

14. LANDSCAPE AND VISUAL

14.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) addresses the potential landscape and visual impacts of the Proposed Project in County Galway. The emphasis in this chapter is on the likely significant direct and indirect effects of the Proposed Project and includes an assessment of the proposed 8-turbine layout. It covers the assessment methodology, a description of the Proposed Project and the existing landscape based on relevant guidance. It includes a description of the relevant landscape policy with specific reference to wind energy and the study area in which the Proposed Wind Farm is located.

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

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

14.2 Statement of Authority

MKO has developed extensive expertise and experience over the last 15 years in the Landscape and Visual Impact Assessment of a range of projects, including large scale wind energy developments. The Landscape and Visual Impact Assessments were conducted and reported in this Chapter by Saoirse Fitzsimons.

Saoirse Fitzsimons is a Project Environmental Scientist and LVIA Specialist with MKO. She is an Affiliate Member of the British Landscape Institute. Her primary role at MKO is producing the LVIA chapter of EIAR reports. Saoirse holds an MSc. In Coastal and Marine Environments from the National University of Ireland, Galway where she was awarded The Prof Micheál O Cinnéide Award for Academic Excellence. Since joining MKO, Saoirse has worked widely on renewable energy infrastructure, commercial, recreational, and residential projects. Saoirse is a qualified Unmanned Aerial Vehicle Operator and holds an A1/A3 and A2 drone licence.

This chapter was reviewed by Michael Watson. Michael is an Environmental Director at MKO, overseeing a team of highly skilled environmental professionals working on EIAR for a wide range and scale of projects, in particular large-scale infrastructure, housing, commercial and renewable energy development. His key strengths include project strategy, expert knowledge of the EIA Directive, and in-depth knowledge of the various disciplines contributing to EIAR and the Habitats Directive. Michael has been the Head of the Environment Team at MKO for over nine years. He is a key member of the MKO senior management team responsible for developing the business, mentoring team members, fostering a positive culture and promoting continuous employee professional development. Michael holds an MA in Environmental Management from NUI Maynooth, is a Member of IEMA, a Chartered Environmentalist (CEnv) and a Professional Geologist (PGeo).

14.2.1 'Do-Nothing' Scenario

The Do-Nothing option to developing a wind farm at the Site would be to leave the land as it is, with no changes made to the current land-use practices of low-intensity agriculture. Should this occur, the impact would be neutral in the context of this EIAR. This option would however have no positive impact with regards to the production of renewable energy or the offsetting of greenhouse gas emissions.

14.2.2 Proposed Project Description

The Proposed Project comprises the construction of 8 No. wind turbines and all associated works. The proposed turbines will have a blade tip height of 185 metres above the top of the foundation. The applicant is seeking a ten-year planning permission, in County Galway.

For the purposes of this EIAR:

- The 'Proposed Wind Farm' refers to the 8 no. turbines and supporting infrastructure which is the subject of this Section 37E application.
- The 'Proposed Grid Connection' refers to the 110kV substation and supporting infrastructure which will be the subject of a separate Section 182A application.
- The 'Proposed Project' comprises the Proposed Wind Farm and the Proposed Grid Connection, all of which are located within the EIAR Study Boundary (the 'Site') and assessed together within this EIAR.

Please see section 1.1.1 of this EIAR for further details. A detailed description of the Proposed Project is provided in Chapter 4 of this EIAR.

The full description of the Proposed Project is detailed in Chapter 4 of this EIAR.

Current and future wind turbine generator technology will ensure that the wind turbine model, chosen for the proposed turbines, will have an operational lifespan greater than the 30-year operational life that is being sought as part of this application.

14.2.3 Mitigation by Good Design

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

- Siting of proposed turbines adheres to the minimum 500 metre set back distance in the Wind Energy Development Guidelines for Planning Authorities (Department of the Environment, Heritage, and Local Government (DoEHLG), 2006, (hereafter referred to as the 'Guidelines') and also the 4 times tip height set-back distance explicitly set out for residential visual amenity prescribed by the Draft Revised Wind Energy Development Guidelines (Department of Housing, Planning and Local Government (DoHPLG), 2019) (hereafter referred to as the 'draft Guidelines').
- The proposed turbines are strategically sited within a modified working landscape where there is limited visibility (or large set back distances) from large population centres and designated landscape.
- The proposed turbines are located within a 'Low' Landscape Sensitivity area as designated within the GCDP 2022-28.
- Siting of the proposed turbines in a landscape setting (The LVIA Study Area to 20km) which has a very limited number of designated sensitive landscape and visual receptors in local planning policy (There are no landscape or visual impacts on the three designated scenic views within the LVIA Study Area).
- The turbines have been located within a landscape defined by agricultural fields bordered by mature hedgerows and treelines which provide screening effects, particularly when the turbines are viewed from locations in medium to long distance from the proposed turbines. Impacts on the landscape and visual receptors are thus localised.

- The proposed turbines are located in a relatively flat landscape with the proposed turbines at a similar base elevation relative to receptors which reduces their visual prominence over the wider landscape.
- The onsite 110kV substation is the only overground element of the Proposed Grid Connection element, and it is contained within the Proposed Wind Farm site.

Essential Aspects of the Proposed Project from an LVIA Perspective

Guidance for the LVIA (GLVIA 3, 2013) states 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 effects on the landscape and visual amenity.”

For the purposes of this chapter of the EIAR ‘the proposed turbines’ refers to the 8 no. turbines which form part of the Proposed Wind Farm site. The tall, vertical nature of the proposed turbines make them the most prominent elements of the Proposed Project from a landscape and visual perspective and have 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 Proposed Project which will give rise to effects on the landscape and visual amenity and therefore a primary focus of the LVIA conducted in this chapter.

The proposed 30m meteorological mast is also a tall vertical structure; therefore, it is included in the photomontage booklet and is fully considered throughout the LVIA. However, it will be substantially less visible than any turbine given its shorter and slender lattice form.

Other components of the Proposed Project are not deemed to be as visually prominent as the proposed turbines, however, they have the potential to give rise to localised landscape and visual effects. Although not the primary focus of the LVIA, these elements are given full consideration throughout this chapter.

14.2.4 Scoping Replies/Pre-Planning Meetings

A Scoping and consultation exercise has been carried out by MKO, as detailed in Chapter 2 of this EIAR. Consultation has been had with the following:

- 2 no. pre-planning meetings with An Bord Pleanála;
- 1 no. meeting with Galway County Council;
- 2 no. in-person Community Consultation Events;
- 5 no. leaflet drops to dwellings within c.2km of the proposed turbines, and
- Scoping Document issued to Statutory and Non-Statutory consultees.

All feedback received from the various rounds of scoping and consultation have been considered within the assessments carried out as part of this EIAR.

14.3 Brief Methodology and Assessment Criteria

This section broadly outlines the methodology and the guidance used to undertake the landscape and visual impact assessment of the Proposed Project; a more detailed description of the methodology is outlined in Appendix 14-1. There are five main sections to this assessment:

- Landscape Baseline
- Visual Baseline
- Cumulative Baseline

- Representative Viewpoints and Photomontage Locations
- Likely and Significant Effects – outlining the assessment of landscape, visual and cumulative effects.

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

For the purpose of this chapter, where the ‘Site’ is referred to, this relates to the immediate environment in which the Proposed Project is located. It is delineated by a green line labelled as the ‘EIAR Site Boundary’ in the A0 LVIA Baseline Map (Appendix 14-4) as well as other mapping figures shown throughout the chapter. Where the ‘Proposed Wind Farm’ is referred to, this refers to turbines and associated foundations and hard-standing areas, meteorological mast, access roads, temporary construction compound, underground cabling, spoil management areas, site drainage and all ancillary works and apparatus. Subject of this planning application under Section 37B of the Planning and Development Act, 2000, as amended.

However, the landscape and visual baseline mapping and viewpoint selection are based on wider study areas. On the basis of the desktop study and survey work undertaken, the professional judgement of the assessment team, experience from other relevant projects and policy guidance or standards (Appendix 3, the Guidelines and GLVIA 2013, see below) the LVIA study area has been chosen as 20 kilometres from the proposed turbines for visual and landscape effects and 15 kilometres from the proposed turbines for effects on landscape character. These are the study areas for which the baseline maps and viewpoint locations are produced and are referred to as the ‘study area’. Furthermore, on the basis of desk studies and survey work undertaken, the professional judgement of the assessment team, experience from other relevant projects and policy guidance or standards, the following topic areas have been scoped out of the assessment:

- Effects on landscape and visual receptors that have minimal or no theoretical visibility (as predicted by the ZTV) and/or very distant visibility, and are therefore unlikely to be subject to significant effects;
- Effects on designated landscapes beyond a 20km radius from the proposed turbines, from where it is judged that potential significant effects on key characteristics and/or special qualities, or views are judged unlikely to occur;
- Effects on landscape character beyond a 15km radius from the proposed turbines, where it is judged that potential significant effects on landscape character are unlikely to occur;
- Effects on visual receptors beyond a 20km radius from the proposed turbines, where it is judged that potential significant effects are unlikely to occur;
- Cumulative effects in relation to single turbines (except where otherwise stated);
- Cumulative landscape character effects beyond a 15km radius and cumulative landscape & visual effects beyond a 20km radius from the proposed turbines, where it is judged that potential significant effects are unlikely to occur;
- All potential effects occurring during decommissioning of the proposed turbines.

14.3.2 Guidelines

While the legislation and general guidance on Environmental Impact Assessment is set out in Chapter 1 of this report, only guidance specifically pertaining to the Landscape and Visual Impact are outlined in the Methodology Appendix – Appendix 14-1.

14.3.3 Baseline Landscape and Visual Information

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

Landscape

- Policies and objectives contained in the relevant county development plans (Counties Galway and Mayo) pertaining to landscape and wind energy.
- Landscape designations in the LVIA Study Area (Amenity Areas; Views and Prospects; Landscape Character Areas).
- Landscape character of the LVIA Study Area.
- Landscape character of the Proposed Wind Farm site based on Site surveys undertaken in 2022 and 2023.
- Landscape Character Types identified in 'Landscape Character Types as a basis for Guidelines': the Guidelines and also the draft Guidelines.

Visual

- Identification of Visual Receptors in the LVIA Study Area;
- Preliminary assessments of visibility of the proposed turbines from visual receptors using ZTV mapping and on-site appraisals.
- Route Screening Analysis

14.3.4 Assessment of Potential Impacts

The methodology includes clearly documented methods based on the GLVIA guidelines, in order to arrive at an assessment. These include consideration of landscape and visual sensitivity balanced with the magnitude of the effect to determine the significance of effects. Mitigating factors are then taken into consideration to arrive at residual landscape and visual effects. Throughout this chapter 'theoretical visibility', is referred to. This is based on Zone of Theoretical Visibility (ZTV) mapping. Further details of which along with other information on the methodology of landscape and visual impact assessment are presented in Appendix 14-1.

The landscape and visual assessment methodology used in this chapter (outlined in Appendix 14-1) includes clearly documented methods based on the GLVIA3 guidelines (LI & IEMA, 2013). This includes consideration of landscape and visual sensitivity balanced with the magnitude of the effect to determine the significance of effects. Mitigating factors are then taken into consideration to arrive at residual landscape and visual effects. Residual landscape and visual effects are graded upon an 'impact assessment classification of significance' scale, as defined by the Environmental Protection Agency of Ireland (EPA, 2022).

Assessment of potential impacts uses photomontages, whereby the potential effects arising as a result of the proposed turbines are assessed from viewpoint locations representative of prominent and sensitive landscape and visual receptors located within the LVIA Study Area. The photomontages are included in Volume 2 of this EIAR and a comprehensive assessment of each viewpoint is included in Appendix 14-3. Detailed information on the methodology used for the production of photomontages and the methods used for landscape and visual impact assessment are presented in the methodology appendix - *Appendix 14-1*. Throughout this chapter 'theoretical visibility', is referred to, this is based on Zone of Theoretical Visibility (ZTV) mapping which is addressed in the following section of this chapter (Section 14.4).

14.4 Visibility of the Proposed Turbines

14.4.1 ZTV Mapping: Theoretical Visibility of the proposed turbines

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

The ZTV mapping methodology outlined in Appendix 14-1 was used to examine the theoretical visibility of the 8 No. proposed turbines from all landscape and visual receptors within the LVIA study area, using the half blade height of the wind turbines as points of reference. As noted in Appendix 14-1, actual visibility on the ground is significantly less than predicted by the ZTV mapping due to intervening factors such as: on site screening from natural and man-made features, atmospheric weather and/or localised topography.

Generation of the ZTV utilises large scale topographical data (interpolation across 10 m OSi contour data) and does not account for topographical variation of smaller scale (e.g. < 10 metre). Therefore, in reality, small, localised undulations in topography are likely to further inhibit visibility of the proposed turbines that may not be represented in the ZTV map. 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 ZTV indicates there is full visibility. In this regard, the ZTV is a useful tool to indicate where there is definitely no visibility of the proposed turbines, therefore receptors located in these areas can be screened out from further assessment.

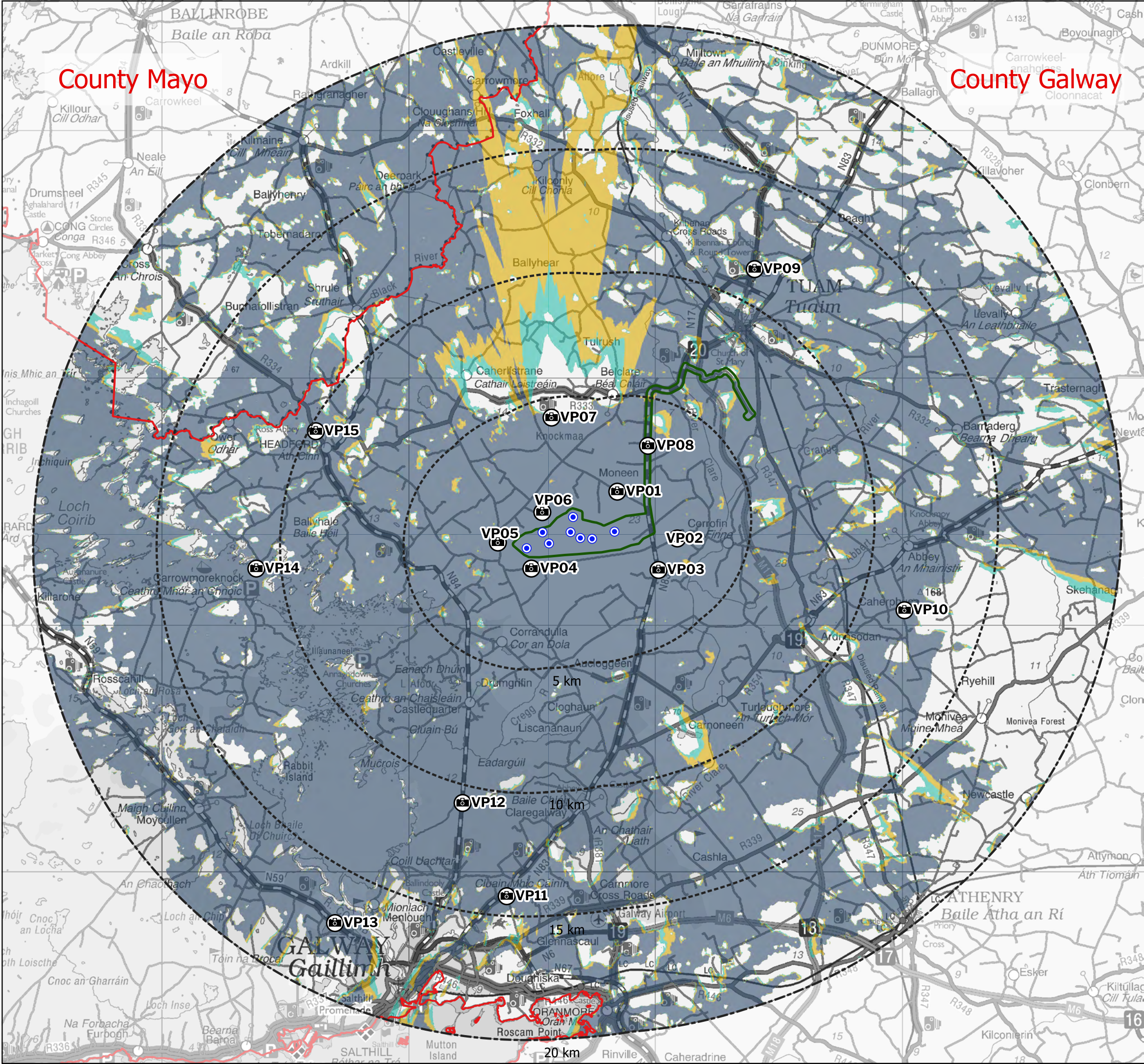
14.4.2 Half Blade ZTV of the Proposed Turbines

The ZTV mapping methodology outlined in Appendix 14-1 was used to examine the theoretical visibility of the 8 No. proposed turbines from all landscape and visual receptors within the LVIA study area, using the half blade height of the wind turbines as points of reference. As noted in Appendix 14-1, actual visibility on the ground is significantly less than predicted by the ZTV mapping due to intervening factors such as: on site screening from natural and man-made features, atmospheric weather and/or localised topography.

