.

The overall landscape character of the Proposed Wind Farm site consists primarily of heavily modified low-intensity agricultural land and coniferous forestry land. Figure 13-8 presents an aerial view of the terrain of the Proposed Wind Farm site and the locations of its northern (T1, T2) and southern turbines (T3–T7), as well as its associated roads and infrastructure. As shown in the figure, the northern turbines T1 and T2 are situated in low-intensity agricultural land, while the southern turbines are situated in a combination of low-intensity agricultural land (T6, T7) and upland coniferous forestry land (T3–T5).

The subsequent Plate 13-6 shows imagery of the low-intensity agricultural land where T1 and T2 are generally sited, while the following Plate 13-7 and Plate 13-8 show the coniferous forestry along the ridgetops of Glenagalliagh Mt and Lackareagh Mt where T3, T4 and T5 are generally sited. Note that all proposed turbines and infrastructure are sited within land-use and landcover types considered to be heavily modified by humans, that is, within fields of low-intensity agricultural land and tracts of coniferous forestry plantation.

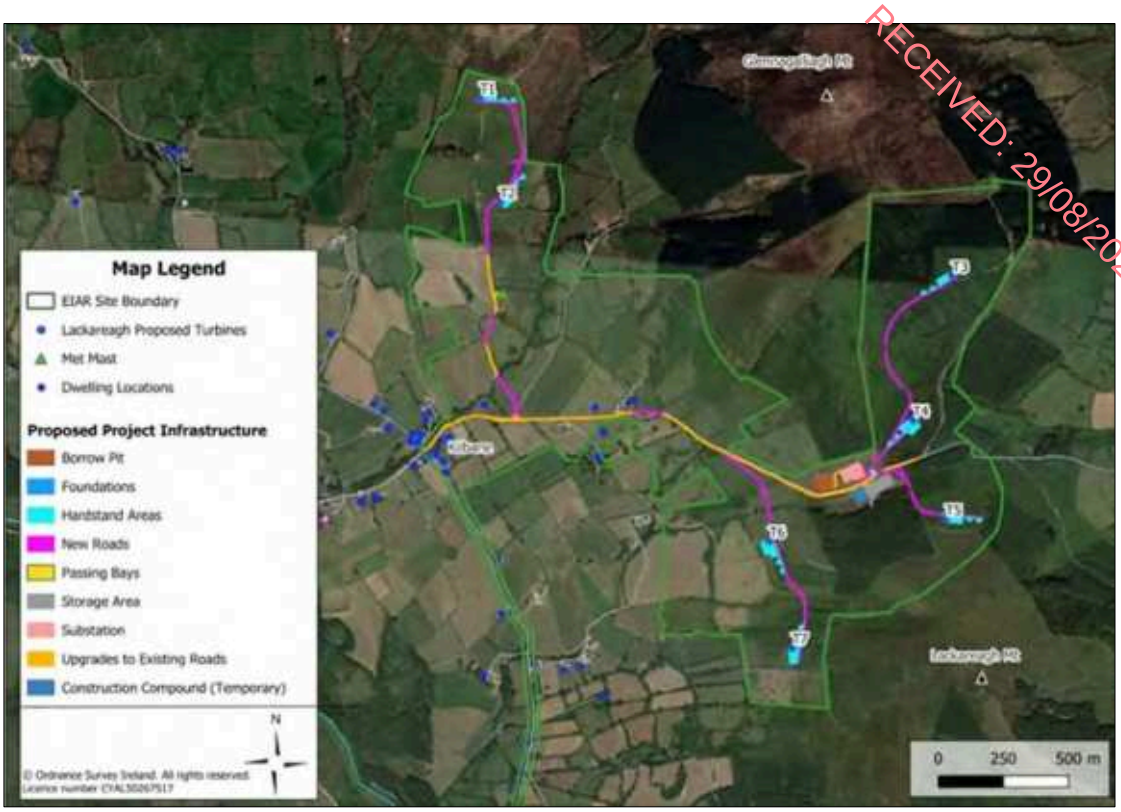


Figure 13-8: Land Use and Landcover of Proposed Wind Farm Site

Plate 13-6: Land-Use at the Site of Northern Turbines: Low-Intensity Agriculture

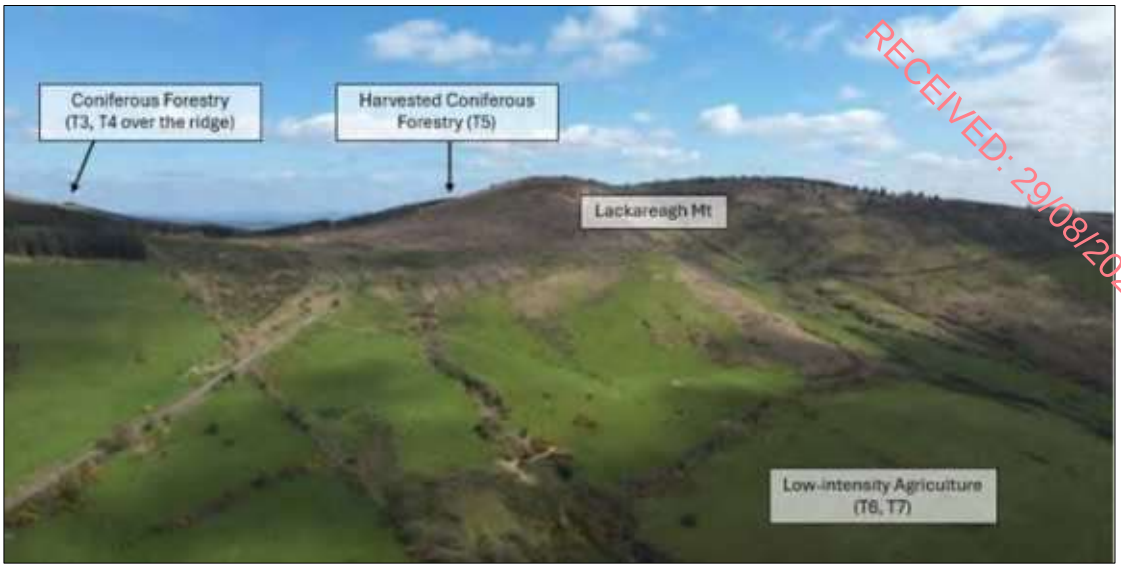


Plate 13-7: Mixed Land-Use at the Site of Southern Turbines: Coniferous Forestry & Low-intensity Agriculture

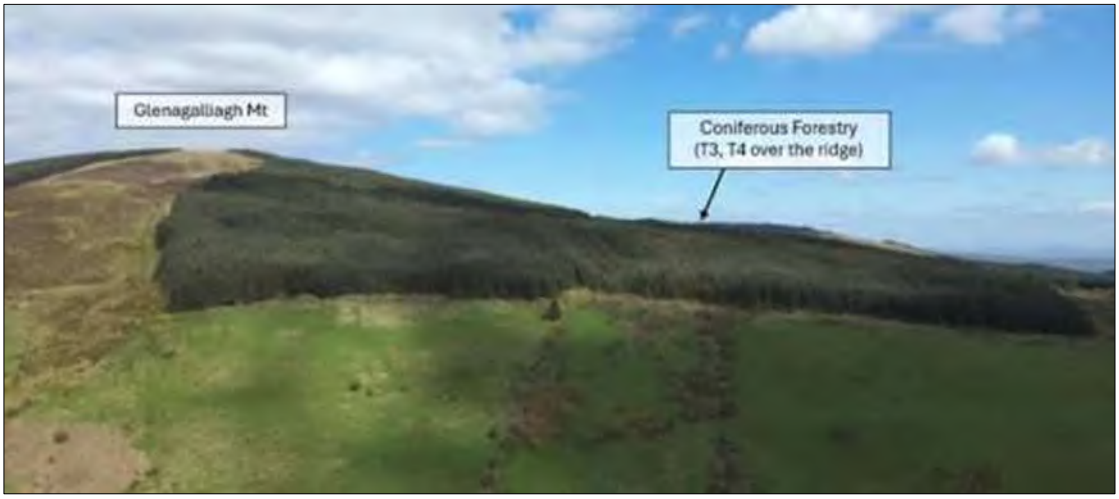


Plate 13-8: Land-Use at Southern Turbines (cont.) on Glenagalliagh Mt: Coniferous Forestry

13.4.2.1.3 Views of Proposed Turbine Locations

The following Plate 13-9 and Plate 13-10 show views from the Proposed Wind Farm site at all turbine locations. As described earlier, the northern turbines T1, T2 and two of the southern turbines, T6 and T7, are sited in low-intensity agricultural land at moderate elevation with moderate slope. The remaining southern turbines T3, T4 and T5 are sited in coniferous forestry land; in these three images, the forestry is overgrown (non-harvested). As shown in the plates, currently, no access roads directly pass or lead to any of the specific turbine locations—all proposed turbines require access roads to be constructed.

Plate 13-9: Views from the Site Locations of Turbines T1, T2 and T3

Plate 13-10: Views from the site Locations of Turbines T4, T5, T6 and T7

13.4.2.1.4 Land Use of Proposed Substation Location

Plate 13-11 below presents the view of the centre of the Proposed Wind Farm, facing north-west from within the EIAR Site Boundary. In the image, the white van is parked at the cross-roads of the centre of the site itself and The Gap Road/L7080, hosting the 2.3km section of East Clare Way; around which the site infrastructure will be built. In the foreground, harvested coniferous forestry can be seen, while non-harvested coniferous forestry comprises the site landscape on the far side of the road. Glenomra Valley can be seen in the distance at the top-left of the image.

The location of the proposed onsite 38kV substation compound and battery-based energy storage system (hereafter, BESS) is identified in the image below, located in the centre of the Proposed Wind Farm in the saddle between the peaks of Glenagalliagh Mt and Lackareagh Mt. Owing to the position of the proposed substation on this elevated vantagepoint, there is potential for visual impact of the proposed substation from visual receptors to the west in Glenomra Valley; a comprehensive assessment

of the effects of the proposed substation including graphic visualisations are included below in Section 13.7: Likely Significant Landscape and Visual Effects.

Plate 13-11: Proposed Wind Farm Site and Area of Proposed Substation Location & BESS

13.4.2.1.5 Walking Route within the Proposed Wind Farm: East Clare Way

One national waymarked walking route, East Clare Way, passes through the Proposed Wind Farm directly between the turbines; this route is the same road as The Gap Road/L7080. East Clare Way is an 180km circular walking trail traversing the wider area of East Clare, through Slieve Bernagh range, Clare Lakeland areas, Lough Graney and Slieve Aughty Mt in the north and Lough Derg, Scarriff and Killaloe in the east. The portion of East Clare Way passing through the Proposed Wind Farm is approximately 2.3km in length, comprising a very small portion (approximately 1.2%) of the entire walking route.

Figure 13-9 below shows an aerial view of the portion of East Clare Way passing through the Proposed Wind Farm and its proximity to the turbines. Proposed turbine T4 is the closest to the walking route, located 150m to the north, while proposed turbines T5 and T6 are located 250m and 230m to the south, respectively.

An 'Informational Lookout Point' is proposed as part of this application, to be built on East Clare Way in the centre of the Proposed Wind Farm as part of the Proposed Project; its location is marked in the figure by a white diamond at the location where the ridgeline forms the approximate transition point between coniferous forestry and low-intensity agricultural lands. A comprehensive description of the proposed Informational Lookout Point is included below in Section 13.7: Likely Significant Landscape and Visual Effects.