Separate colour bands are used on the ZTV map to indicate the number of turbines of which the half blade will potentially be visible, shown on Figure 14-1. The legend on Figure 14-1 shows the number of visible turbines for each corresponding colour, which are as follows:

- Teal: 1-3 turbines theoretically visible
- Orange: 4-6 turbines theoretically visible
- Navy: 7-8 turbines theoretically visible

Figure 14-1 illustrates that full theoretical visibility of the 8 No. turbines occupies a relatively large proportion of the study area. Overall, due to the flatness of the local landscape, concentrated areas of full theoretical visibility are located to areas in all directions within the 20km boundary.



Map Legend

- Proposed Turbine Locations
- EIAR Site Boundary
- LVIA Study Area
- County Borders
- Half Blade ZTV**
 - 1-3 Turbines Theortically Visible
 - 4-6 Turbines Theoretically Visible
 - 7-8 Turbines Theoretically Visible
- EIAR Volume 2: Photomontage Booklet Viewpoint Locations

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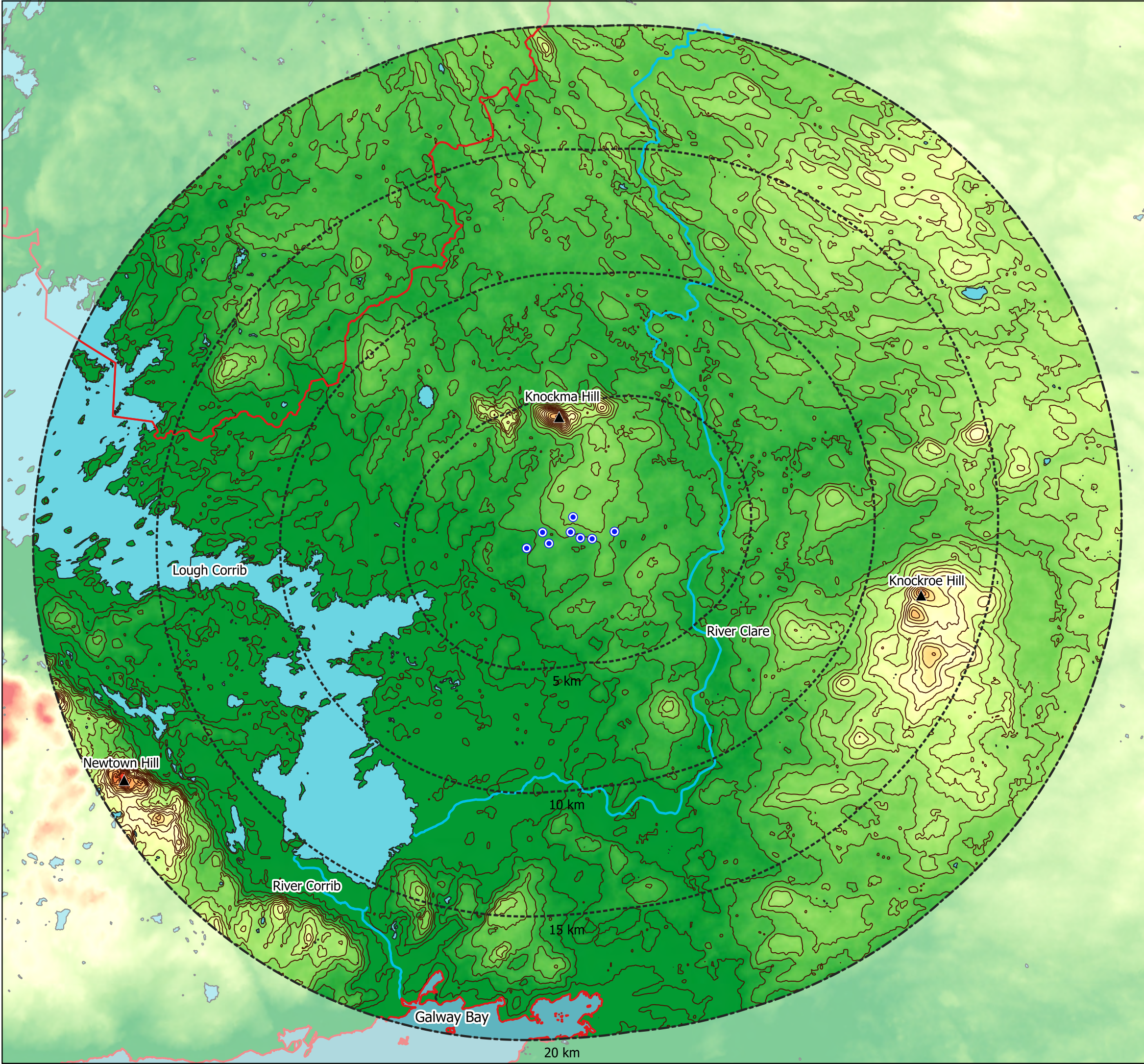
Figure 14-1

Drawing Title
Zone of Theoretical Visibility

Project Title
Laurclavagh Renewable Energy Development

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| Scale 1:150,000 | Project No. 210627 | Date 07.03.2024 | Drawn By SF | Checked By JW |
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Map Legend

- Proposed Turbine Locations
- County Borders
- LVIA Study Area

Elevation (Above Ordnance Datum)

- 20 metres
- 50 metres
- 80 metres
- 110 metres
- 140 metres
- 170 metres
- 200 metres

- Topographical features
- Waterbodies

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Figure 14-2

Drawing Title

Physical Landscape Features

Project Title

Laurclavagh Renewable Energy Development

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Distribution of Theoretical Visibility within 5km of the Nearest Proposed Turbine

As shown on the physical landscape features map (Figure 14-2), the proposed turbines are located within a relatively flat area of land with gentle undulations in the topography within 5 km of the proposed turbines. As a result, theoretical visibility is predominantly full within 5 km of the proposed turbines. It is noted that there will be reduced levels of actual visibility along roads and elsewhere within 5 km, primarily as a result of screening from existent vegetation common throughout the landscape in the immediate environs of the Proposed Wind Farm site, which is generally flat, consisting mainly of agricultural fields bordered by mature hedgerows. At locations in close proximity to the Proposed Wind Farm site the disproportionate screening effect produced by the mature hedgerows and treelines is reduced when compared to this effect at locations further from Proposed Wind Farm site. There is a small area of no theoretical visibility within 5km to the north of the proposed turbines behind Knockma Hill.

Distribution of Theoretical Visibility beyond 5km from the Nearest Proposed Turbine

As shown on Figure 14-1 and Figure 14-2 above, the flat nature of the landscape in the LVIA Study Area results in widespread theoretical visibility throughout, although it is noted that the landcover typical within the LVIA Study Area will reduce actual visibility on the ground.

The pattern of theoretical visibility to the north is influenced by smaller topographical undulations that, due to the increased distance from the proposed turbines, have a larger influence on theoretical visibility than similar rises in topography closer to the proposed turbines (this is a result of the decreased scale of the proposed turbines in views from locations further from the Proposed Wind Farm). While the landscape is still generally flat in this direction, with only smaller undulations evident in Figure 14-2, given the increased distance from the proposed turbines these smaller undulations result in large patches of partial and no theoretical visibility beyond 15 km.

There is a large area of elevated topography to the southeast of the LVIA Study Area as seen on Figure 14-2. This restricts visibility of the proposed turbines from the southeast and results in a large area of no theoretical visibility as seen on Figure 14-1 beyond 12km. As seen on Figure 14-1 there is no theoretical visibility within the majority of Galway City as the topography tapers down towards the coastline at Galway Bay. Lough Corrib is located to the southwest of the proposed turbines at a lower elevation. The ZTV shows large areas of full theoretical visibility from the lake, however, in reality, the vegetation screening and local ground undulations from around the lake will restrict visibility from this receptor. Beyond the lake to the southwest the topography tapers up to Newtown Hill (the highest area of elevation within the LVIA Study Area). The N59 to Moycullen runs along the foot of Newtown Hill with intermittent views across Lough Corrib. The ZTV compared to actual visibility from these locations is discussed in further detail in Section 0 – Visual Effects.

14.4.2.2 On-Site Appraisal of Actual Visibility During Field Surveys

Multiple field surveys were conducted during 2022 and 2023 to determine the actual visibility from locations where the ZTV has indicated full theoretical visibility. These surveys determined that screening from localised undulations in topography, vegetation and man-made elements significantly reduce the likelihood of viewing turbines in vast areas of the LVIA Study Area, in particular from areas beyond 5 km from the nearest proposed turbine.

The Physical landscape features map (Figure 14-2) shows the elevation gradients existent within the LVIA Study Area. In a general sense, the landscape of the LVIA Study Area is very flat, with the most prominent flat landscapes to the southwest of the Proposed Wind Farm. On-site appraisals of visibility in the LVIA Study Area determined that long range views are very limited in this flat landscape, particularly when the viewer is at the same base elevation as the proposed turbines or lower. The low base elevation of the turbines relative to the surrounding landscape causes a ‘disproportionate screening

effect' (see example/definition below), further reducing visibility of the proposed turbines in large areas of the LVIA Study Area where the ZTV indicates full visibility.

Disproportionate Screening Effect

Any landscape feature that blocks a view and prevents a clear onward view has a visual screening effect, whether it is a one-metre-tall wall, a two-metre-high roadside hedgerow, a five-metre-high building, or a 15-metre-tall tree. As a full visual screen, such features only allow a person to see over them, thereby pushing the person's line of sight higher into the sky rather than along the level of the ground.

The impact of screening elements such as vegetation (forestry, road-side hedgerows and trees) and buildings (particularly within towns and villages) on long range visibility are accentuated in flat lowland landscapes, this is called a disproportionate screening effect. The graphic in Figure 14-3 below best explains this 'disproportionate screening effect'. A ZTV may indicate full theoretical visibility of the proposed turbines from an open field or an open peatland. However, when a receptor is located at the same base elevation as a turbine, a feature such as a distant treeline has the capacity to greatly restrict or completely obscure visibility of the proposed wind turbine. Distance becomes a substantial factor determining visibility of proposed turbines as it is difficult to see beyond a few kilometres above screening within a flat landscape.

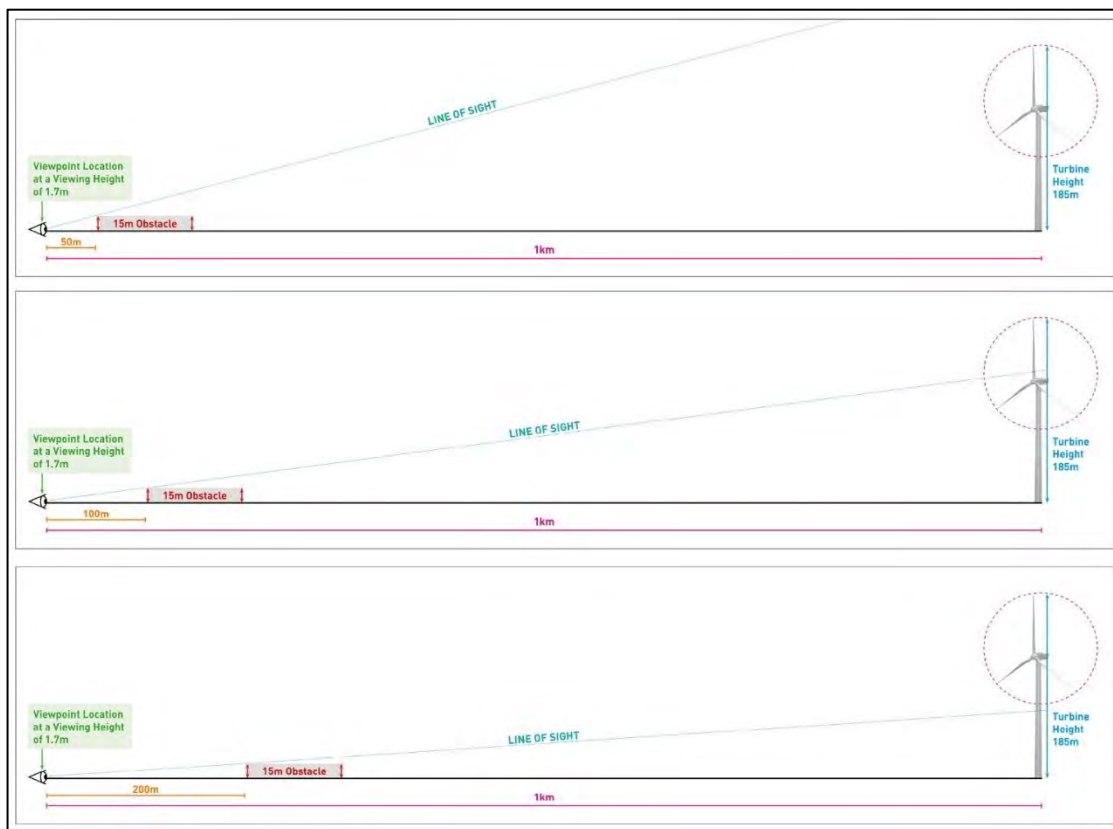


Figure 14-3 Disproportionate Screening Effect

The image above illustrates the disproportionate screening effect that small features in the landscape can have on screening a proposed wind turbine from view. Figure 14-3 shows a 185-metre-tall wind turbine located one kilometre from a viewing location. The illustration in Figure 14-3 is modelled proportionally to ensure measurement accuracy and scaled to fit this report. A 15-metre-tall obstacle, such as a treeline is used as the landscape feature giving rise to the screening effect. In the three examples shown, the 15-metre obstacle is shown at 50 metres, 100 metres and 200 metres from the

viewing location, and the resultant line of sight is shown as a blue line running from the viewing location upwards over the top of the obstacle.

14.4.3 Route Screening Analysis

As presented later in this chapter, on-site visibility appraisals and photomontages indicate that most visibility and the most significant visual effects are likely to arise in close proximity to the Proposed Wind Farm. Visibility of the proposed turbines from areas in close proximity to the proposed turbines (< 3 km) is mitigated by screening from localised undulations in topography, and the vegetated nature of the landscape immediately surrounding the Proposed Wind Farm. In order to test this objectively, a method termed Route Screening Analysis (RSA) was conducted in 2023 to comprehensively assess the varying characteristics of screening factors existent on roads surrounding the Proposed Wind Farm.

The RSA determined the actual likely visibility of the proposed turbines in comparison with theoretical visibility on all public roads within 3 km of the Proposed Wind Farm. The roads were surveyed using a methodology outlined in Section 1.3.3 of Appendix 14-1, one of three screening classifications were recorded as these roads were driven:

- No screening – unobstructed and open views, where views of the proposed turbines would be readily available (See Plate 14-1).
- Partial or Intermittent Screening - Partial or intermittent views of the proposed turbines would be available. Screening in the form of vegetation, local topography or built form will limit or restrict views of the proposed turbines but may not entirely prevent views. e.g., Light deciduous roadside vegetation (see Plate 14-2)
- Dense Screening - a location from which no view in the direction of the proposed turbines would be available, and from which the turbines will not be seen (See Plate 14-3). This is as a result of Very Dense vegetation or significant topographical screening (e.g., areas with no visibility on the ZTV).

The results of the route screening survey are mapped in Figure 14-4 below, this figure shows the extent at which each screening classification is present on all public roads within 3 km of the proposed turbines. Where roads continued beyond 3 km from the proposed turbines, the RSA survey continued to record the screening until an appropriate termination point or junction. Screening along the N83 National Road and N84 National Road was recorded to a distance of 5 km as they are prominent transport routes in the LVIA Study Area.