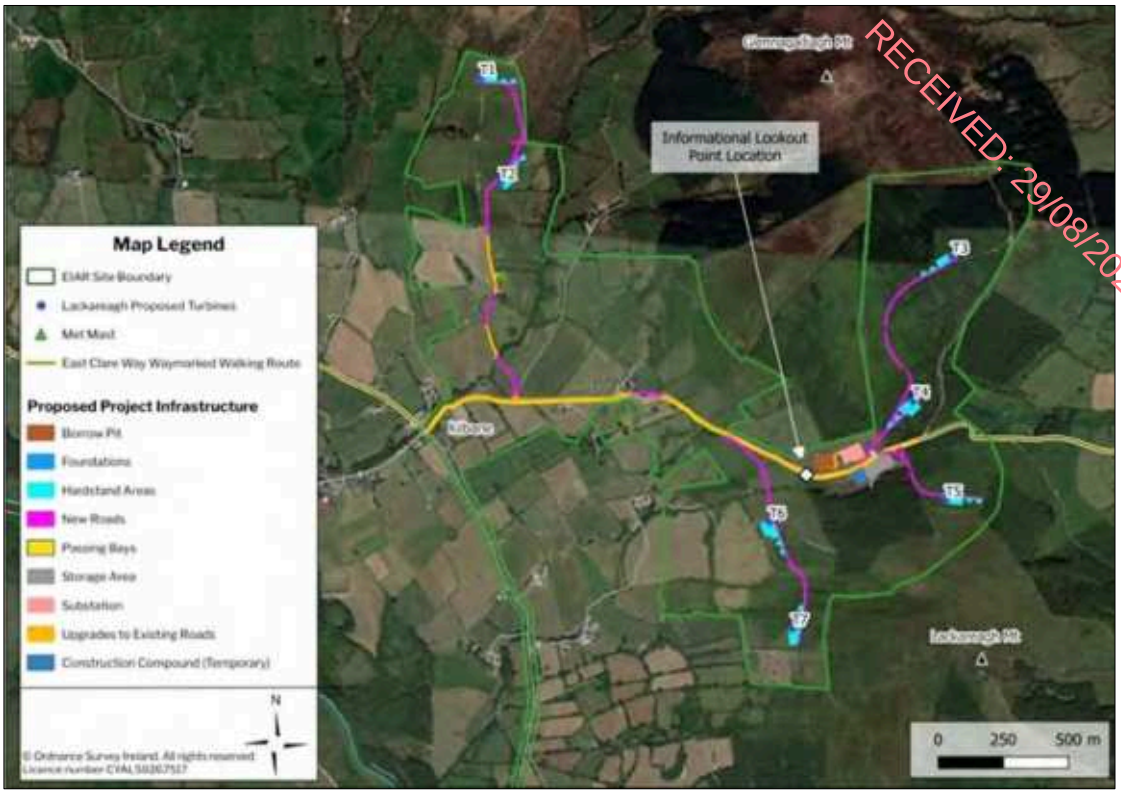


Figure 13-9: Walking Route through Proposed Wind Farm site: East Clare Way

13.4.2.2 Proposed Grid Connection Route

As previously described in Section 13.1.3: Proposed Project Description, it is proposed to connect the onsite 38kV substation compound to the existing Ardnacrusha 110kV substation in the townlands of Ballykeelaun and Castlebank, located south-west of the Proposed Wind Farm via approximately 14.7km of underground cabling.

From the Proposed Wind Farm site to Ardnacrusha 110kV substation, the Proposed Grid Connection Route predominantly follows the local road network through a rural landscape characterised by agricultural lands and passes over several waterways, at which the grid connection will be housed in protective casings installed on the sides or undersides of crossing structures. Near Ardnacrusha, the underground Proposed Grid Connection Route cabling will come in proximity to residential receptors arranged alongside the local road network. The following Plate 13-12 shows an aerial view of the landcover surrounding the termination of the Proposed Grid Connection Route at Ardnacrusha 110kV substation.

Plate 13-12: Aerial View of Proposed Grid Connection Route Termination at the Existing Ardnacrusha 110kV Substation

13.4.3 Landscape Sensitivity of the Site: Landscape Value & Susceptibility to Change

Landscape 'Value' was assessed in order to determine the landscape 'Sensitivity' of the Proposed Project site as well as the wider landscape setting and establish the capacity of the immediate landscape in which the Proposed Project will be built, as is prescribed by best practise guidance (GLVIA3, LI & IEMA, 2013, p.80):

> *'...as part of the baseline description the value of the potentially affected landscape should be established'.*

Comprehension of the landscape Value and landscape 'Susceptibility to Change' (to wind farm development) enables determination of the sensitivity of the landscape at a micro-level (meaning, the landscape of the Proposed Project site) and its capacity to absorb the infrastructure of a wind farm development.

The table below considers the collective appraisal of seven indicators of landscape Value in the LVIA guidance (listed below). Landscape Value and Susceptibility to Change are then combined to assign an overall Sensitivity rating of the site.

The determination of landscape Value takes into consideration the scenic amenity designations and landscape sensitivity and value designations found in the local landscape policy, as well as other indications of landscape value attached to undesignated landscapes.
Below,

Table 13-5 describes the following seven indicators appraised collectively to establish landscape Value and Susceptibility to Change, which were then considered in forming the overall landscape Sensitivity classification of the site:

- Landscape designations (LCA setting, Scenic Routes and Views, amenity areas, etc.);
- Quality/condition of landscape elements;
- Scenic/aesthetic qualities;
- Rarity/conversation status;
- Wildness/naturalness;
- Recreational value;
- Cultural meaning/associations.

The ratings of Value and Susceptibility range from High, Medium, or Low, while the overall Sensitivity is assigned as **Very High**, **High**, **Medium** or **Low**, following criteria outlined in the full detailed methodology, presented in *Appendix 13-1: LVIA Methodology* (Section 1.7: Assessing Landscape Effects).

Table 13-5: Analysis of Indicators of Landscape Value and Susceptibility to Change

Indicator	Description
Landscape Designations	Designations in the CCDP and CWES include: (i) LCA-8 Slieve Bernagh Uplands, (ii) 'Open to Consideration' for wind energy development and (iii) 'Settled Landscape'. Landscape character type according to the WEDGs (DoEHLG, 2006) and Draft Revised WEDGs (DoHPLG, 2019): 'Transitional Marginal Landscape'. As per the CWES, LCA-8 Slieve Bernagh Uplands has the lowest sensitivity rating for LCAs in relation to wind energy development in Co. Clare. In addition, the design of the Proposed Wind Farm site takes into account its location being not only in an area designated as 'Open to Consideration' but also being in very close proximity to landscapes designated as 'Strategic' and 'Acceptable in Principle'. Further, the Clare's Living Landscape category of 'Settled Landscape' has an '*envisaged usage*' of '*energy*'. Lastly, the site and its immediate setting are not part of any 'High' sensitivity designated Co. Clare 'Heritage Landscape'. According to the WEDGs and Draft Revised WEDGs, the Proposed Wind Farm meets the recommended siting and design guidance with respect to appropriate location, spatial extent, spacing, layout and height of the proposed turbines for Transitional Marginal Landscape, as described in Section 13.4.4 of this Chapter.
Landscape Elements Quality/Condition	Definition: Refers to the physical state of the landscape of the Proposed Wind Farm and the condition of each of its individual elements. Due to its nature as coniferous forestry and low-intensity agriculture, the site is considered a modified working landscape. The condition of the landscape is degraded in several locations within the site due to the forestry and farmland operations.
Scenic/Aesthetic Qualities	Qualities include: The scenic spatial enclosure of Glenomra Valley with commanding views focussed away from the site, both locally through the valley lowlands as well as in the distance looking north to Slieve Bernagh range, north-west toward Broadford Gap, west toward Formoyle More, Knockshanvo and Knockanuarha, and south toward Limerick City outside Glenomra Valley. The Proposed Wind Farm itself has some rural aesthetic qualities given the lack of buildings and infrastructure present on the site, although it is an area of coniferous forestry and low-intensity agricultural land. The wider landscape setting has some high-value scenic attributes and aesthetic qualities such as the views through Glenomra Valley and those towards Limerick City. While the site has some natural aesthetic qualities given its remote location near the peak of Glenagalliagh Mt, the majority of views are directed away from the site itself and the focal point of views are in the distance to the other side of Glenomra Valley, thus, the proposed turbines

Indicator	Description
	are visually localised to the site and do not compromise the aesthetic quality and integrity of the open long-ranging views from within the site.
Rarity or Conservation Interests	There are no designated areas of ecological conservation within the Proposed Wind Farm; however, Slieve Bernagh Bog SAC (Special Area of Conservation) is located immediately north of the EIAR Site Boundary. In addition, two areas of wet heath and upland blanket bog habitats are located at the highest elevations within the EIAR Site Boundary at the Proposed Wind Farm (Lackareagh Mt peak to the south and Glenagalliagh Mt peak to the north), thereby adding ecological value to the landscape of the site; although it is noted that no infrastructure is proposed in these areas. Lastly, in the lower-elevation low-intensity agricultural landscape of the Proposed Wind Farm where T1, T2, T6 and T7 are sited, hedgerows and mature boundary vegetation along field boundaries form biodiversity corridors which hold some ecological value. A comprehensive assessment of the ecology of the site is included in Chapter 6: Biodiversity and proposed enhancement measures are included in *Appendix 6-4: Biodiversity Management and Enhancement Plan* of this EIAR.
Wildness/Naturalness	Definition: Refers to the present degree of human interference on the landscape of the Proposed Wind Farm. There is a sense of wildness associated with the relatively remote and unpopulated nature of the upland landscape around some of the southern turbines and rural nature of the northern turbines. However, the entire site of the Proposed Wind Farm comprises highly managed areas of coniferous forestry plantation (T3–T5) and low-intensity agricultural land (T1, T2, T6 and T7), thus the entire site is considered to be a landscape highly modified by human interference.
Recreational Value	The Proposed Wind Farm contains 1 no. recreational feature: the East Clare Way waymarked walking trail, which passes through the site between the turbines. The 2.3km section of East Clare Way passing directly through the Proposed Wind Farm comprises a very small percentage (1.2%) of the entire trail length and is not considered a well-known or well-accessed part of the trail, as described previously in Section 13.4.2.1: Site Visit Findings. Further, this portion of the trail also follows The Gap Road/L7080 and is therefore subject to local residential traffic activities.
Cultural Meaning/ Associations	There are no cultural heritage meanings or associations directly connected to the Proposed Wind Farm. On the Proposed Grid Connection Route, 1 no. additional feature, Blackwater Bridge, is a protected structure (RPS no. 650) within the Proposed Project site. A specific assessment of the Proposed Project on monuments and structures as well as the general Cultural Heritage value of the site and wider landscape setting is included in Chapter 14: Cultural Heritage.

Considering the collective appraisal of the indicators detailed in the above table, this LVIA determines the following ratings for the Wind Farm site:

- Landscape Value = Low to Medium;
- Landscape Susceptibility to Change = Low;
- **Overall Sensitivity = Low.**

Rationale: While the site holds generally high aesthetic value as a remote mountainous region and contains a small portion of the East Clare Way walking route, its highly modified nature as coniferous forestry and low-intensity agricultural farmland, combined with non-signage of archaeological and recreational sites, its degree of landscape degradation and directed wider landscape views away from the site, render its overall landscape sensitivity as 'Low'.

13.4.4 Landscape Character from Wind Energy Development Guidelines (WEDGs)

This section considers the context of the Proposed Project based on siting and design guidance in the WEDGs (DoEHLG, 2006) and Draft Revised WEDGs (DoHPLG, 2019) with respect to landscape and visual effects. Here, we identify the appropriate landscape character type defined by the WEDGs and describe the landscape type of the Proposed Wind Farm in that context.

Section 6.9 (*6.10*) of the WEDGs (Draft Revised WEDGs) is called *'Landscape Character Types as a Basis for Guidelines'* and offers guidance for the siting and design specifically of wind energy developments in multiple landscape contexts, defining six landscape character types representing most situations where wind turbines may be proposed. These are:

- 'Mountain Moorland'
- 'Hilly and Flat Farmland'
- 'Flat Peatland'
- **'Transitional Marginal Landscape' – category selected by this assessment**
- 'Urban/Industrial'
- 'Coastal'

The guidance is intended to be indicative and general and notes that it represents the 'best fit' solutions to likely situations. The guidelines note that, in the case where a wind energy development is located in one landscape character type but is visible from another, it will be necessary to decide which of the landscape types more strongly influences the approach adopted for the LVIA.

Based on information gathered during site visits (see previous section) and visualisations presented in the *EIAR Volume 2: Photomontage Booklet*, as well as from other mapping and imagery present in this Chapter, this LVIA selects the 'Transitional Marginal Landscape' character type as best representative of the landscape in which the proposed turbines are located. Therefore, the best practice siting and design strategies prescribed for this landscape character type (DoEHLG, 2006) are presented below, which were considered during the design of the Proposed Project.

'TRANSITIONAL MARGINAL LANDSCAPE'

The key characteristics of Transitional Marginal Landscape as stated in the WEDGs (DoEHLG, 2006, p.59) and Draft Revised WEDGs (DoHPLG, 2019, p.110) are:

- *'Comprises something of both mountain moorland and farmland, thus involving a mix of small fields, tight hedgerows and shelterbelts;*
- *May include relatively rugged and rocky terrain, and thus a reasonable degree of spatial enclosure;*

- *Higher ground tends to be wet and boggy. Lower areas are usually cultivated and managed as fields;*
- *Houses and farmsteads are usually fairly common; and*
- *This landscape type bridges the organised and intensively managed farmland and the more naturalistic moorland'.*

This LVIA considers the importance of the following design consideration for Transitional Marginal Landscapes according to the Draft Revised WEDGs (DoHPLG, 2019, p.111):

> *'The essential key here is one of respect for scale and human activities. These landscapes are often relatively small-scale due to spatial enclosure provided by hills and wind energy developments should respond sensitively to this intimacy'.*

Siting and design guidance for the following six considerations of this landscape type according to the WEDGs and with respect to the development are outlined below: **location**, **spatial extent**, **spacing**, **layout**, **height** and **cumulative effect**.

All relevant 'guidance' quotations shown below are taken from the WEDGs (DoEHLG, 2006, p.59–61) and Draft Revised WEDGs (DoHPLG, 2019, p.111–113).

Location

From the guidance (ref. above):

> *'As wind energy developments, for reasons of commercial viability, will typically be located on ridges and peaks, a clear visual separation will be achieved from the complexity of lower ground. However, wind energy developments might also be located at lower levels in extensive areas of this landscape type, where they will be perceived against a relatively complex backdrop. In these situations, it is important to minimise visual confusion such as the crossing by blade sets of skylines, buildings, utility lines and varied landcover'.*

In terms of **location,** site selection was at the forefront of the Proposed Project design. In accordance with the guidance quoted above, the proposed turbines are all sited on or near peaks of elevation and are clearly separated visually from the complexity of the lower ground. Further, the relative distance between the northern and southern turbines ensures that visual confusion is minimised, such as blade-sets crossing skylines or varied landcover.