Plate 14-1 An example of 'Little to No Screening' in the Townland of Tawnaghmore

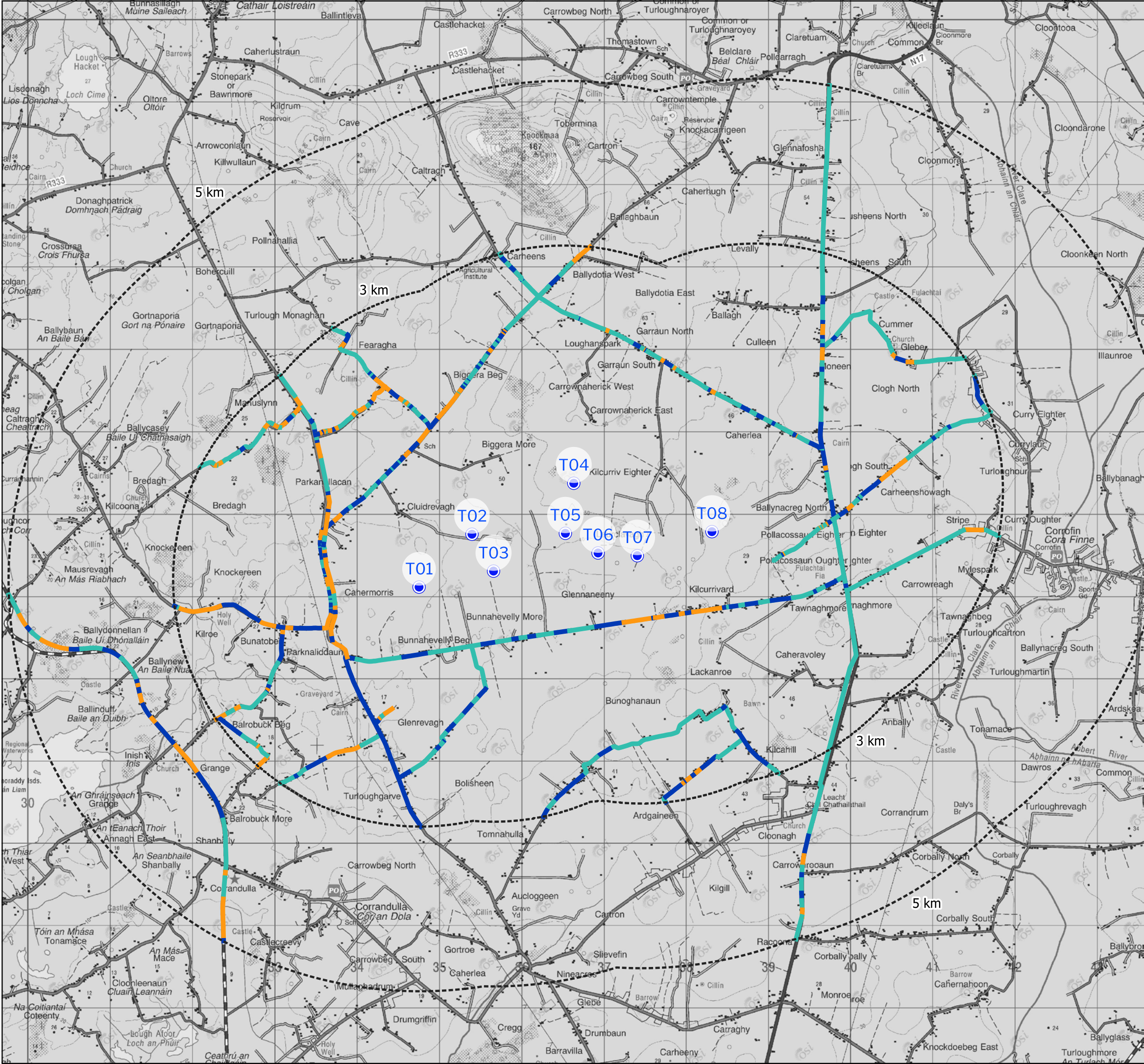


Plate 14-2 An Example of 'Intermittent / Partial Screening' in the townland of Kilcurrivard



Plate 14-3 An Example of 'Full Screening' in the townland of Kilcurrivard

The majority of the area within 5km surrounding the proposed turbines comprises low stone walls and sparsely vegetated field boundaries as seen in Plate 14-1 above. Some roads in close proximity to the Proposed Wind Farm have large amounts of vegetation screening views towards the proposed turbines as seen in Plate 14-3.



Map Legend

- Proposed Turbine Locations

Route Screening Analysis

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

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Figure 14-4

Drawing Title

Route Screening Analysis

Project Title

Laurclavagh Renewable Energy Development

| | | | | |
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| Scale | Project No. | Date | Drawn By | Checked By |
| 1:45,000 | 210627 | 07.03.2024 | SF | JW |

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The route screening analysis determines the extent and density of screening present in the immediate vicinity of the proposed site. This allows the actual likely visibility of turbines to be considered and assessed in an objective and quantitative manner reducing the level of subjectivity involved in determining how visible the proposed turbines will be in the local landscape immediately around the Proposed Wind Farm.

Table 14-1 shows the distribution of the screening classes on 68.4 km of public road recorded during the survey within 3 km of the proposed turbines (including all national roads within 5 km of the proposed site).

Table 14-1 Distribution of Screening recorded (within 3km for local roads and 5km for Regional Roads) during Route Screening Analysis.

| Screening Class | Length of Road Mapped in Figure 14-4 | Percentage Distribution of Screening on the Surveyed Roads |
|--------------------------------|--------------------------------------|--|
| Little/No Screening | 37.8 km | 55.35% |
| Partial Intermittent Screening | 18.6 km | 27.15% |
| Full Screening | 12 km | 17.5% |

‘Little/No Screening’ was recorded for approximately half (55.35%) of the surveyed roads. This suggests that the ZTV will give a good indication of likely visibility within this 5 km area. Multiple Photomontages and Photowires (early-stage photomontages) were captured from these routes and produced from the areas where there is both theoretical visibility indicated by the ZTV and Class 1 - No screening recorded during the Route Screening Analysis. Some form of screening (either ‘Partial/Intermittent’ or ‘Full Screening’) was recorded for approximately 44.66% of the roads surveyed, which suggests that for this proportion of the roads within 5km of the proposed turbines, the ZTV may not necessarily indicate the likely visibility of the proposed turbines. The outcome of the Route Screening Analysis is discussed in relation to the assessment of visual effects on residential receptors in Section 14.8.3.2.2.

The route screening analysis assessed the two National Roads within 5km of the proposed turbines. The majority of the N83, within 5km of the Proposed Wind Farm, showed no roadside screening. Multiple Photomontages and Photowires were captured from this route. In reality, receptors travelling along this route will not be focused on the views in the direction of the proposed turbines. 5.5km of the N84 National Road is located within 5km of the proposed turbines. Only 33% of this road was shown to have no roadside screening, therefore there is limited locations where receptors travelling this route would have open and clear views in the direction of the proposed turbines.

14.5

Landscape Baseline

The Landscape Baseline reports relevant policy pertinent to the LVIA, as well as a description of the receiving landscape of the Site and its wider setting. This is broken down into the following sections:

- **Landscape Designations and Policy Context** - Policy setting pertaining to the location and nature of the Site from a landscape perspective based on:
 - Galway County Development Plan 2022-2028
 - Mayo County Development Plan 2022-2028
- **Landscape Character of the Proposed Wind Farm** – A description of the physical landscape and characteristics of the Proposed Wind Farm and its immediate setting, this includes the following considerations:
 - Landscape characteristics based upon findings from site visits conducted in 2022, and 2023.
 - An appraisal of landscape value and the susceptibility of the landscape to change, and a determination of landscape sensitivity.
- **Landscape Characterisation in the Guidelines** – A review of the Guidelines and the draft Guidelines and siting guidance relating to the landscape characteristics of the Site.
- **Landscape Character of the Wider Landscape Setting** – A description of the wider landscape setting, including the identification of designated Landscape Character Areas (LCAs) located within 15 km of the proposed turbines and a preliminary analysis using ZTV mapping.

14.5.1

Landscape Designations and Policy Context

This sub-section 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 Project.

The Site is located in County Galway, therefore, the Galway County Development Plan 2022-2028 (hereafter referred to as the GCDP) was consulted to identify landscape designations existent in the LVIA Study Area. Additionally, general landscape policy and landscape policy pertaining to wind energy development are also included in this section of the LVIA, providing context for the selection of the Proposed Wind Farm site as a landscape suitable for a wind energy development.

County Mayo is partially located within the LVIA Study Area and comprise areas with theoretical visibility of the proposed turbines. Therefore, the Mayo County Development Plan 2022-2028 (hereafter referred to as the MCDP) were also consulted to identify landscape designations existent in the LVIA Study Area.

14.5.1.1

County Galway

Section 8.13 of the GCDP outlines policies related to the landscape and visual amenity within County Galway. The GCDP references the Landscape Character Assessment of a process that “*describes, maps and classifies landscapes objectively. Defining landscape character enables an understanding to be formed of the inherent value and importance of individual landscape elements and the processes that may alter landscape character in the future*”. The Landscape Character Areas located within the LVIA Study Area are outlined below.

The GCDP sets out an overall strategy for the proper planning and sustainable development of the administrative area of Galway County Council. It contains the following policy objectives related to landscape:

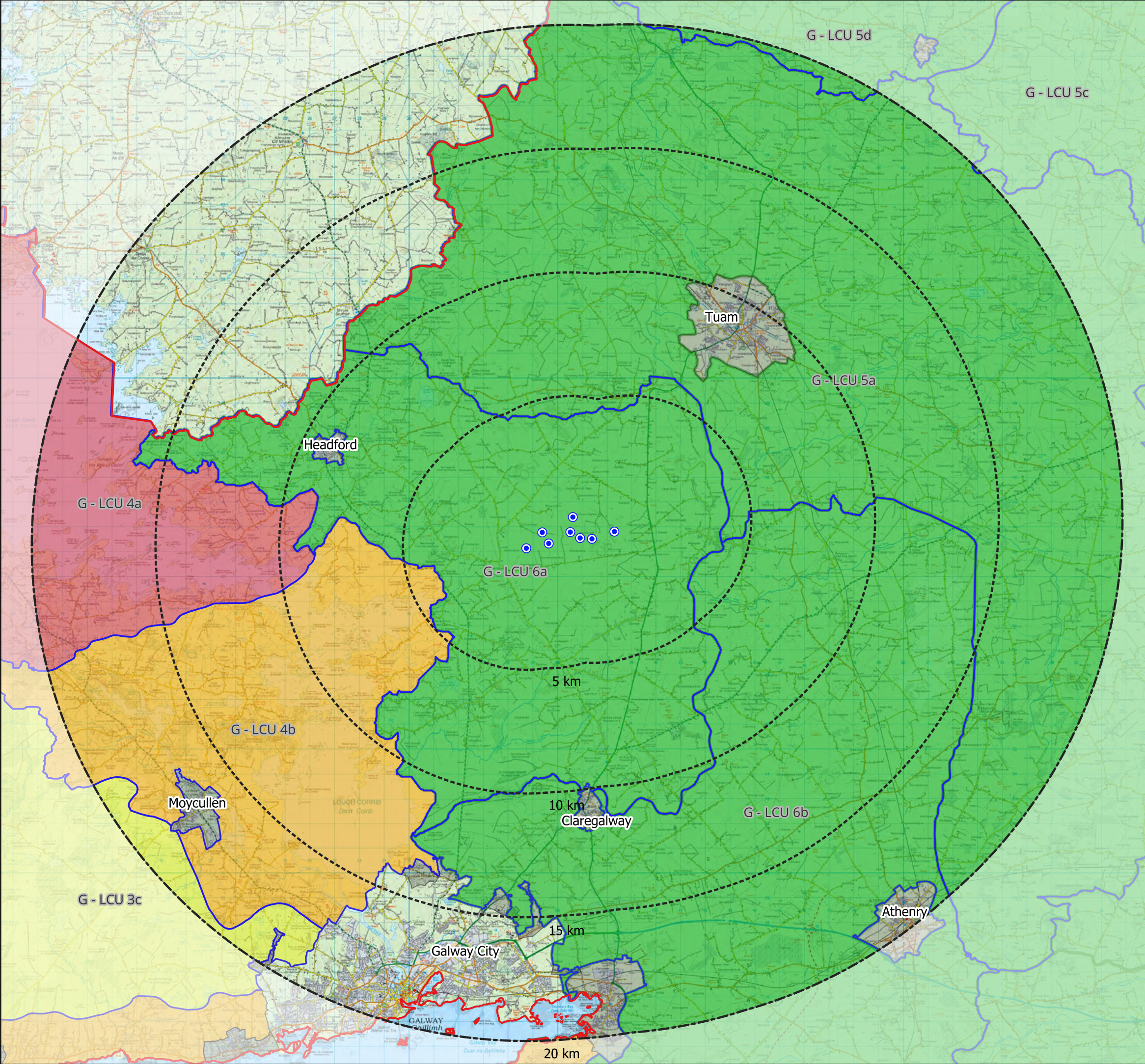
“LCM1 Preservation of Landscape Character - Preserve and enhance the character of the landscape where, and to the extent that, in the opinion of the Planning Authority, the proper planning and sustainable development of the area requires it, including the preservation and enhancement, where possible of views and prospects and the amenities of places and features of natural beauty or interest.

LCM 2 Landscape Sensitivity Classification - The Planning Authority shall have regard to the landscape sensitivity classification of sites in the consideration of any significant development proposals and, where necessary, require a Landscape/Visual Impact Assessment to accompany such proposals. This shall be balanced against the need to develop key strategic infrastructure to meet the strategic aims of the plan.

Objective LCM 3 Landscape Sensitivity Ratings - Consideration of Landscape Sensitivity Ratings shall be an important factor in determining development uses in areas of the County. In areas of high landscape sensitivity, the design and the choice of location of proposed development in the landscape will also be critical considerations.

LCM 4 Open/Unfenced Landscape - Preserve the status of traditionally open/unfenced landscape. The merits of each case will be considered in light of landscape sensitivity ratings and views of amenity importance.”

The following sub-sections address the specific elements covered by this planning policy including the designations of the landscape character assessment, the designated views, and Landscape Sensitivity Ratings.



Map Legend

- Proposed Turbine Locations
- LVIA Study Area
- County Borders

County Galway Landscape Sensitivity Ratings (GCDP 2022-28)

- Iconic
- Special
- High
- Low
- Urban

Co. Galway Landscape Character Units

- G - LCU 3c - South Conamara Unit
- G - LCU 4a - Upper Corrib Environs Unit
- G - LCU 4b - Lower Corrib Environs Unit
- G - LCU 5a - North River Clare Basin Unit
- G - LCU 5c - Springfield Basin Unit
- G - LCU 5d - Slieve Dart Unit
- G - LCU 6a -Black River Basin Unit
- G - LCU 6b - Southern River Clare Basin Unit

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Drawing No.

Figure 14-5

Drawing Title

Co. Galway Landscape Sensitivities

Project Title

Laurclavagh Renewable Energy Development

| | | | | |
|-----------|-------------|------------|----------|------------|
| Scale | Project No. | Date | Drawn By | Checked By |
| 1:150,000 | 210627 | 07.03.2024 | SF | JW |

Planning and Environmental Consultants

14.5.1.1.1 Landscape Sensitivity Rating

Section 8.13.2 of the GCDP states that a “landscape’s capacity to absorb new development, without exhibiting a significant alteration of character or change of appearance is referred to as it’s ‘sensitivity’. This depends on factors such as elevation, slope, as well as the types of land-cover and soil.” The Landscape Character Assessment contained in Appendix 4 of the GCDP defines and classifies the LCUs according to the following classifications:

- Class 1 - Low: Unlikely to be adversely affected by change
- Class 2 - High: Elevated sensitivity to change
- Class 3 - Special: High sensitivity to change
- Class 4 - Iconic: Unique Landscape with high sensitivity to change

As seen in Figure 14-5 above, the proposed turbines are located in a LCU classified as Low sensitivity, which is defined as “Unlikely to be adversely affected by change” in the GCDP.

14.5.1.1.2 Protected Views and Scenic Routes

The Landscape Character Assessment for County Galway identifies protected views and scenic routes “of great natural beauty located across the county.” The GCDP states that these protected views and scenic routes “have a very important amenity, tourism, economic and cultural value for the county and its people.” In light of this the GCDP contains the following policy related to protected views and scenic routes.

“PVSR 1 – Protected Views and Scenic Routes - Preserve the protected views and scenic routes as detailed in Maps 8.3 and 8.4 from development that in the view of the Planning Authority would negatively impact on said protected views and scenic routes. This shall be balanced against the need to develop key infrastructure to meet the strategic aims of the plan.”

There are three designated scenic routes within County Galway in the LVIA Study Area. There are, also, two designated protected views within the LVIA Study Area, as shown on Figure 14-7. These are listed in Table 14-2 below.