Siting for the infrastructure (including the proposed turbines) of the Proposed Project at its current location has resulted in sufficient distance from the greatest number of receptors within the nearby area. In terms of separation distance, the proposed turbines are also set back a reasonable distance from dwellings, adhering to the >500m set-back distance from residential receptors recommended in the WEDGS (DoEHLG, 2006) and having regard to the recommended 4-times-tip-height set-back distance from 'Residential Visual Amenity' as detailed in the Draft Revised WEDGs (DoHPLG, 2019, p.129):

> *'...[A] setback distance for visual amenity purposes of 4 times the tip height should apply between a wind turbine and the nearest point of the curtilage of any residential property in the vicinity of the proposed development, subject to a mandatory minimum setback of 500 metres'.*

Spatial Extent

From the guidance (ref. above):

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

Further, the guidance provides three examples of imagery, of which *Examples 4(b)* and *4(c)* describe the appropriateness of irregular spacing/random layout and visual ambivalence between two landscape types:

> *'4(b) Wind energy development with irregular spacing and random layout - is more appropriate given the relative undulation of the setting.*
>
> *4(c) Large wind energy development straddling two landscape character types within the same visual unit – this creates a visual ambivalence and, thus, negative tension between the two character types involved'.*

In terms of **spatial extent** within each group of turbines (northern and southern), the proposed turbines are sited relatively close together, meaning that turbines T1 and T2 (northern) are relatively close to each other and turbines T3, T4, T5, T6 and T7 (southern) are relatively close to each other. This aligns with the guidance stated above.

The visual coherence of the northern and southern turbines relative to each other can be described as follows; the northern turbines are visually separated from the southern turbines, in that the northern turbines are somewhat separated from the southern turbines and are situated in low-intensity agricultural land at the top of a slope (rather than along a ridgetop or at the bottom of a ridge). Within the southern turbines, T6 and T7 are also situated in low-intensity agricultural land, while T3, T4, and T5 are situated in a different landcover type, i.e. coniferous forestry.

The visual separation between the northern and southern turbines is somewhat noticeable when viewed from within Glenomra Valley and presents a small degree of visual disconnection, causing the development to have variable degrees of visual coherence versus separation from different vantage points within the valley; refer to later Section 13.7.3.2.2: Scenic Route SR-26 at Cloonyconry More & Ballyquin Beg which discusses visual coherence/separation as seen from the scenic route and provides imagery examples. Despite the small degree of visual disconnection, this LVIA emphasises that the Proposed Project largely aligns with most siting and design of the WEDGs as noted above.

Spacing

From the guidance (ref. above):

> *'All options are possible, depending on the actual landscape characteristics. However, irregular spacing is likely to be most appropriate, given the complexity of landform and land cover typical of these landscapes, and the absence of extensive swaths of fields of regular and rectilinear pattern'.*

In terms of **spacing,** the proposed turbines are sited at unevenly spaced locations in a somewhat clustered layout. Furthermore, as they are sited on or around peaks in elevation and within areas of coniferous forestry and low-intensity agricultural land, it is considered that the spacing of the turbines responds appropriately to the landcover of the site given the semi-clustered nature of the turbines in the northern and southern groups around the ridgetop of Glenagalliah Mt and Lackareagh Mt.

Layout

From the guidance (ref. above):

> *'The likely location of wind energy developments on ridges suggests a linear or staggered linear layout whereas on broader hilltops they could be linear or clustered. Grid layouts are less likely to succeed aesthetically unless there is an open continuity of similar landcover'.*

In terms of **layout**, the proposed turbines within the northern and southern groups are themselves arranged in a staggered layout at the base and over the ridgetop between Glenagalliagh Mt and Lackareagh Mt, in accordance with the guidance quoted above.

Height

From the guidance (ref. above):

> *'In small-scaled enclosed areas, short turbines are preferred in order to avoid their spatial dominance and to ensure visual balance. However, where the upper ground is relatively open and visually extensive, taller turbines may be more appropriate'.*

In terms of **height**, the proposed turbines are sited within relatively open and extensive upper ground on the upper slopes of Glenomra Valley, where they appear as tall vertical elements within the landscape, appropriately scaled in accordance with the guidance quoted above.

Cumulative Effect

From the guidance (ref. above):

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

In terms of **cumulative effect**, this LVIA anticipates that, in a future baseline scenario, cumulative landscape and visual effects will arise owing to the known status of the following developments located in the Slieve Bernagh Uplands LCA-8:

- Permitted Fahy Beg Wind Farm;
- Permitted Carrownagowan Wind Farm;
- Proposed Knockshanvo Wind Farm;
- Proposed Oatfield Wind Farm;
- As well as the Proposed Ballycar Wind Farm, located outside Glenomra Valley and straddling the border of Slieve Bernagh Uplands and the adjacent River Shannon Farmland LCA-9 of Co. Clare.

The locations of these other existing, permitted and proposed wind energy developments in the LVIA Study Area are identified and mapped in Section 13.6: Cumulative Context: Other Wind Farms. A full comprehensive assessment of likely cumulative landscape and visual effects is included in that section as well as in the associated impact assessment appendices. A key point from the relevant findings is that cumulative landscape and visual effects are limited to the relatively small number of receptors within the Glenomra Valley itself (comprising the Transitional Marginal Landscape type) due to the spatial enclosure provided by the well-defined ridgelines and landform characteristics. A full investigation of cumulative effects is presented below in Section 13.7.3.5: Cumulative Effects.

13.4.5 Landscape Character of Wider Setting

First, this section briefly describes and provides imagery of the landscape character of the wider LVIA Study Area, beyond the Proposed Project site and including the surrounding settlements.

Second, utilising the (15km) LCA Study Area, this section provides an initial analysis of designated LCAs from the county-level policy Landscape Character Assessments outlined previously (recall above Section 13.4.1: Landscape Designations and Policy Context). Here we map and analyse the potential landscape effects on individual LCAs in Co. Clare, Limerick and Tipperary within the LVIA Study Area using ZTV mapping with an aim of scoping LCAs either in or out from impact assessment.

13.4.5.1 Description and Imagery

Character of the Wider Setting. 'Landscape character' in this case refers to the distinct, recognisable, and consistent pattern of elements that occur in a particular landscape and how it is perceived. Herein, the landscape character is partially described in relation to designated LCAs mapped below in Section 13.4.5.2: Preliminary Analysis: LCAs.

The landscape to the north-east of the Proposed Wind Farm site comprises Lough Derg Basin (C-LCA-7), with rural woodlands and shorelines and long-ranging views across Lough Derg to Arra Mountains (T-LCA-13) in Co. Tipperary (to the north-east) and Slieve Bernagh (C-LCA-8) in Co. Clare (to the south-west). At the far northern-most region of the LVIA Study Area, the landscape comprises the open and forested rolling moorland hills of Slieve Aughty Uplands (C-LCA-5) and undulating farmland and forested hills surrounding Lough Graney (C-LCA-6). The landscape surrounding the site to the north-west comprises the mosaic of loughs, farmlands, limestone outcrops and drumlins of the East Clare Loughlands (C-LCA-11), ranging into the lower-elevation drumlins, farmed green hills and hedgerows of Tulla Drumlin Farmlands (C-LCA-12).