Table 14-2 Protected Views within the LVIA Study Area

| Name | Description (GCDP) |
|--|---|
| Protected View No. 31 – Kilbeg Pier | <p>“Significance - County</p> <p>This view is from Kilbeg Peir and parking area.</p> <p>The focus of this view is Lough Corrib. The adjacent reedy shore and distant wooded shores that form the background are important features of the view.” (Appendix 4, GCDP)</p> |
| Protected View No. 33 – Friary of Ross | <p>“Significance - County</p> <p>This view is from the road leading to the Friary ruins.</p> <p>The focus of this view is the Ross Friary ruins through the trees as the road approaches the site. The turlough in the background is an important feature (when present).” (Appendix 4, GCDP)</p> |
| Galway Bay Scenic Route | <p>“The first section of the route follows the Wild Atlantic Way between An Bearná and Inbhear.</p> |

| | |
|-----------------------------|---|
| | <p><i>The route parallels the coast at varying distances with occasional views of the coast across small, scrub-lined fields and between houses. This part of the route is punctuated by a near-continuous conurbation of smaller settlements, many with a denser older cores, some of which are now urbanised – An Bearna and An Spidéal.</i></p> <p><i>The second section is from Oranmore to the outskirts of Kinvarra, this short route passes through a countryside of small fields and scattered housing. Much of the route passes through areas of tall road-side hedges and scrub hazel that confine views. Occasionally elevated portions of roads offer expansive, long-distance views towards the northern Burren as well as Galway Bay.</i></p> <p><i>The route is centred on Kinvarra and leads onwards to Ballyvaughan. It also offers opportunities to begin exploration of the most spectacular parts of the northern Burren via lesser used roads.</i></p> <p><i>Key Features: Coastal views, Bays, Coastal Villages.”</i></p> |
| Galway Clifden Scenic Route | <p><i>“the landscape is open and largely devoid of visible development. It offers expansive views of uplands, bogs and lakes.</i></p> <p><i>The landscapes are very large and expansive – drawing the eye to distant horizons and to the ever-changing sky. The turbulent Atlantic frontal weather systems cause the lighting to frequently change. Seasons bring about large-scale changes of colour – both of vegetation and grasses.</i></p> <p><i>Key Features: Mountains, Lakes, Bogs.”</i></p> |
| Lough Corrib Scenic Route | <p><i>“This route runs from Maigh Cuilinn and Oughterard through Maam Cross before looping back at Cong. Near Galway City’s outskirts it encounters a mixture of landscapes that include treelined roads at parkland edges with occasional very expansive elevated panoramas across Lower Lough Corrib.</i></p> <p><i>Between Maigh Cuilinn and Oughterard the route passes through increasingly enclosed and inhabited landscapes. Lakeshore access points offer opportunities to experience very distinctive landscapes – usually from wooded locations with occasional panoramic views across many islands. The woodland character of this area provides strikingly different experiences across each season.</i></p> <p><i>After Oughterard the land changes abruptly to unenclosed, large-scale areas with distant views of open countryside and largescale elements such as uplands, bogs and lakes;</i></p> <p><i>Key Features: Lakes, Mountains, large tracts of unoccupied and unenclosed land.”</i></p> |

14.5.1.1.3 **Landscape Character Assessment**

Galway County Council have prepared a Landscape Character Assessment that is contained in *Appendix 4* of the GCDP. This Landscape Character Assessment categorises Galway County into different Landscape Character Types (LCTs). The proposed turbines are located within the Central Galway Complex Landscape LCT, as seen in Figure 14-6 below. This LCT is described as:

“An extensive plain of grasslands comprising of medium-to-large fields with low enclosures and many areas of low stone walls used for field boundaries. It also includes distinctive features, including locally elevated features, such as Knockma, south-west of Tuam as well as areas that overlook Lough Corrib in the west and the complex of lakes and foothills between Gort and Loughrea in the south. This area contains the majority of the county's population with associated high levels of urban generated rural housing, roads and settlements. These range from large to small settlements with associated infrastructure, services and commercial activity. The western and southern parts of these landscapes are underlain by karst limestone which results in many unusual hydrological features - such as turloughs and large springs. The more productive soils of this area have resulted in long histories of more intensive historic settlement and associated higher concentrations of remains from major periods of land-management, including early Christian, medieval and 16th - 19th century estates. This historic pattern of settlement has resulted in elevated concentration of archaeological, architectural and cultural remains. Features from different periods of land management and settlement are often found in close proximity. Examples of sites with many periods include Pallas, Eyrecourt and Garbally Park.”

The Landscape Character Assessment for County Galway further describes this LCT as follows:

“Most of Galway's settlement and agriculture, with associated roads and infrastructure, occur within this busy working landscape. Each period of history has attracted farming and settlement to the fertile, level soils of this landscape. Ringforts, tower-houses, field walls and parklands occur throughout this area, as evidence of these past uses. Today, the rural housing, with associated roads, schools, powerlines, clubs and signposts that create the domesticated landscape character in the environs of towns, villages and smaller settlements that recurs throughout this landscape.

The appearance and character of the majority of this landscape type remains dominated by grass-based agriculture. Fields generally have low enclosure, with limestone walls evident in many areas. The wider landscape is punctuated by stands of large mature trees – often remains of parkland landscapes that surrounded large 17th – 19th estate residences. In some areas there are large blocks of commercial forestry that further subdivide these grasslands. Though largely level, roads along occasional low ridges provide long-distance vistas that extend to distant horizons in other counties.”

It is further stated in the Landscape Character Assessment that within this LCT the sensitivities are noted as *“Open countryside offers frequent extensive panoramic views from local highpoints”*.

This LCT is further categorised into Landscape Character Units (LCUs), which can be seen on *Map 04: North Galway Complex & Shannon Environs Landscape Units* of the Landscape Character Assessment of the GCDP. The Proposed turbines are located within the LCU 6a – Black River Basin Unit, which is described as an *“Undulating long-occupied working landscape with high levels of settlement. Large regular fields and numerous parkland remnants. Low enclosure except for localised areas of mature parkland trees”*.

14.5.1.1.4 Wind Energy Strategy

The Renewable Energy Strategy (RES) for County Galway is set out in *Appendix 1* of the GCDP. The RES uses five classifications for the suitability of areas for wind energy developments in County Galway. The five classifications are as follows:

- Strategic Area
- Acceptable in Principle
- Open to Consideration
- Generally to be Discouraged
- Not Normally Permissible

The Proposed Wind Farm is located within an area classified as “*Generally to be Discouraged*”, as seen in Figure 14-7 below. In the RES, this area is defined as follows:

- **Generally to be Discouraged** – “Areas where Wind Energy development is unlikely to be favourably considered on account of potential to adversely effect protected landscape, water, ecological resources and residential amenity.”

In the previous Galway County Development Plan 2015-2021, Appendix 4 (County Galway Wind Energy Strategy) of the GCDP (2015-2021), had previously set out that the Site was designated as “*Open to Consideration*” as seen in Figure 14-6 below. The area is defined as:

- **Open to Consideration** - Areas with some locations that may have potential for wind farm development due to viable wind speeds or clustering with Strategic Areas but with significant environmental constraints, based on strategic level assessment. Wind farm developments in these areas will be evaluated on a case-by-case basis subject to viable wind speeds, environmental resources and constraints and amenity, safety and cumulative impacts.

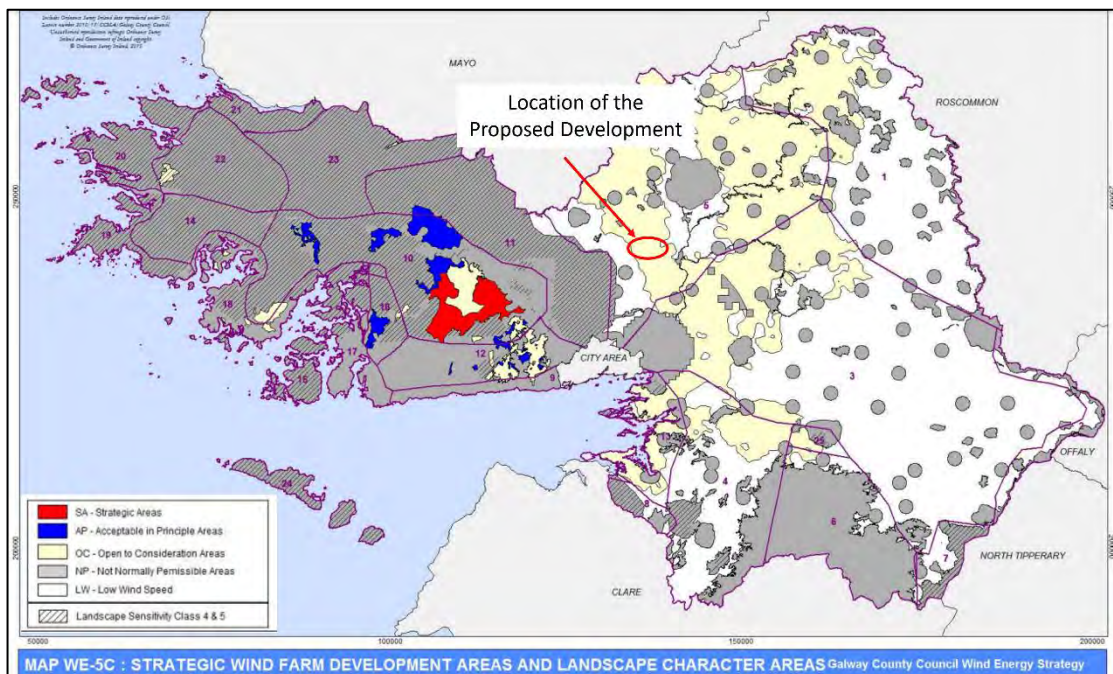


Figure 14-6 Map WE-5C within Appendix 4 in the GCDP 2015-2021 Strategic Wind Farm Development Areas and Landscape Character Areas

The GCDP 2022-2028 states the reasons for differences in the previous County Development plan are as follows:

“The more detailed mapping of wind energy resources, together with factors affecting the challenges and opportunities for Wind Energy projects has resulted in changes in the extent of designated areas for Deployment Areas for Wind Energy in County Galway. The changes have arisen for the following general reasons:

- Lower priority has been given to high wind speeds as a locational factor - to take account of improving technology that makes larger turbines more viable at lower speeds.*
- More accurate Landscape Character Assessment allows for more precise definitions of the boundaries of units used for policy formulation.*
- Improved understanding of the location and role of supporting utilities and infrastructure has facilitated more precise definition of required proximity to determine feasibility.*
- Updated boundaries of ecological sensitivities – especially designations of protected areas - has facilitated more accurate delineation of boundaries of areas of sensitivity.”*

No rationale has been given to why the area of the Proposed Wind Farm has been designated as Generally to be Discouraged in the latest GCDP, from a landscape and visual impact perspective. The proposed turbines are located within a landscape rated as Low sensitivity to development. It has been demonstrated by the detailed assessment of the Site in this EIAR that the Proposed Wind Farm will not adversely effect protected landscape, water and ecological resources, therefore this location is appropriate for the Proposed Project.

14.5.1.2 Landscape Policy within the Other Surrounding Counties

While the Proposed Wind Farm site is located in Co. Galway, County Mayo is located within the LVIA Study Area. As indicated by ZTV mapping (See Section 14.4 previously), there is some theoretical visibility of the proposed turbines in County Mayo. Therefore, relevant designations pertinent to the landscape and visual impact assessment conducted in this chapter are identified and listed below from the Mayo County Development Plan 2022-2028 (MCDP).

14.5.1.2.1 County Mayo Landscape Designations

Landscape policy is covered in *Chapter 10* of the MCDP. Relevant landscape policy and landscape objectives contained within the MCDP are as follows:

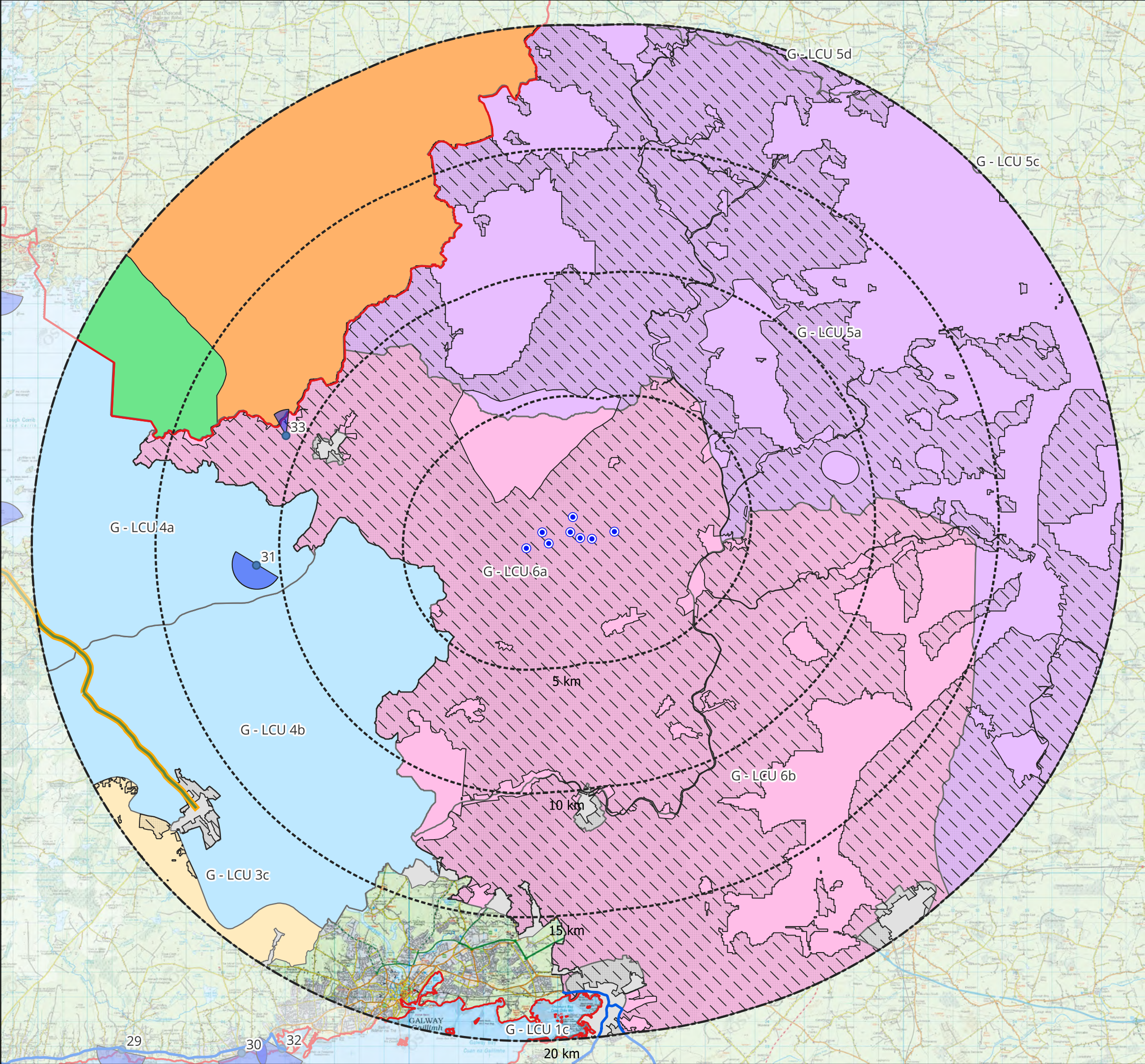
“NEP 14 To protect, enhance and contribute to the physical, visual and scenic character of County Mayo and to preserve its unique landscape character.

Two Landscape Character Unit (LCU) identified in the *Landscape Appraisal of County Mayo* is located within this LVIA Study Area. The LCUs are included in the Landscape Baseline map shown in Figure 14-7 below, and in the Landscape Baseline map accompanied by ZTV in Figure 14-7 below. These LCUs were identified as having theoretical visibility of the proposed turbines and are located within the 15 km LVIA Study Area for landscape character and are discussed further in Section 14.5.5.

- LCU Area L – South-East Mayo Plains
- LCU Area M - Lakeland Drumlins

County Mayo Designated Scenic Amenity


County Mayo protects scenic amenity through the designation of Scenic Routes and Designated Views. These designated scenic routes and views are presented in Map 10.2 within Chapter 10 of the MCDP. There are no County Mayo designated Scenic Routes designated Scenic Views within the LVIA Study Area.



Map Legend

- Proposed Turbine Locations
- LVIA Study Area
- County Borders
- Co. Galway Landscape Character Types**
 - Central Galway Complex Landscape
 - Lake Environs Landscape
 - North Galway Complex Landscape
 - Uplands and Bog Landscape
 - Urban Environs Landscape
- Co. Galway Wind Energy Strategy**
 - Generally to be Discouraged
- Co. Galway Designated Scenic Routes**
 - Galway Bay Scenic Route
 - Lough Corrib Scenic Route
 - Galway Clifden Scenic Route
 - Co. Galway Designated Protected Views
- Co. Mayo Landscape Character Units**
 - LCU L - South-East Mayo Plains
 - LCU M - Lakeland Drumlins

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| | | | | |
|---|-----------------------|--------------------|----------------|------------------|
|  | Drawing No. | | | |
| | Figure 14-7 | | | |
| Drawing Title | | | | |
| Landscape Baseline | | | | |
| Project Title | | | | |
| Laurclavagh Renewable Energy Development | | | | |
| Scale 1:150,000 | Project No. 210627 | Date 03.07.2024 | Drawn By SF | Checked By JW |



14.5.2

Landscape Character of the Proposed Wind Farm Site

Landscape character refers to the distinct and recognisable pattern of elements that occurs consistently in a particular type of landscape, and how people perceive this. It reflects particular combinations of geology, landform, soils, vegetation, land use and human settlement, and creates the particular sense of place found in different areas. The identification of landscape character as outlined in the Landscape and Landscape Assessment Guidelines (DoEHLG, 2000) comprises the identification of primarily physical units (areas defined by landform and landcover) and, where appropriate, of visual units.

The Proposed Wind Farm site was visited multiple times during 2022 and 2023 where an assessment of topography, drainage, landcover and land use was conducted in conjunction with other LVIA surveys. Information gathered during these visits has informed the following descriptions of the Proposed Wind Farm site.

Land Cover and Land Use

Landcover is the term used to describe the combinations of vegetation and land-use that cover the land surface. It comprises the more detailed constituent parts of the landscape and encompasses both natural and man-made features. The landcover of the Proposed Wind Farm site can be seen in Figure 14-8 below.



Figure 14-8 An aerial image of the Proposed Wind Farm infrastructure footprint

The Proposed Wind Farm site and surrounding area is a settled agricultural landscape comprising fields of grazing pasture delineated by stone walls and mature hedgerows. As shown in the aerial image above (Figure 14-8), the Proposed Wind Farm site is defined by a patchwork of agricultural fields. The proposed turbines are predominately sited on lands of improved grassland, used for the grazing of livestock and farming as seen below.