At the northwest corner of Glenomra Valley, Broadford Gap is situated between the foothills of the Slieve Bernagh range and Knockanuarha within the East Clare Loughlands, with Glenomra River passing through into a lowland region known as Doon Lough and continuing as Owengarney River flowing south-east into the undulating landscape of Sixmilebridge Farmlands (C-LCA-10). Plate 13-13 below shows the view through Glenomra Valley looking west towards Broadford Gap.

Plate 13-13: View facing West from Glenagalliagh Mt towards Broadford Gap, Co. Clare

To the east of the Proposed Wind Farm site, River Ardcloony Valley is bordered by Lackareagh Mt to the west and Ballykildea Mt to the east (part of Slieve Bernagh range). The valley opens up to the south-east toward undulating, agricultural lowlands of the River Shannon valley which spans Counties Clare, Limerick and Tipperary and features the Lower Lough Derg, bordered to the south by the mountain range in Tipperary featuring Keeper Hill and its associated peaks. Below, Plate 13-14 shows the view through River Ardcloony Valley looking south-east towards Lower Lough Derg and Keeper Hill.

Plate 13-14: View facing East through River Ardcloony Valley toward Lower Lough Derg and Keeper Hill, Co. Tipperary

Surrounding Settlements. The closest settlement to the Proposed Wind Farm site is Kilbane village at approximately 950m from the nearest turbine (T2), situated at the crossroads of The Gap Road/L7080 and L3022-8, just inside the lower south-east corner of the EIAR Site Boundary. Kilbane is comprised of sparse housing and low-intensity agricultural land, with minimal built infrastructure. Plate 13-15 shows the view of the main cross-roads of The Gap Road/L7080 and L3022-8 in Kilbane village.

Plate 13-15: View from within Kilbane Village, facing East

At the north-west corner of Glenomra Valley, the settlement of Broadford is situated in the lowlands near Broadford Gap and consists of developed residential neighbourhoods, a modern GAA pitch and small downtown region with buildings. Plate 13-16 shows the view of downtown streets in Broadford.

Plate 13-16: View from Broadford facing South-East (image: Google Earth)

South of Glenomra Valley, the settlements of Bridgetown and O'Briensbridge are situated within 1km of each other; both are small villages situated just outside the southern point of Glenomra Valley. Bridgetown is situated along the SR-26/R466 and consists of low-lying commercial buildings, schools, churches and residential housing. O'Briensbridge is located farther to the south, on a strip of land between two water bodies: the Headrace Canal and River Shannon; the canal is constructed off the river to facilitate water flow from Lower Lough Derg to the Ardnacrusha 110kV Substation further to

the south-west. Plate 13-17 and Plate 13-18 show views from within Bridgetown at SR-26/R466 junction with local roads and O'Briensbridge along the River Shannon, respectively.

Plate 13-17: View from Bridgetown facing North along SR-26/R466

Plate 13-18: View from O'Briensbridge facing East along the River Shannon (image: Google Earth)

Approximately 5km east of the Proposed Wind Farm, the county hub town of Killaloe is situated on the River Shannon where the river connects between Lough Derg to the north and Lower Lough Derg to the south. Killaloe features many residences, churches, schools, parks and buildings with an established downtown area. Plate 13-19 shows a view from within Killaloe along the east bank of the River Shannon as it passes through the town.

Plate 13-19: View from Killaoe facing North-West along the River Shannon

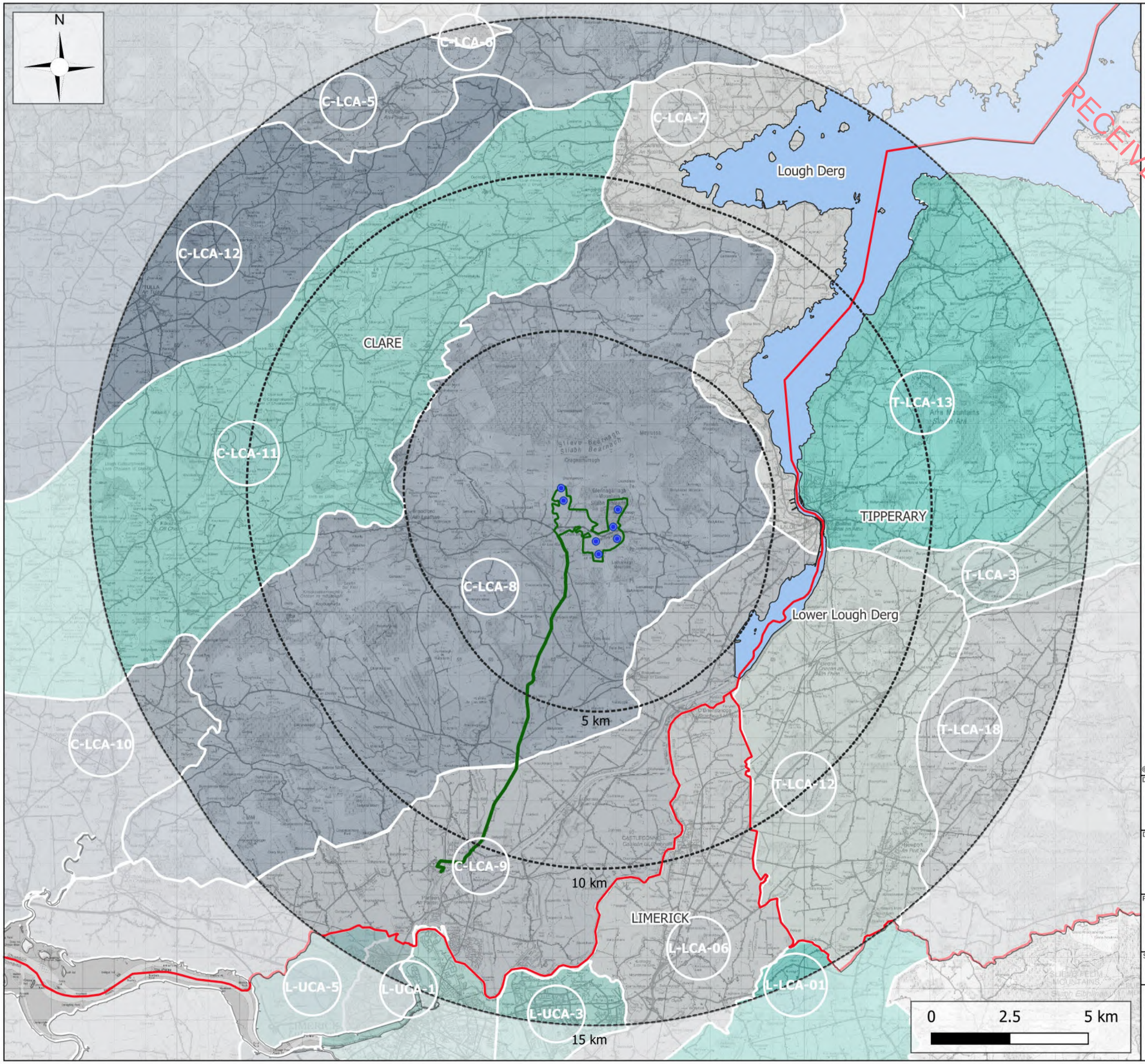
13.4.5.2 Preliminary Analysis: Landscape Character Areas (LCAs)