Plate 14-4 agricultural field where proposed turbine T2 is located



Plate 14-5 agricultural field where proposed T8 turbine is located



Plate 14-6 Bales of hay within the field of the proposed T4 turbine location

The primary land use at the Proposed Wind Farm site is agriculture. The grassland fields of the Proposed Wind Farm site are primarily used as grazing pasture for the farming of livestock, as seen in Plate 14-7 below.



Plate 14-7 Grazing Pasture for Cattle – A primary land use on the Proposed Wind Farm site.

Topography and Landform

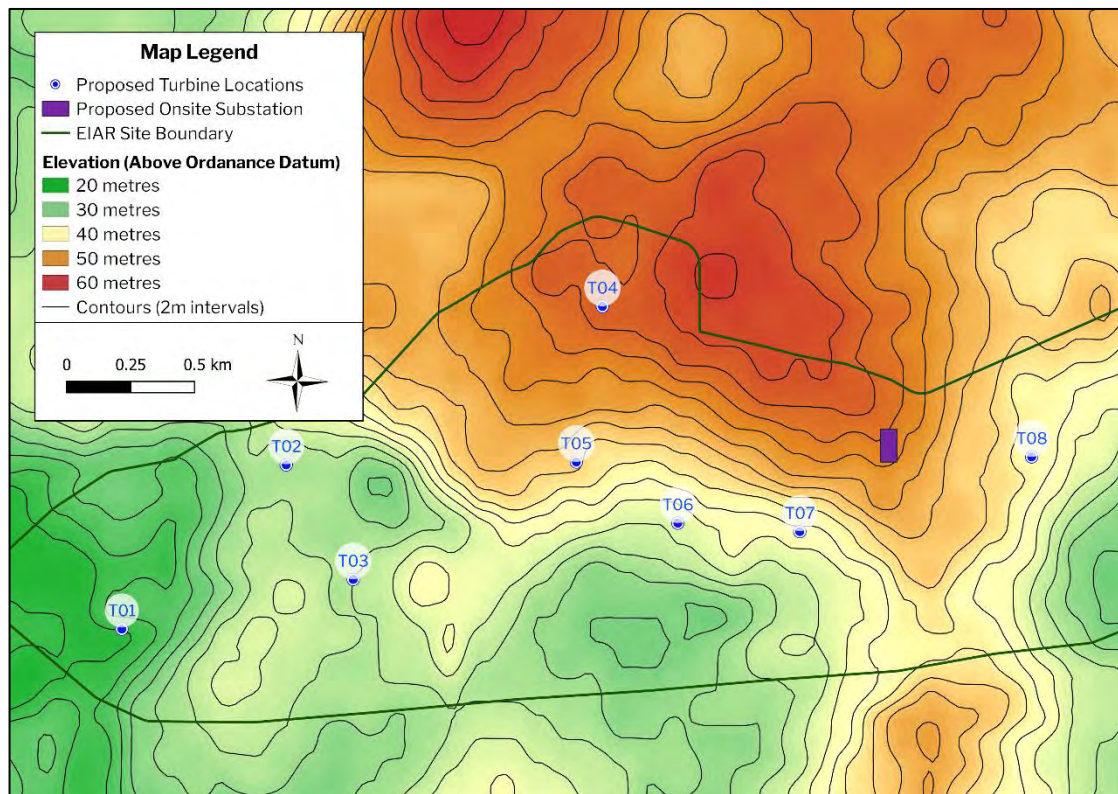


Figure 14-9 Topography of the Proposed Wind Farm

As seen on Figure 14-2 the landscape of the Proposed Wind Farm site appears to be flat in relation to the surrounding landscape within the LVIA Study Area. In reality as shown by Figure 14-9, the landscape of the Proposed Wind Farm site comprises irregular, undulating topography. The topography slopes from the north towards the south and southwest of the Proposed Wind Farm. Most of the proposed turbines are sited at a base elevation < 50 metres AOD, except for T4 that is sited at approximately 54m AOD.



Plate 14-8 Topography from the east sloping down towards the locations of proposed turbines T5, T6 and T7



Plate 14-9 Topography from the west sloping downwards towards the proposed T8 location



Plate 14-10 Topography to the south of the proposed T2 location

To the west of the Proposed Wind Farm site, there are several local undulations in the landscape. South of the proposed T2 turbine location the fields gently slope upwards to a hillock as seen in Plate 14-10 and Figure 14-9 above. To the southwest however, the land slopes downwards towards the location of the proposed T1 turbine. This proposed turbine is located at the lowest point within the Proposed Wind Farm site at approximately 25m AOD.

Drainage

The Proposed Wind Farm site is located within the Clare-Corrib catchment area. Water from the Proposed Wind Farm site will drain into Lough Corrib to the south. There is a distinct lack of local drainage (field drains, ditches, first-order streams etc) within the Proposed Wind Farm site and surrounding area. The topography broadly slopes southwest across the Proposed Wind Farm site, although local variations do exist. Any surface water runoff from the Site is expected to flow in this direction, however it will infiltrate to ground within a short distance, as evidenced by the lack of drainage channels. No field drains or surface watercourses were observed on site visits.

Views from within the Proposed Wind Farm site

Medium range landscape views are available across the open agricultural fields of the Proposed Wind Farm site, particularly from elevated vantage points at the north of the Proposed Wind Farm site. To the north of the Proposed Wind Farm site views of the surrounding landscape are limited due to the rise in elevation to the north and the vegetation along field boundaries. Only elevated landform features will be visible to the north of the Proposed Wind Farm site. As seen from Plate 14-11 and Plate 14-12 below, Knockma Hill is visible from several locations within the Proposed Wind Farm site boundary as it is located approximately 4km north of the nearest proposed turbine.



Plate 14-11 view to the north of the Proposed Wind Farm site from the proposed location of T2



Plate 14-12 View to the north of the Proposed Wind Farm site from the proposed substation location



Plate 14-13 Several hills in Connemara visible in the background of view

From several areas within the Proposed Wind Farm site there are long range views over the undulating farmland landscape to the south of the Proposed Wind Farm site. A number of hills in Connemara are visible in the background of views from within the Proposed Wind Farm site. They appear as distant landforms in the backdrop of the farmland setting.

14.5.3 Landscape Character of the Proposed Grid Connection

Landscape Character and Setting of the Proposed Onsite 110kV Substation

The location of the proposed on-site 110kV substation is within the centre of the Proposed Wind Farm site, approximately 424m northeast of proposed turbine T7. Plate 14-14 below shows a view of the location of the proposed onsite 110kV substation. The proposed onsite 110kV substation is located within a field of grassland delineated by low stone walls and dense hedgerows. This location is set back from the EIAR Site Boundary (>150m at its closest point) and is unlikely to be substantially visible from the closest visual receptors (i.e. residential receptors), as the nearest residential receptor is located approximately 500m from the site of the onsite 110kV substation.



Plate 14-14 Location of onsite substation



Plate 14-15 Topography of the onsite substation location

Plate 14-15 above shows a view towards the proposed onsite 110kV substation location from the south within the Proposed Wind Farm. From the south, the landscape gently slopes upwards to the north where the proposed onsite 110kV substation is located. As seen within Plate 14-15 there is a dense line of vegetation to the north of this field, this will further reduce the visibility of the onsite 110kV substation from the north. The onsite 110kV substation is located in the centre of the Proposed Wind Farm site and is substantially set back from the local roads surrounding the Proposed Wind Farm site (>600m). Views of the proposed onsite 110kV substation will be very limited due to the distance and screening from vegetation and topography.

Landscape Character and Setting of the Underground Cabling

As discussed in detail in Section 4.3.2.3 of this EIAR, it is proposed to connect the onsite 110 kV substation within the Proposed Wind Farm site to the existing Cloon 110kV substation, near Tuam, Co. Galway. The underground cabling route is approximately 14.3km in length and is located primarily within the public road corridor, with a short section of underground cabling (approximately 2.1km) within the internal road network within the Proposed Wind Farm site.

Landscape and visual effects arising as a result of the grid connection are discussed in full below in Section 14.8.

14.5.3.2 Landscape Value and Sensitivity of the Proposed Wind Farm

Landscape Values were assessed in order to determine the landscape sensitivity of the Proposed Wind Farm site as well as the wider landscape setting and establish the capacity of the immediate landscape in which the proposed turbines will be built, as it is prescribed by best practise guidance *“as part of the baseline description the value of the potentially affected landscape should be established”* (Page 80, GLVIA3, 2013). Comprehension of the landscape value and its susceptibility to change enables determination of the sensitivity of the landscape at a micro level (the development site) and its capacity to absorb the infrastructure of a wind farm development.

Determination of landscape value takes into consideration the scenic amenity designations, the sensitivity and value designations found in the local landscape policy as well as other indications of landscape value attached to undesignated landscapes. Table 14-3 below describes various factors that aid in identifying landscape value. These factors and indicators were appraised collectively to determine a landscape value for the Proposed Wind Farm. The Landscape value and susceptibility to change were then considered in forming a landscape sensitivity classification of either **Low**, **Moderate**, **High** or **Very High** for the Proposed Wind Farm (See *Appendix 14-1* for the different classifications referred to here).

Table 14-3 Indicators of Landscape Value

| Indicator | Description |
|--|---|
| Landscape Designations | <p>The proposed turbines are located within LCU 6a of County Galway – Black River Basin Unit and is part of the North Galway Complex Landscape Character Type where sensitivities include “open countryside offering frequent extensive panoramic views from local high-points”. The designated landscape sensitivity for the entirety of the lands located within County Galway within the LVIA Study Area is Low.</p> <p>As noted above in <i>Section 14.5.1.1.4</i>, the proposed turbines are located within areas designated as ‘generally to be discouraged’. However, it has been demonstrated by the detailed assessment of the site in this EIAR that the Proposed Wind Farm will not adversely effect protected landscape, water and ecological resources, therefore this location is appropriate for the Proposed Project.</p> |
| Landscape Elements Quality / Condition | This refers to the physical state of the landscape and the condition of individual elements. It is a modified working landscape due to the dominant presence of agriculture and utility of the land for this purpose. The landscape is modified by artificial drainage, access tracks and agricultural infrastructure. |
| Scenic / Aesthetic Qualities | The Proposed Wind Farm site has some rural aesthetic qualities given the lack of buildings and infrastructure present on the Proposed Wind Farm site. The surrounding area, however, views of residential infrastructure are common throughout the local area, and it is noted that the landscape of the Proposed Wind Farm site has clearly been subject to human interference and modification. |
| Rarity or Conservation Interests | There are no designated areas of conservation within the EIAR Site Boundary. Lough Corrib SAC is located within the LVIA Study Area. A comprehensive assessment of the Ecology on site is included in Chapter 6 – <i>Biodiversity</i> . |
| Wildness / Naturalness | The Proposed Wind Farm site is dominated by agricultural land, so it is considered to be a landscape modified by human interference. The influence of agriculture and settlements around the Proposed Wind Farm has altered the perceived sense of naturalness or wildness in this landscape. |
| Recreational Value | The Proposed Wind Farm site comprises privately owned land and is not used for any public recreational activities. |
| Cultural Meaning / Associations | There are no cultural meanings or associations within the EIAR Site Boundary itself. A comprehensive assessment of the Cultural Heritage on site is included in Chapter 13. |

In consideration of the factors detailed in Table 14-3 above, the landscape value of the Proposed Wind Farm site is deemed **Low**. The Proposed Wind Farm is predominantly located within an area of low scenic amenity and minimal aesthetic qualities due to the agricultural nature of the landscape. In addition, the proposed turbines are located within an area designated as Low landscape sensitivity in the GCDP (2022-28). In consideration of these factors the susceptibility of the Proposed Wind Farm site

to the proposed change is considered **Low**. On balance, the landscape sensitivity of the Proposed Wind Farm site is deemed **Low**.

14.5.4 Landscape Characterisation in the Guidelines (and with reference to the draft Guidelines)

The following section considers both the Guidelines and the draft Guidelines. These guidelines offer guidance for the siting and design of wind energy developments in various landscape contexts by defining six landscape character types that represent most situations where wind turbines may be proposed. The guidance is intended to be indicative and general and notes that it represents the 'best fit' solutions to likely situations.

The six landscape character types include 'Mountain Moorland', 'Hilly and Flat Farmland', 'Flat Peatland', 'Transitional Marginal Land', 'Urban/industrial' and 'Coastal' landscape character types. The guidelines note that where a wind energy development is located in one landscape character type but is visible from another, it will be necessary to decide which might more strongly influence the approach adopted for the assessment.

Flat Peatland was not applicable to the Proposed Wind Farm site as it does not have "bogs that have been harvested for peat and may comprise long parallel ridges of stacked milled peat and deep drains". In consideration of Galway County Council landscape designations and site visits conducted by the MKO Landscape and Visual team, the physical characteristics of the Proposed Wind Farm site is best described by 'Hilly and Flat Farmland' landscape character type. Therefore, the best practice siting and design strategies prescribed for Hilly and Flat Farmland (DoEHLG, 2006) were implemented for the Proposed Wind Farm site.

14.5.4.1 Hilly and Flat Farmland



Plate 14-16 Image of the Proposed Wind Farm site displaying the undulating characteristics of Hilly and Flat Farmland landscape type as stated in the Guidelines

The key characteristics of Hilly and Flat Farmland landscape type as stated in the Guidelines and the draft Guidelines are:

- "Intensively managed farmland, whether flat, undulating or hilly;
- A patchwork of fields delineated by hedgerows varying in size;
- Farmsteads and houses are scattered throughout, as well as occasional villages and towns;
- Roads, and telegraph and power lines and poles are significant components; and

➤ A working and inhabited landscape type.”

The siting and design guidance given for ‘Hilly and Flat Farmland’ landscape in the Guidelines and the draft Guidelines is set out below:

Location

“Location on ridges and plateaux is preferred, not only to maximise exposure, but also to ensure a reasonable distance from dwellings. Sufficient distance should be maintained from farmsteads, houses and centres of population in order to ensure that wind energy developments do not visually dominate them. Elevated locations are also more likely to achieve optimum aesthetic effect. Turbines perceived as being in close proximity to, or overlapping other landscape elements, such as buildings, roads and power or telegraph poles and lines may result in visual clutter and confusion. While in practice this can be tolerated, in highly sensitive landscapes every attempt should be made to avoid it.”

In terms of **location**, the Proposed Wind Farm and immediate surrounds are not highly sensitive landscapes. One rationale for the recommendation (cited above) to site turbines on elevated ridgelines within this landscape type, is to ensure a reasonable distance from dwellings and population centres, whilst avoiding visual dominance. In this regard, the proposed turbines are set back a reasonable distance from dwellings, adhering to the recommended 4 x tip height set-back distance from the draft Guidelines. Also, siting the turbines on a flat plain of low-lying land within a relatively flat landscape results in visibility of turbines reducing rapidly with increased distance from the Proposed Wind Farm site.

Spatial Extent

“This can be expected to be quite limited in response to the scale of fields and such topographic features as hills and knolls. Sufficient distance from buildings, most likely to be critical at lower elevations, must be established in order to avoid dominance by the wind energy development.”

In terms of **spatial extent**, as noted above, the sufficient distance from buildings, critical at lower elevations is achieved through the spatial extent of the Proposed Wind Farm site, with the proposed turbines adhering to the recommended 4 x tip height set-back distance from the draft Guidelines.

Spacing

“The optimum spacing pattern is likely to be regular, responding to the underlying pattern field pattern. The fields comprising the site might provide the structure for spacing of turbines. However, this may not always be the case and a balance will have to be struck between adequate spacing to achieve operability and a correspondence to field pattern.”

In terms of **spacing** the proposed turbines are appropriately spaced responding to the underlying pattern field pattern. In line with the guidance, the regular spacing pattern and slightly staggered arrangement of turbines are sympathetic to the irregular layout of existing field pattern and natural form existent within the landscape.

Layout

“The optimum layout is linear, and staggered linear on ridges (which are elongated) and hilltops (which are peaked), but a clustered layout would also be appropriate on a hilltop. Where a wind energy development is functionally possible on a flat landscape a grid layout would be aesthetically acceptable.”

In terms of **layout**, the proposed turbines are aligned in a linear layout within the slightly undulating landscape. When viewed from multiple orientations in the LVIA Study Area, the turbines appear evenly spaced and as a coherent linear feature in the landscape.

Height

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

In terms of **height**, the turbines are tall features within the landscape, although, the development as a whole retains a relatively even profile. The elevation of the proposed turbines is relatively similar, when viewing the turbines, the nacelles are positioned at a relatively even heights, appearing visually coherent when viewed from areas within the wider landscape area.

Cumulative Effect

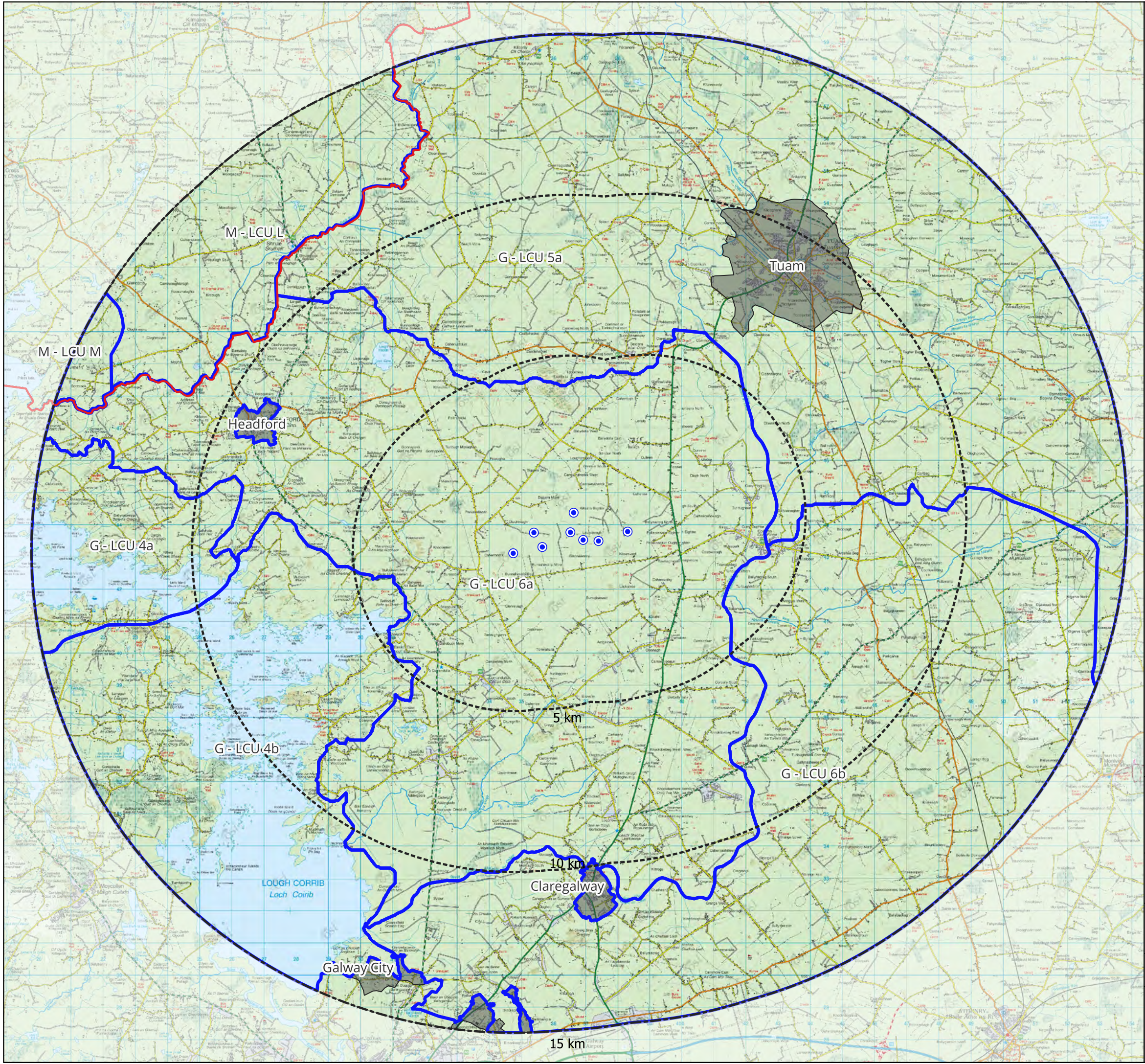
“It is important that wind energy development is never perceived to visually dominate. However, given that these landscapes comprise hedgerows and often hills, and that views across the landscape will likely be intermittent and partially obscured, visibility of two or more wind energy developments is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

In terms of **cumulative effect**, there are no existing, permitted or proposed wind farm developments within 5km of the proposed turbines. As noted below in Section 14.7 the two existing Clonlusk turbines are located approximately 9.3km east of proposed turbine T8. The proposed Cooloo and proposed Clonberne turbines are located greater than 15km from the proposed turbines. The Proposed Wind Farm has been sited within a landscape with limited wind energy development at present. Cumulative landscape and visual effects related to the proposed turbines and the other existing and proposed developments are discussed in detail below in Section 14.8.3.

14.5.5 Landscape Character of the Wider Study Area

Landscape character refers to the distinct and recognisable pattern of elements that occurs consistently in a particular type of landscape, and how people perceive this. It reflects particular combinations of geology, landform, soils, vegetation, land use and human settlement, and creates the particular sense of place found in different areas. The landscape surrounding the Proposed Wind Farm site is a rural agricultural landscape. It is a settled landscape; clusters of residential dwellings are organised in a linear fashion along local and regional roads surrounding the Proposed Wind Farm site. Knockma Hill is located approximately 4.1km north of the proposed turbines. There are no substantial population centres within 5km of the Proposed Wind Farm site. The town of Tuam and village of Headford are located within 10km of the Proposed Wind Farm site. Headford is located approximately 8.9km northwest of the nearest proposed turbine (T1) and Tuam is located approximately 9.5km northeast of the nearest proposed turbine (T8). Galway City is located approximately 15.8km south of the proposed turbines.

For the purpose of the Landscape Character study for this section of the report, a 15 km study boundary from the proposed turbines will be assessed, as outlined in Appendix 14-2.



Map Legend

- Proposed Turbine Locations
- County Borders
- LVIA Study Area for effects on Landscape Character (15km)
- Landscape Character Units

Co. Galway Landscape Character Units

- G - LCU 4a - Upper Corrib Environs Unit
- G - LCU 4b - Lower Corrib Environs Unit
- G - LCU 5a - North River Clare Basin Unit
- G - LCU 5c - Springfield Basin Unit
- G - LCU 5d - Slieve Dart Unit
- G - LCU 6a -Black River Basin Unit
- G - LCU 6b - Southern River Clare Basin Unit

Co. Mayo Landscape Character Units

- M - LCU L - South-East Mayo Plains
- M - LCU M - Lakeland Drumlins

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Drawing No.

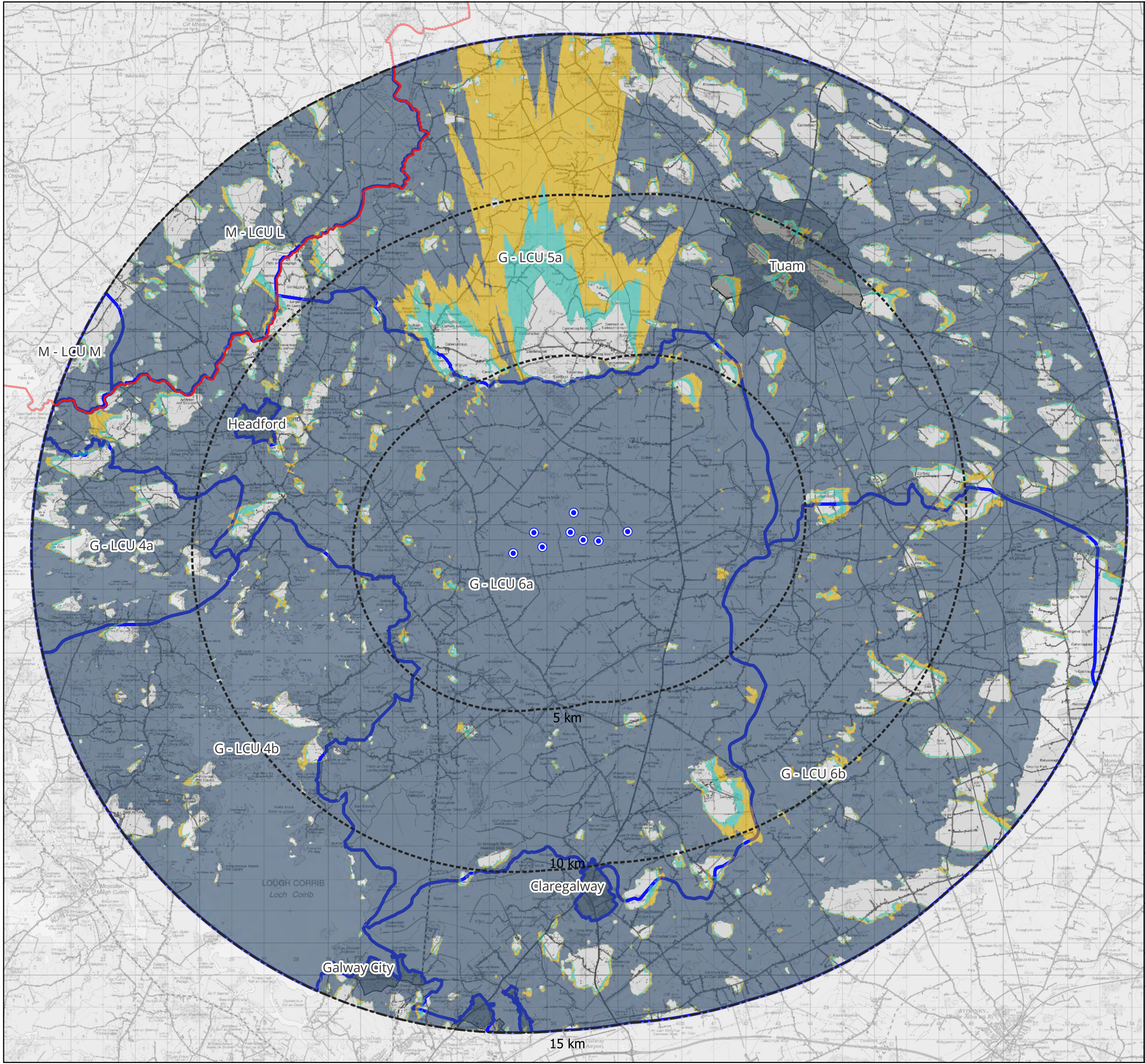
Figure 14-10

Drawing Title
Landscape Character Assessment

Project Title
Laurclavagh Renewable Energy Development

| Scale | Project No. | Date | Drawn By | Checked By |
|-----------|-------------|------------|----------|------------|
| 1:115,000 | 210627 | 07.03.2024 | SF | JW |





Map Legend

- Proposed Turbine Locations
- County Borders
- LVIA Study Area for effects on Landscape Character (15km)
- Landscape Character Units

ZTV

- 1-3 Turbines Theortically Visible
- 4-6 Turbines Theoretically Visible
- 7-8 Turbines Theoretically Visible

Co. Galway Landscape Character Units

- G - LCU 4a - Upper Corrib Environs Unit
- G - LCU 4b - Lower Corrib Environs Unit
- G - LCU 5a - North River Clare Basin Unit
- G - LCU 5c - Springfield Basin Unit
- G - LCU 5d - Slieve Dart Unit
- G - LCU 6a -Black River Basin Unit
- G - LCU 6b - Southem River Clare Basin Unit

Co. Mayo Landscape Character Units

- M - LCU L - South-East Mayo Plains
- M - LCU M - Lakeland Drumlins

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Drawing No.

Figure 14-11

Drawing Title
Landscape Character Assessment & ZTV

Project Title
Laurclavagh Renewable Energy Development

| | | | | |
|--------------------|-----------------------|--------------------|----------------|------------------|
| Scale 1:115,000 | Project No. 210627 | Date 07.03.2024 | Drawn By SF | Checked By JW |
|--------------------|-----------------------|--------------------|----------------|------------------|



14.5.5.1 Landscape Character Units

The 15 km study boundary from the proposed turbines falls within 5 No. Landscape Character Units for County Galway and 2 No. Landscape Types for County Mayo. The LCUs falling within the LVIA study area are described below and shown in Figure 14-10. A detailed description for each LCU is outlined in Appendix 14-2 of this report. All the LCUs identified, and which show full or partial theoretical visibility located within 15 km of the proposed turbines are listed below:

- Galway LCU 6a - Black River Basin Unit
- Galway LCU 5e - North River Clare Basin Unit
- Galway LCU 6b - Southern River Clare Basin Unit
- Galway LCU 4b - Lower Corrib Environs Unit
- Galway LCU 4a - Upper Corrib Environs Unit
- Mayo LCT L - South-East Mayo Plains
- Mayo LCT M - Lakeland Drumlins

Using the ZTV mapping shown in Figure 14-11, the following sections assess the theoretical visibility of the proposed turbines from within each LCU and LCT in the LVIA study area, scoping out any LCUs or LCTs with no significant visibility. Appendix 14-2 details the key characteristics for each LCU/LCT that screened in for further assessment. Using the methodology outlined above, a sensitivity classification is assigned to each LCU/LCT in Appendix 14-2.

14.5.5.2 Summary of Potential Landscape Receptors – Landscape Character Units

The LCU/LCTs falling within the 15 km study area have been listed in Table 14-4 below, where theoretical visibility obtained from ZTV mapping as well as actual visibility observed on site are also shown. Only Landscape Character Type Mayo LCT M - Lakeland Drumlins have been screened out from further assessment.

Table 14-4 Landscape Receptors – Landscape Character Areas

| LCU | Theoretical Visibility (ZTV) | Actual Visibility | Screened in for Assessment |
|--|---|---|----------------------------|
| LCU 6a - Black River Basin Unit | Full theoretical visibility within this LCA. | The proposed turbines are located within this LCA. Likely visibility of the proposed turbines throughout this LCA | Yes |
| LCU 5e - North River Clare Basin Unit | Majority of the LCA has full theoretical visibility | Visibility of the proposed turbines from areas within this LCU due to the flat nature of the landscape | Yes |
| LCU 6b - Southern River Clare Basin Unit | Majority of the LCA has full theoretical visibility | Visibility of the proposed turbines from areas within this LCU | Yes |
| LCU 4b - Lower Corrib Environs Unit | Majority of the LCA has full theoretical visibility | Visibility of the proposed turbines from areas within this LCU | Yes |

| LCU | Theoretical Visibility (ZTV) | Actual Visibility | Screened in for Assessment |
|-------------------------------------|---|--|----------------------------|
| LCU 4a - Upper Corrib Environs Unit | Majority of the LCA has full theoretical visibility | Visibility of the proposed turbines from areas within this LCU. | Yes |
| Mayo LCT L - South-East Mayo Plains | Majority of the LCA has full theoretical visibility | It is unlikely there will be visibility of the proposed turbines from areas within this LCU. From this distance due to the flat nature of the landscape views will be screened from vegetation and local undulations in the intervening landscape. | No |
| Mayo LCT M - Lakeland Drumlins | Full theoretical visibility from within 15km of the proposed turbines | Small section of the LCT located within 15km of the proposed turbines. Actual visibility from this location will be very limited due to distance and screening from intervening vegetation within the landscape. | No |

14.6 Visual Baseline

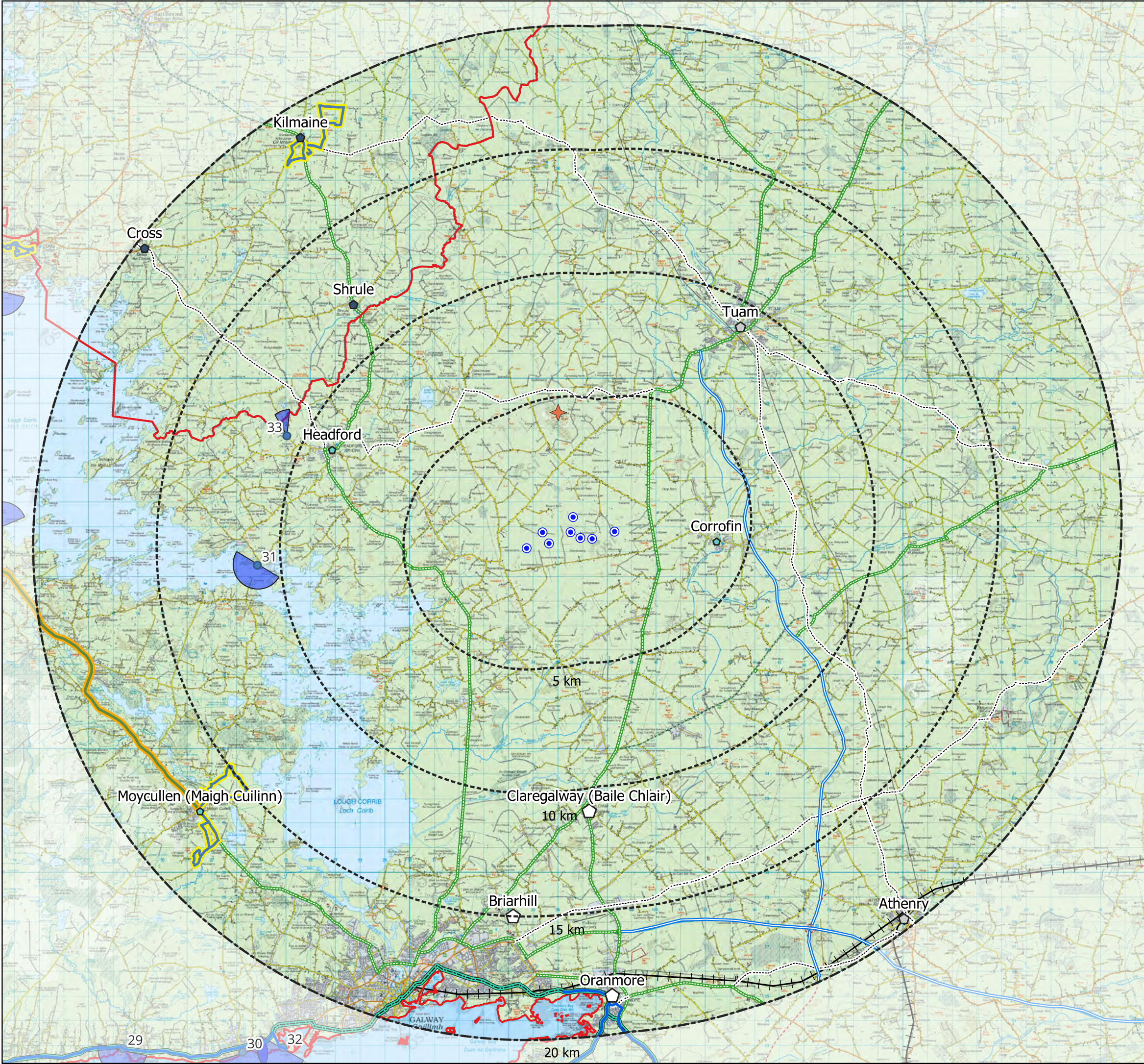
14.6.1 Visual Receptors

The main purpose of establishing the visual baseline is to identify the key visual receptors that should be considered for viewpoint selection. To this end the following have been identified:

- > Designated Scenic Routes and Scenic Views
- > Settlements
- > Recreational Routes and Tourist Designations
- > Waymarked Walking Routes
- > Cycle Routes
- > Scenic Drives
- > Tourist Routes (e.g. Wild Atlantic Way)
- > Viewing Points (e.g. marked on OS Maps)
- > Transport Routes

These visual receptors are listed in tables in the following sections along with theoretical visibility at those locations indicated by the ZTV maps. All visual receptors are shown on Figure 14-12 and Figure 14-13 below.