13.4.5.2.1 *Maps: LCAs and ZTV*

In this LVIA, a total of 14 no. LCAs were identified in Counties Clare, Limerick and Tipperary within the 15km LCA Study Area for assessment of effects on designated LCAs. These are:

- C-LCA-5: Slieve Aughty Uplands;
- C-LCA-6: Lough Graney;
- C-LCA-7: Lough Derg Basin;
- **C-LCA-8: Slieve Bernagh Uplands (contains all proposed turbines)**;
- C-LCA-9: River Shannon Farmland;
- C-LCA-10: Sixmilebridge Farmland;
- C-LCA-11: East Clare Loughlands;
- C-LCA-12: Tulla Drumlin Farmland;
- L-LCA-01: Agricultural Lowlands;
- L-LCA-06: Shannon Coastal Zone;
- T-LCA-3: Nenagh Corridor;
- T-LCA-12: River Shannon – Newport;
- T-LCA-13: Arra Mountains – Lower Lough Derg;
- T-LCA-18: Silvermines – Rearcross.

Below, Figure 13-10 presents a map of all identified LCAs within the LCA Study Area, and the subsequent Figure 13-11 shows the same map overlain with the ZTV of the proposed turbines.



Map Legend

- LCA Study Area (15km Boundary)
- Ireland OSi National County Borders
- EIAR Site Boundary
- Lackareagh Proposed Turbines

Co. Clare LCAs

- C-LCA-5: Slieve Aughty Uplands
- C-LCA-6: Lough Graney
- C-LCA-7: Lough Derg Basin
- C-LCA-8: Slieve Bernagh Uplands
- C-LCA-9: River Shannon Farmalnd
- C-LCA-10: Sixmilebridge Farmland
- C-LCA-11: East Clare Loughlands
- C-LCA-12: Tulla Drumlin Farmland

Co. Limerick LCAs

- L-LCA-01: Agricultural Lowlands
- L-LCA-06: Shannon ICZM
- L-City UCA-1: City
- L-City UCA-3: Castletroy
- L-City UCA-5: Caherdavin

Co. Tipperary LCAs

- T-LCA-3: Nenagh Corridor
- T-LCA-12: River Shannon - Newport
- T-LCA-13: Arra Mountains - Lower Lough Derg
- T-LCA-18: Silvermines - Rearcross

Drawing No.

Figure 13-10

Drawing Title

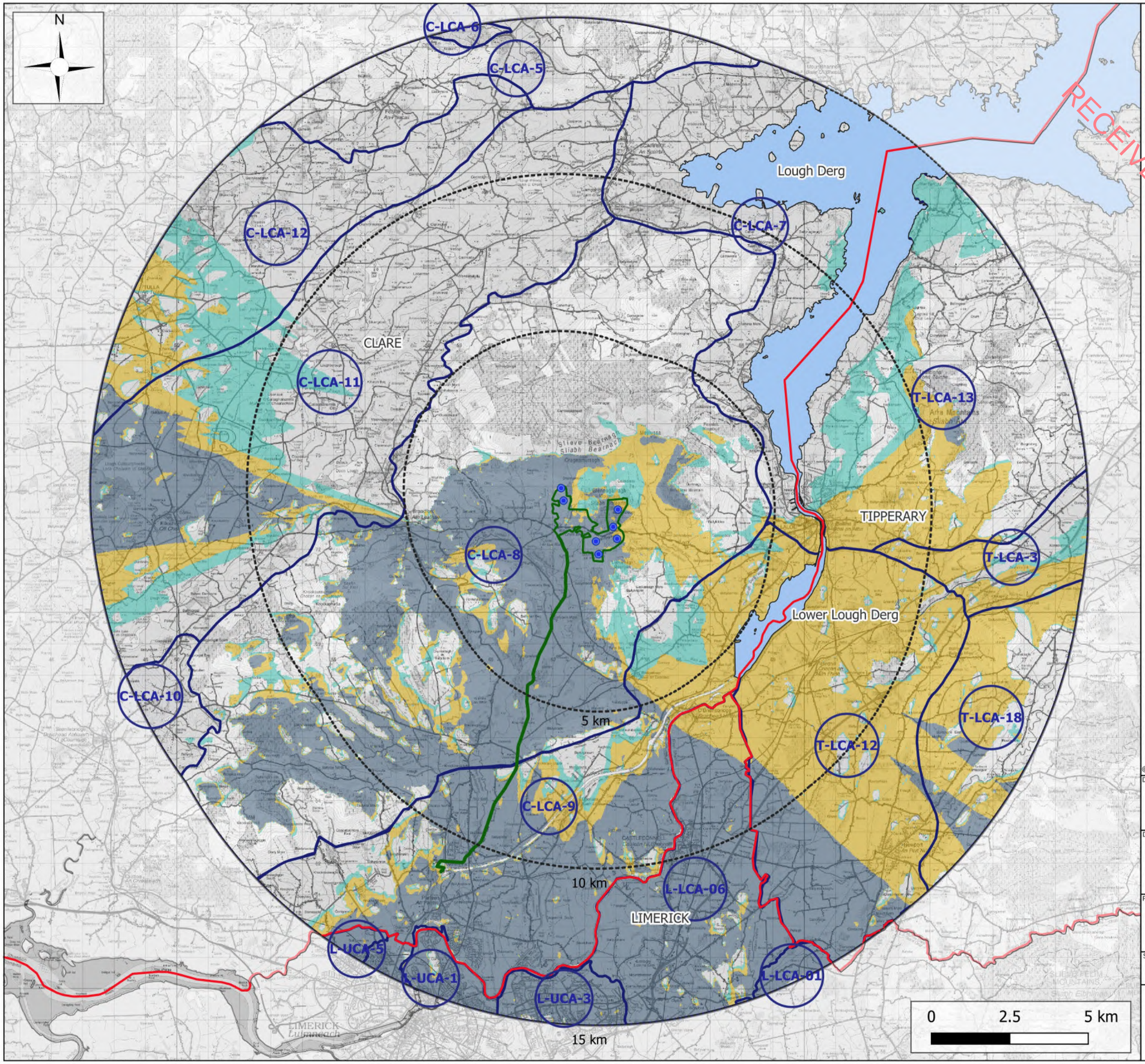
Designated Landscape Character Areas (LCAs) Map

Project Title

Lackareagh Wind Farm

Scale	Project No.	Date	Drawn By	Checked By
1:117,000	220245	01.08.2024	RS	NMH

MKO



Map Legend

- LCA Study Area (15km Boundary)
- Ireland OSi National County Borders
- County LCA Borders
- EIAR Site Boundary
- Lackareagh Proposed Turbines

Zone of Theoretical Visibility (ZTV)

- 1-2 Turbines Theoretically Visible
- 3-4 Turbines Theoretically Visible
- 5-7 Turbines Theoretically Visible

Drawing No.