The designated scenic routes and views were taken from the respective Development Plan of County Galway and County Mayo. In addition to theoretical visibility, whether the focus of the scenic route or view is directed towards the proposed turbines is also indicated in the tables.



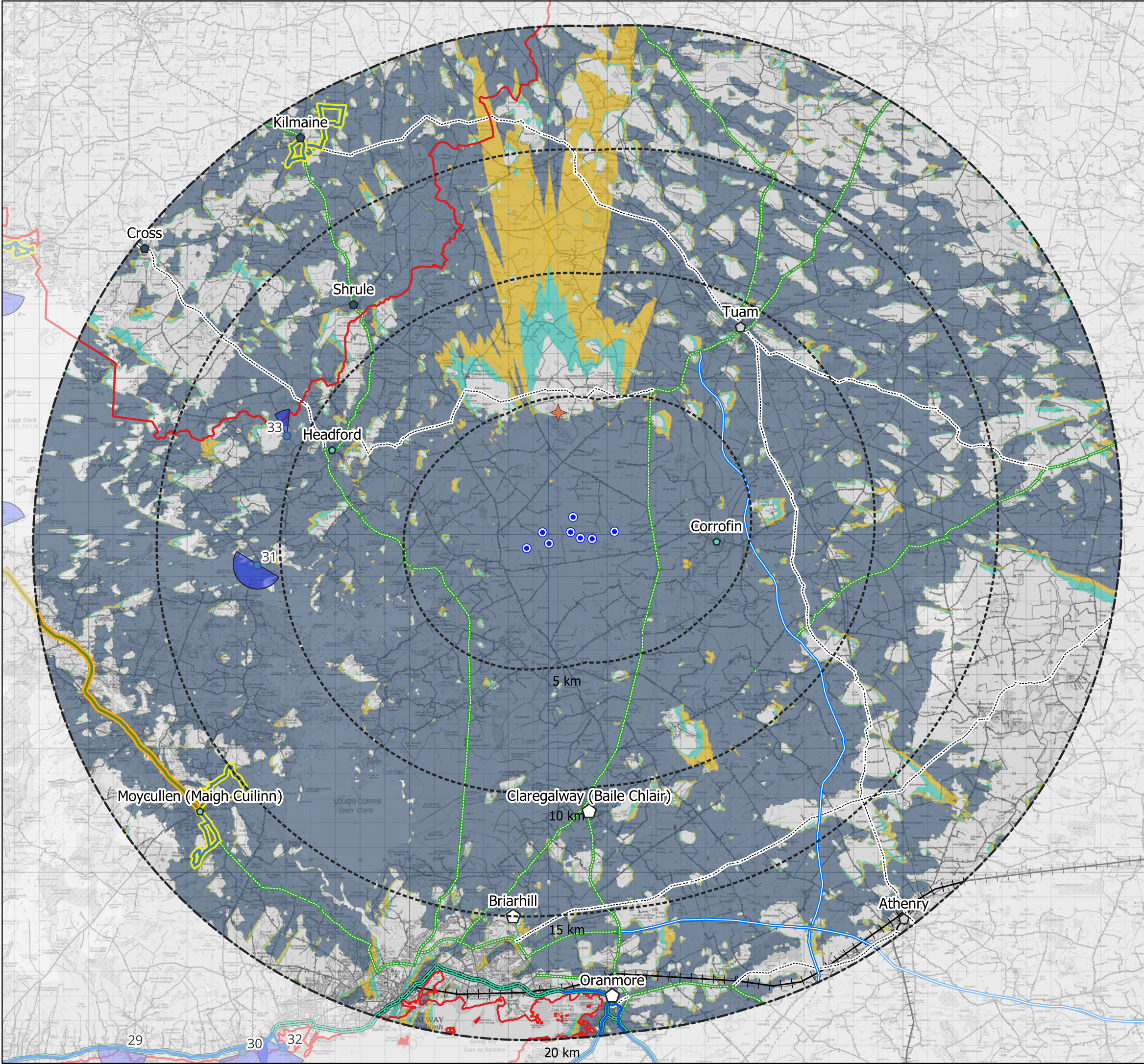
Map Legend

- Proposed Turbine Locations
- LVIA Study Area
- County Borders
- Co. Galway Designated Scenic Routes**
 - Galway Clifden Scenic Route
 - Lough Corrib Scenic Route
 - Galway Bay Scenic Route
- Co. Galway Designated Protected Views
- The Wild Atlantic Way - Tourist Route
- Way Marked Walking Trails
- Knockma Hill
- Transport Routes**
 - National Roads
 - Regional Roads
 - Motorway
 - Ireland Rail Network
- Standardised Settlement Hierarchy**
 - County Hub Town
 - Town
 - Rural Settlement Cluster
 - Village

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| | | | | |
|---|-----------------------|--------------------|----------------|------------------|
|  | Drawing No. | | | |
| | Figure 14-12 | | | |
| Drawing Title | | | | |
| Visual Baseline | | | | |
| Project Title | | | | |
| Laurclavagh Renewable Energy Development | | | | |
| Scale 1:150,000 | Project No. 210627 | Date 07.03.2024 | Drawn By SF | Checked By JW |





Map Legend

- Proposed Turbine Locations
- County Borders
- LVIA Study Area
- Co. Galway Scenic Routes**
 - Galway Clifden Scenic Route
 - Lough Corrib Scenic Route
 - Galway Bay Scenic Route
- Co. Galway Protected Views
- The Wild Atlantic Way - Tourist Route
- Way Marked Walking Trails
- Knockma Hill
- Transport Routes**
 - National Roads
 - Regional Roads
 - Motorway
 - Ireland Rail Network
- Standardised Settlement Hierarchy**
 - County Hub Town
 - Town
 - Rural Settlement Cluster
 - Village
- ZTV**
 - 1-3 Turbines Theortically Visible
 - 4-6 Turbines Theoretically Visible
 - 7-8 Turbines Theoretically Visible

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Drawing No.

Figure 14-13

Drawing Title

Visual Baseline & ZTV

Project Title

Laurclavagh Renewable Energy Development

Scale
1:150,000

Project No.
210627

Date
07.03.2024

Drawn By
SF

Checked By
JW



14.6.1.1 Scenic Views

The Landscape Character Assessment for County Galway identifies protected views and scenic routes “of great natural beauty located across the county.” The GCDP states that these protected views and scenic routes “have a very important amenity, tourism, economic and cultural value for the county and its people.” In light of this the GCDP contains the following policy related to protected views and scenic routes.

“PVSR 1 – Protected Views and Scenic Routes - Preserve the protected views and scenic routes as detailed in Maps 8.3 and 8.4 from development that in the view of the Planning Authority would negatively impact on said protected views and scenic routes. This shall be balanced against the need to develop key infrastructure to meet the strategic aims of the plan.”

There are no scenic routes or views within the Site. There are two designated Scenic Views and three designated Scenic Routes in County Galway within the LVIA Study Area. There are no Co. Mayo designated scenic routes within the LVIA Study Area. The closest scenic view (33) is located approximately 10.6km to the northwest of the nearest proposed turbine (T1). Both Scenic Views within the LVIA Study Area are directed away from the proposed turbines. A section of the Clifden and Lough Corrib Scenic Route is located within 20km of the proposed turbines. The ZTV indicates that these scenic routes and views have patches of full and partial visibility. Table 14-5 below outlines Scenic Routes and Views within the LVIA Study Area.

Table 14-5 Scenic Routes and Views within the 20km LVIA Study Area

| Map Ref. | Scenic Route/View Description | Significance | Directed to Turbines? | Theoretical Visibility | Screened in for Assessment |
|---------------------------|--|--------------|-----------------------|------------------------|----------------------------|
| G-V31 | The focus of this view is Lough Corrib. The adjacent reedy shore and distant wooded shores that form the background are important features of the view | County | Partially | Yes | Yes |
| G-V33 | The focus of this view is the Ross Friary ruins through the trees as the road approaches the Site. The turlough in the background is an important feature (when present). | County | No | Yes | No |
| Lough Corrib Scenic Route | This route runs from Maigh Cuilinn and Oughterard through Maam Cross before looping back at Cong. Near Galway City’s outskirts it encounters a mixture of landscapes that include treelined roads at parkland edges with occasional very expansive elevated panoramas across Lower Lough Corrib. Between Maigh Cuilinn and Oughterard the route passes | NA | Partially | Yes | Yes |

| Map Ref. | Scenic Route/View Description | Significance | Directed to Turbines? | Theoretical Visibility | Screened in for Assessment |
|-------------------------|--|--------------|-----------------------|---|----------------------------|
| | through increasingly enclosed and inhabited landscapes. Lakeshore access points offer opportunities to experience very distinctive landscapes – usually from wooded locations with occasional panoramic views across many islands. The woodland character of this area provides strikingly different experiences across each season. After Oughterard the land changes abruptly to unenclosed, large -scale areas with distant views of open countryside and largescale elements such as uplands, bogs and lakes; Key Features: Lakes, Mountains, large tracts of unoccupied and unenclosed land. | | | | |
| Galway Bay Scenic Route | <i>“The first section of the route follows the Wild Atlantic Way between An Bearna and Inbhear. The route parallels the coast at varying distances with occasional views of the coast across small, scrub-lined fields and between houses. This part of the route is punctuated by a near-continuous conurbation of smaller settlements, many with a denser older cores, some of which are now urbanised – An Bearna and An Spidéal. The second section is from Oranmore to the outskirts of Kinvarra, this short route passes through a countryside of small fields and scattered housing. Much of the route passes through areas of tall road-side hedges and scrub hazel that confine views. Occasionally elevated portions of roads offer expansive, long-distance views towards the northern Burren as well as Galway Bay. The route is centred on Kinvarra and leads</i> | NA | Partially | Very small section of the route beyond 18km | No |

| Map Ref. | Scenic Route/View Description | Significance | Directed to Turbines? | Theoretical Visibility | Screened in for Assessment |
|-----------------------------|--|--------------|-----------------------|------------------------|----------------------------|
| | <i>onwards to Ballyvaughan. It also offers opportunities to begin exploration of the most spectacular parts of the northern Burren via lesser used roads. Key Features: Coastal views, Bays, Coastal Villages."</i> | | | | |
| Galway Clifden Scenic Route | <p><i>"the landscape is open and largely devoid of visible development. It offers expansive views of uplands, bogs and lakes.</i></p> <p><i>The landscapes are very large and expansive – drawing the eye to distant horizons and to the ever-changing sky. The turbulent Atlantic frontal weather systems cause the lighting to frequently change. Seasons bring about large-scale changes of colour – both of vegetation and grasses.</i></p> <p><i>Key Features: Mountains, Lakes, Bogs."</i></p> | NA | Partially | Yes | Yes |

14.6.1.2 Settlements

In order to identify which settlements within the LVIA Study Area should be considered for viewpoint selection, the settlement strategies and hierarchy set out in the core strategy of the Development Plans of Counties Galway and Mayo were consulted. The settlement hierarchies of the three counties in the LVIA Study Area use differing classifications and naming conventions. MKO have created a standardised settlement hierarchy to enable cross-comparison of these population centres and clarity within the visual baseline mapping and throughout this assessment. Each settlement is given one of the following classifications in consideration of its size, population density and existing designation in the relevant county development plan.

- County Hub Town
- Town
- Village
- Rural Settlement Clusters

Table 14-6 below lists the settlements identified from the respective CDPs within the 20km LVIA Study Area also noting their county status within the settlement strategy and whether there is theoretical visibility indicated by the ZTV.

Table 14-6 Settlements within the 20km Study Area for Co. Galway and Co. Mayo

| Settlement | County Settlement Hierarchy | Standardised Settlement Hierarchy | Theoretical Visibility | Screened In? |
|----------------------------|--|-----------------------------------|------------------------|--------------|
| Up to 5km | | | | |
| Corrofin | Not designated in the County Development plan but a small village within 5km | Village | Full | Yes |
| 5 to 10km | | | | |
| Headford | Small Growth Town | Village | Full | Yes |
| Tuam | Key Town | Town | Full | Yes |
| 10 to 15km | | | | |
| Shrule | Tier 4 | Rural Settlement Cluster | Full | Yes |
| Claregalway (Baile Chlair) | Galway Metropolitan Area | County Town Hub | Full | Yes |
| 15 to 20km | | | | |
| Moycullen (Maigh Cuilinn) | Small Growth Town | Village | Full | Yes |
| Briar Hill | Galway Metropolitan Area | County Hub Town | Partial | No |
| Oranmore | Galway Metropolitan Area | County Hub Town | Partial to None | No |
| Athenry | Strategic Potential | Town | None | No |
| Cross | Tier 5 | Rural Settlement Cluster | None | No |
| Kilmaine | Tier 4 | Rural Settlement Cluster | Full | Yes |

14.6.1.3 Recreational and Tourist Destinations

Recreation and tourist destinations were identified after reviewing the Tourism Strategy for County Galway and County Mayo and identifying any Way Marked Walking routes within the study area. The routes are shown on Figure 14-12 and are listed in Table 14-7 below along with theoretical visibility shown on ZTV mapping for the routes.

Table 14-7 Recreational Routes and Tourist Destinations within the 20 km Study Area for Co. Galway and Co. Mayo

| Route Name | Description | Theoretical Visibility | Screened In? |
|--|--|--|--------------|
| Up to 5km | | | |
| Knockma Wood and Knockma Hill | Knockma, the great Hill of Maeve is situated 8km west of Tuam. Maeve, the legendary Queen of Connacht, and Ceasair, one of the earliest colonists of Ireland, are reputed to be buried in the cairns on the summit of the hill. | Full | Yes |
| 15 to 20km | | | |
| Maigh Cuilinn (Moycullen) Heritage Trails - Sean Reilig Loop Walk | Waymarked walking trail. This trail has a heritage focus with information signage at or near the points of interest as it follows footpath through the main village and quiet country road taking the walker down the Church Road and through the home farm and Leagaun area, offering highlights such as the old railway, a 15th Century graveyard and the ruins of the O'Flaherty ancestral home | Full theoretical visibility along the route | Yes |
| Maigh Cuilinn (Moycullen) Heritage Trails - Killarainey Woods Walk | Waymarked walking trail. This trail has a heritage focus with information signage at or near the points of interest as it follows footpath through the main village and passes through Killarainey woodland area offering general heritage information from penal times, famine times, 1916 and the war of independence. | Full theoretical visibility along the route | Yes |
| Maigh Cuilinn (Moycullen) Heritage Trails - Killagoola Loop Walk | Waymarked walking trail. This trail has a heritage focus with information signage at or near the points of interest as it follows footpath through the main village and quiet country road taking the walker around the Killagoola Loop with fine views of the village and Lough Corrib. | Full theoretical visibility along the route | Yes |
| Kilmaine - Nature walk | Waymarked walking trail. This walk takes you on a path beside the N84 before joining a stream | Mostly full theoretical visibility along the route | Yes |

| Route Name | Description | Theoretical Visibility | Screened In? |
|---------------------------|---|---|--------------|
| | lined with native trees where you walk through fields, passing the outline of an ancient ring fort. | | |
| Kilmaine - Killernan loop | Waymarked walking trail. This is a peaceful, relaxing countryside loop taking in green fields and quiet road with farm and stone-wall views and passing the ruins of Killernan Castle. | Mostly full theoretical visibility along the route | Yes |
| Kilmaine - Church walk | Waymarked walking trail. This walk takes you on a path beside the N84 before joining a quiet country road between the fields and passing St Patrick's Church, which has a beautiful stained-glass window, The Nativity, by the renowned artist, Harry Clarke. | Mostly full theoretical visibility along the route | Yes |
| Wild Atlantic Way | Tourist Route along the coast roads of the west coast of Ireland. | Mostly no theoretical visibility along the route within the LVIA Study Area | No |

14.6.1.4 Major Transport Routes

For the purpose of viewpoint selection national primary and secondary roads were assessed in detail. Preference was given to viewpoint selection on regional routes in cases where they passed through settlement areas or coincided with scenic routes to increase the number of visual receptors. Transport routes within 3 kilometres of the proposed turbines were also assessed as part of the route screening analysis as shown above in Section 14.4.3.