Figure 13-11

Drawing Title

ZTV & Designated LCAs Map

Project Title

Lackareagh Wind Farm

Scale	Project No.	Date	Drawn By	Checked By
1:117,000	220245	01.08.2024	RS	NMH

MKO

13.4.5.2.2 LCA Preliminary Analysis: Scoping LCAs In or Out for further Assessment

Below, Table 13-6 lists the preliminary analysis of each LCA, describing theoretical visibility of the proposed turbines from within each LCA according to ZTV mapping, the actual visibility according to on-site visibility appraisals, and whether the LCA is scoped in for full assessment. The subsequent Table 13-7 and Table 13-8 below list the scoping results of the preliminary analysis, and the comprehensive assessment is detailed in the following later section of this Chapter and one appendix:

- Section 13.7: Likely Significant Landscape and Visual Effects;
- *Appendix 13-2: LCA Assessment Tables.*

It should be noted that those LCAs which are scoped out from further assessment indicate that only a very small portion of the LCA is located in the LCA Study Area and/or has little to no theoretical visibility according to ZTV mapping.

Table 13-6: Preliminary Assessment of LCAs in the LVIA Study Area

Map Ref.	LCA	Theoretical Visibility from ZTV Mapping	Actual Visibility from site Visits	Scoped In
C-LCA-5	Slieve Aughty Uplands	None.	None.	No.
C-LCA-6	Lough Graney	None.	None.	No.
C-LCA-7	Lough Derg Basin	Primarily None, with one exception: Within 5–10km, theoretical visibility is partial (3–4 turbines) in one small area at the south tip.	Visibility from the south tip of the LCA is assessed from a representative viewpoint in Killaloe, but as the majority of the LCA has no visibility, it is not assessed for landscape impacts to the LCA.	No.
C-LCA-8	Slieve Bernagh Uplands	Contains all proposed turbines.	Contains all proposed turbines.	Yes.
C-LCA-9	River Shannon Farmland	Within 5–10km, theoretical visibility is primarily full (5–7 turbines) in the south portion, and partial (3–4) in the north portion. Intermittent areas of no theoretical visibility owing to topographical screening by ridges and mountains.	Visibility will occur from elevated vantage points in the LCA, although far less than indicated by the ZTV.	Yes.
C-LCA-10	Sixmilebridge Farmland	None.	None.	No.

Map Ref.	LCA	Theoretical Visibility from ZTV Mapping	Actual Visibility from site Visits	Scoped In
C-LCA-11	East Clare Loughlands	Primarily none, with the exception of a cone-shaped area directed to the lower east portion of the LCA, in which theoretical visibility ranges from intermittent in Broadford Gap up to full in the area of Cullaunyheeda Lake.	In the intermittent-visibility area, visibility is unlikely due to topographical screening of the drumlin landscape, but views may be existent within the zone of full theoretical visibility when looking in towards Glenomra Valley.	Yes.
C-LCA-12	Tulla Drumlin Farmland	Primarily none, with the exception of intermittent partial (3–4 turbines) theoretical visibility in the south tip.	Visibility is far less than indicated by the ZTV Map, owing to distance from the site and screening by the drumlin landscape.	No.
L-LCA-01	Agricultural lowlands	Between 15–20km, theoretical visibility is full (5–7 turbines) for one very small (<2km^2) portion of the LCA existent in the study area.	Visibility is not likely owing to the distance from the site and nature of the flat, low-lying landscape.	No.
L-LCA-06	Shannon Coastal Zone (or ICZM)	Within 5–10km, primarily full (5–7 turbines) theoretical visibility, with one small area at the north tip of partial (3–4) theoretical visibility.	Visibility is likely to be much less than indicated owing to distance from the site. For this report, in addition to the LCA assessment, the north tip is assessed from a representative viewpoint in O'Briensbridge.	Yes.
L-City	Limerick City, comprising UCAs 1, 3, 5	Primarily full.	Visibility will occur from a few occasional elevated vantage points throughout the city, although far less than indicated by the ZTV due to visual screening by buildings and great distance from the site.	No. Limerick City is not assessed as an LCA, only as visual receptor.
T-LCA-3	Nenagh Corridor	Primarily between 10–15km, theoretical visibility ranges evenly from none to partial (3–4 turbines). The portion of LCA existent in the study area is relatively small.	Visibility is likely to be very limited in this LCA due to great distance and natural screening factors.	No.

Map Ref.	LCA	Theoretical Visibility from ZTV Mapping	Actual Visibility from site Visits	Scoped In
T-LCA-12	River Shannon – Newport	Within 5–10km, primarily partial (3–4 turbines) theoretical visibility where distant views open up towards Glenomra Valley, interspersed with small areas of none, owing to topographical screening by hills. Between 10–15km, full (5–7 turbines) theoretical visibility is indicated for the small region at the south tip.	The Proposed Wind Farm can be seen in distant views of Slieve Bernagh range from locations of open ground along the River Shannon looking west/north.	Yes.
T-LCA-13	Arra Mountains – Lower Lough Derg	Within 5–10km, primarily no theoretical visibility, except one area in the west along the shores of Lough Derg which ranges from none up to partial (3–4 turbines) visibility.	Visibility is likely to be very limited in this LCA due to visual screening by wooded areas, but there may be views from elevated portions that are not screened.	Yes.
T-LCA-18	Silvermines - Rearcross	Between 10–15km, intermittent theoretical visibility from none up to full (5–7 turbines).	Visibility is likely to be very limited owing to distance to the site and topographical screening.	No.

Table 13-7: LCAs Scoped In for Assessment

Map Ref.	LCA Scoped In for Assessment	Scoped In
C-LCA-8	Slieve Bernagh Uplands (contains all proposed turbines)	Yes.
C-LCA 9	River Shannon Farmland	Yes.
C-LCA 11	East Clare Loughlands	Yes.
L-LCA 06	Shannon Coastal Zone	Yes.
T-LCA 12	River Shannon – Newport	Yes.
T-LCA 13	Arra Mountains – Lower Lough Derg	Yes.

Table 13-8: LCAs Scoped Out (Excluded)

Map Ref.	LCAs Scoped Out (Excluded)	Scoped In
C-LCA 5	Lough Graney	No.
C-LCA 6	Slieve Aughty Uplands	No.
C-LCA 7	Lough Derg Basin	No.
C-LCA-10	Sixmilebridge Farmland	No.
C-LCA 12	Tulla Drumlin Farmland	No.
L-LCA 01	Agricultural Lowlands	No.
L-City	Limerick City (assessed only as visual receptor)	No.
T-LCA 3	Nenagh Corridor	No.
T-LCA 18	Silvermines - Rearcross	No.