Table 14-8 Significant transport routes within the 20 km LVIA Study Area

| Transport Route | Theoretical Visibility | Actual Visibility | Screened In? |
|-----------------|--|--|--------------|
| Up to 5 km | | | |
| N83 | Mostly full theoretical visibility within the LVIA Study Area to the east of the Proposed Wind Farm site | There will be visibility of the proposed turbines along sections of the road where there is less screening along the roadside | Yes |
| R334 | Mostly full theoretical visibility within the LVIA Study Area to the west of the Proposed Wind Farm site between 5-10km. There is a large area of no | There will be visibility of the proposed turbines along the road to the west where there is lack of vegetation along the roadside. | Yes |

| Transport Route | Theoretical Visibility | Actual Visibility | Screened In? |
|-------------------|--|---|--------------|
| | theoretical visibility behind Knockma Hill. | | |
| M17 | Mostly full theoretical visibility within the LVIA Study Area to the east of the Proposed Wind Farm site | A large stretch of the road is screened on either side by landbanks, however, there will be sections of the road where there will be visibility of the proposed turbines | Yes |
| 5 to 10km | | | |
| N63 | Mostly full theoretical visibility within the LVIA Study Area to the east of the Proposed Wind Farm site | The local undulations along the road limit visibility towards the proposed turbines | No |
| R333 | Mostly no theoretical visibility to the north of the Proposed Wind Farm site at 5km | Limited visibility due to the screening from Knockma Hill and vegetation and infrastructure along the roadside | No |
| R332 | Mostly full theoretical visibility to the east and north of the Proposed turbines | Views towards the proposed turbines will be limited due to intervening screening from vegetation | No |
| R347 | Mostly full theoretical visibility within the LVIA Study Area to the east of the Proposed Wind Farm site | There is roadside screening from vegetation along large stretches of the road but there will be visibility of the proposed turbines from areas of the road where there is no roadside screening | Yes |
| R334 | Mostly full theoretical visibility within the LVIA Study Area to the west of the Proposed Wind Farm site | Intermittent views of the proposed turbines from sections along the road with no roadside vegetation | Yes |
| R354 | Mostly full theoretical visibility in the LVIA Study Area to the south of the Proposed Wind Farm site | There are areas along this road where there are open views towards the proposed turbines | Yes |
| 10 to 15km | | | |
| N17 | Mostly full theoretical visibility to the northeast of the LVIA Study Area | No visibility along the majority of the route due to roadside screening from vegetation and roadside berms. | Yes |

| Transport Route | Theoretical Visibility | Actual Visibility | Screened In? |
|----------------------------|--|---|--------------|
| R381 | Mostly full theoretical visibility between 10-15km with a large section of no visibility | Due to distance and intervening vegetation views towards the proposed turbines are limited | No |
| R339 | Mixed theoretical visibility to the south of the LVIA Study Area. | Due to distance and intervening vegetation views towards the proposed turbines are limited | No |
| 15 to 20km | | | |
| M6 | Mostly full theoretical visibility beyond 15km | Actual visibility will be very limited as the road is bordered for the majority of this section, so visibility is limited | No |
| M18 | Very little patch of theoretical visibility | Actual visibility will be very limited from this distance due to the intervening vegetation and road infrastructure north of the road | No |
| N59 | Full theoretical visibility along the majority of the route within the LVIA Study Area to the southwest of the Proposed Wind Farm site | Visibility will be limited to areas of high elevation along the road | Yes |
| Galway to Dublin Railway | Mixed theoretical visibility along the section of this route within the LVIA Study Area | Actual visibility will be very limited as the trainline is bordered for the majority of this section within the LVIA Study Area, so visibility is limited | No |
| Galway to Limerick Railway | No theoretical visibility along this section of the railway within the LVIA Study Area | None | No |

14.6.2 Visual Receptor Preliminary Assessment

After identifying the visual receptors in the study area based on designated scenic routes and scenic views, settlements, recreational and tourist destinations, recreational routes and transport routes, a preliminary assessment was carried out to screen out visual receptors that will not be impacted by the proposed turbines.

Zone of Theoretical Visibility mapping and visibility appraisals conducted on site during surveys undertaken in 2022 and 2023 were used to scope out visual receptors from further assessment. In the case of the visual receptors shown in Table 14-9 below, views towards the turbines were either entirely screened or substantially screened from view. In some cases, the factor of distance to the proposed

turbines as well as the directional focus of views was included in the screening assessments and was a contributing factor for these locations being screened out as viewpoints.

Table 14-9 Visual Receptors Screened **Out** - No visibility indicated by ZTV map OR no visibility found on site OR not in the direction of the proposed turbines.

| Visual Receptor Category | Visual Receptor with no significant visibility found on site (or views focused away from the proposed turbines) |
|--|---|
| Designated Scenic Routes and Views | G-V33 |
| Settlements | Briar Hill, Oranmore, Athenry, Cross, Kilmaine |
| Recreational Routes and Tourist Destinations | Wild Atlantic Way |
| Transport Route | R381, R339, R332, N63, M6, M18, Galway to Dublin Railway, Galway to Limerick Railway |

In the case of the visual receptors shown in Table 14-10 below, views towards the turbines were either entirely screened or substantially screened from view. In some cases, the factor of distance to the proposed turbines as well as the directional focus of views was included in the screening assessments and was a contributing factor for these locations being screened out as viewpoints. The following receptors have been screened out from further assessment due to the very limited visibility of the proposed turbines anticipated as determined by on-site appraisals.

Table 14-10 Visual Receptors **Screened Out** from Actual Visibility from Onsite Appraisals

| Visual Receptor Category | Visual Receptor with no significant visibility found on site (or views focused away from the proposed turbines) |
|--|--|
| Settlements | Shrule |
| Recreational Routes and Tourist Destinations | Kilmaine - Church walk, Kilmaine - Killernan loop, Kilmaine - Nature walk, Maigh Cuilinn (Moycullen) Heritage Trails - Killagoola Loop Walk, Maigh Cuilinn (Moycullen) Heritage Trails - Killarainey Woods Walk, Maigh Cuilinn (Moycullen) Heritage Trails - Sean Reilig Loop Walk |
| Transport Route | R381, R339, R332, N63, M6, M18, Galway to Dublin Railway, Galway to Limerick Railway |

Following the pre-assessment exercise, the visual receptors listed below in Table 14-11 have not been screened out for any of the reasons outlined above. Therefore, these receptors are screened in and will be assessed further below (Section 14.8). In order to inform the assessment, individual viewpoints were selected at or along those receptors, from which photomontages were produced. In some instances, a visual receptor may be represented by a photomontage viewpoint that is closer to the proposed turbines but of similar geographical location and orientation.

Photomontage imagery was captured from many locations in the LVIA Study Area. 15 No. viewpoints were selected for the final Volume 2 photomontage booklet which accompanies this EIAR. Before selection of the final viewpoints, early-stage photomontages (draft overlaid wireframes) were produced from almost all of the visual receptors listed Table 14-11 below. In some instances, the photowires indicated limited visibility of the proposed turbines and were not taken forward for inclusion in the final photomontage booklet. These early-stage photomontages and the visual receptors they represent will be

presented and discussed in text during the assessments included in Section 14.8 of this chapter.

Table 14-11 Visual Receptors Screened **In** For Further Assessment

| Visual Receptor Category | Description | Viewpoint No. |
|--|-------------------------------------|--|
| Designated Scenic Routes and Scenic Views | Galway Designated Protected View 31 | VP14 |
| | Lough Corrib Scenic Route | VP13, PWVP-Q |
| | Galway to Clifden Scenic Route | VP13 PWVP-Q |
| Settlements | Headford | VP15 |
| | Tuam | VP09 PWVP-D |
| | Claregalway | PWVP-L |
| | Moycullen | VP13 PWVP-Q |
| Recreational Routes and Tourist Destinations | Knockma Hill | VP07 |
| Transport Routes | N83 | VP08, VP03, PWVP-K, PWPV-G, PWVP-L, PWVP-D |
| | N84 | VP12, PWVP-P, PWVP-S |
| | R334 | VP15 |
| | M17 | PWVP-F |
| | R347 | PWVP-F |
| | R354 | PWVP-L |
| | N17 | VP09 |
| | N59 | VP13 PWVP-Q |

The viewpoints listed above were selected according to the key visual receptors identified in the visual baseline.

14.6.3 Photomontage Viewpoint Locations

Photos taken from each photomontage viewpoint will assist the assessment of the significance of visual effects arising from the proposed turbines from each viewpoint location. The viewpoint locations are representative, and in some instances, photos were not taken directly next to a visual receptor but in another location in close proximity where there may be superior line of sight towards the proposed turbines (e.g. higher elevation or less screening). A detailed description of the viewpoint selection process and photomontage assessment methodology is provided in Appendix 14-1.

The likely or significant visual effects of the proposed turbines arising from each viewpoint location are reported in Section 14.8 of this Chapter. The assessment process is extensively detailed in the photomontage assessment tables in Appendix 14-3.

14.7

Cumulative Context

In terms of cumulative landscape and visual effects, only other wind energy projects have been considered, as only these would be described as very tall vertical elements in the landscape and therefore give rise to significant cumulative effects. A long list of all applications considered by each of the different disciplines in their cumulative impact assessment are discussed in Chapter 2. There are no potential for Significant impacts from a landscape and visual perspective in relation to the non-wind energy applications, therefore these have not been considered further in the cumulative assessment.

There are several singular turbines located within the LVIA Study Area. Whilst it is acknowledged these singular turbines exist, due to the distance beyond 5km and the height of the singular turbines below 50m, these turbines have been screened out from assessment. There is no potential for significant cumulative effects to arise between these singular turbines and the Proposed Project due to scale and set back distance. Other wind energy developments within 20 km of the proposed turbines were identified by searching past planning applications lodged through the various planning authorities (Galway County Council, Mayo County Council and An Bord Pleanála) online planning portals. The information identified in the initial planning search was then used to verify, by means of a desk-based study and ground-truthing, whether the permitted wind energy developments had been constructed.

There are no other existing, permitted or proposed wind farms within 5km of the proposed turbines. The list of existing, permitted and proposed wind turbines present within the study area are listed in Table 14-12 below.

Table 14-12 Cumulative Baseline: Other Wind Farms within 20km of the Proposed Laurclavagh Wind Farm

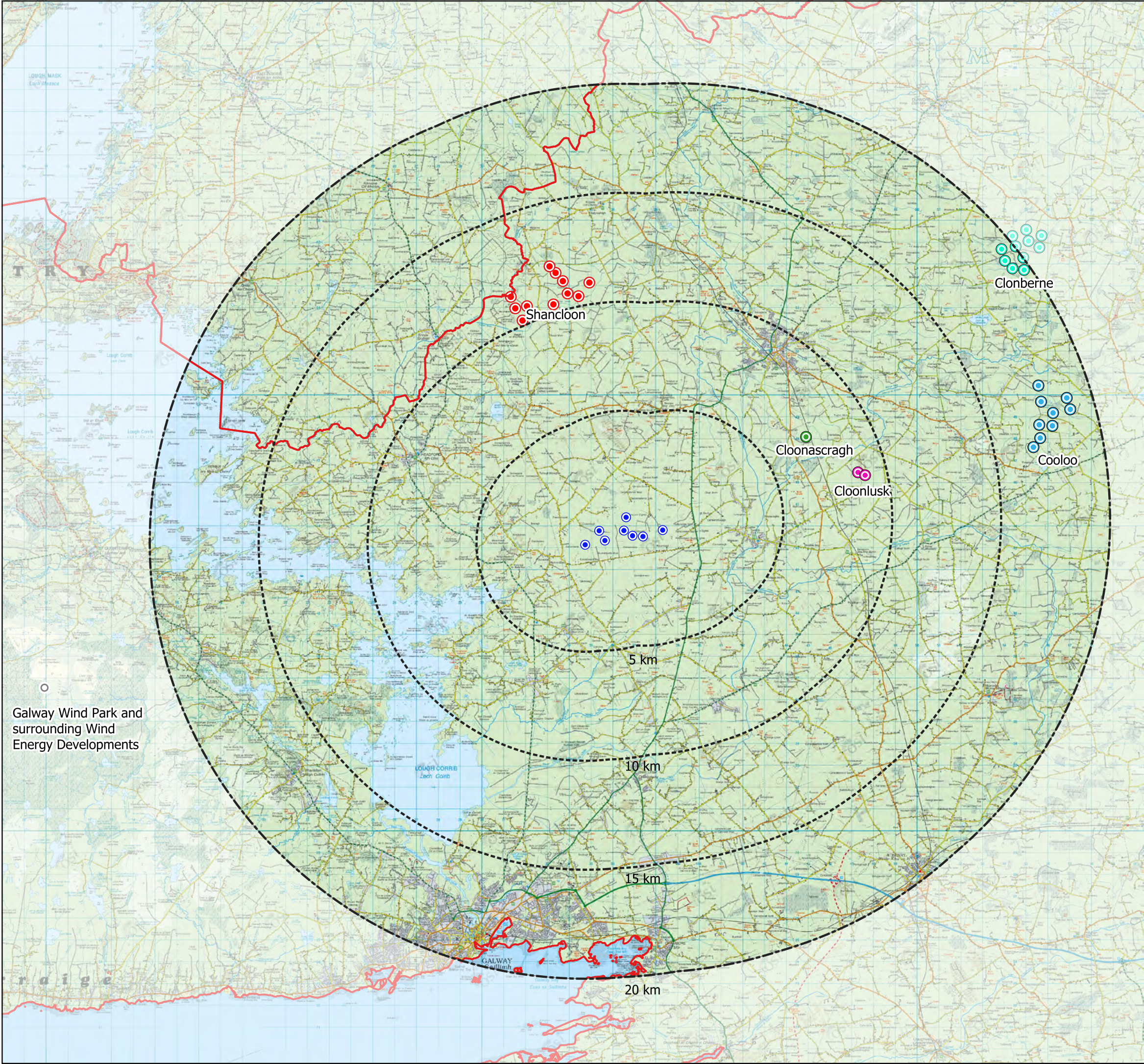
| Wind Farm | Status | No. of Turbines | Turbine Height |
|-------------------------|-----------|-----------------|-----------------|
| 5 to 10km | | | |
| Cloonlusk | Existing | 2 | Tip Height 117m |
| Shancloon Wind Farm | Proposed | 11 | Tip Height 180m |
| Turbine at Cloonascragh | Permitted | 1 | Tip Height 168m |
| 10 to 15km | | | |
| None | | | |
| 15 to 20km | | | |
| Cooloo Wind Farm | Proposed | 9 | Tip Height 180m |
| Clonberne Wind Farm | Proposed | 11 | Tip Height 180m |

There are 5 No. existing and proposed singular wind turbines or wind farms within the 20 km boundary. A wind farm project called Shancloon is proposed approximately 10km north of the Proposed turbines. It is located on lands, south-west of the Clonmellon Village and north-east of Devlin Village. The specific proposed dimensions and coordinates of the proposed Shancloon wind farm are not publicly available. For the avoidance of doubt, approximate turbine locations and turbine dimensions have been included in this chapter to ensure the proposed Shancloon wind farm is

addressed cumulatively. The locations of the existing, permitted and proposed turbines, and the indicative location of the proposed Shancloon wind farm, can be identified on the Cumulative Context map, Figure 14-14, shown below.

An assessment of cumulative landscape and visual effects are included in the assessment of effects detailed in Section 14.8.3 – *Operational Phase Effects*.

The Galway Wind Park and surrounding wind energy developments are located beyond the 20km LVIA Study Area. The nearest existing turbines of these wind farm developments are located approximately 23km southwest of the proposed turbines, outside the LVIA Study Area. A general location of the Galway Wind Park and surrounding wind energy developments is shown in Figure 14-14 below. As these developments are located outside the LVIA Study Area they have not been included in the Comparative Cumulative ZTV. It is acknowledged that there is possibility of views of the proposed turbines along with the Galway Wind Park and surrounding wind energy developments from receptors in the LVIA Study Area, therefore, these wind energy developments have been included in assessments of cumulative landscape and visual effects.



Map Legend

- Proposed Turbine Locations
- LVIA Study Area
- County Borders
- Cumulative Wind Farm Developments within the LVIA Study Area**
 - Cloonlusk Turbines
 - Turbine at Cloonascragh (Permitted)
 - Clonberne Wind Farm (Proposed)
 - Cooloo Wind Farm (Proposed)
 - Shanclóon Wind Farm (Proposed)
- Wind Farm Developments Outside of the LVIA Study Area**
 - Galway Wind Park & Surrounding Wind Energy Developments

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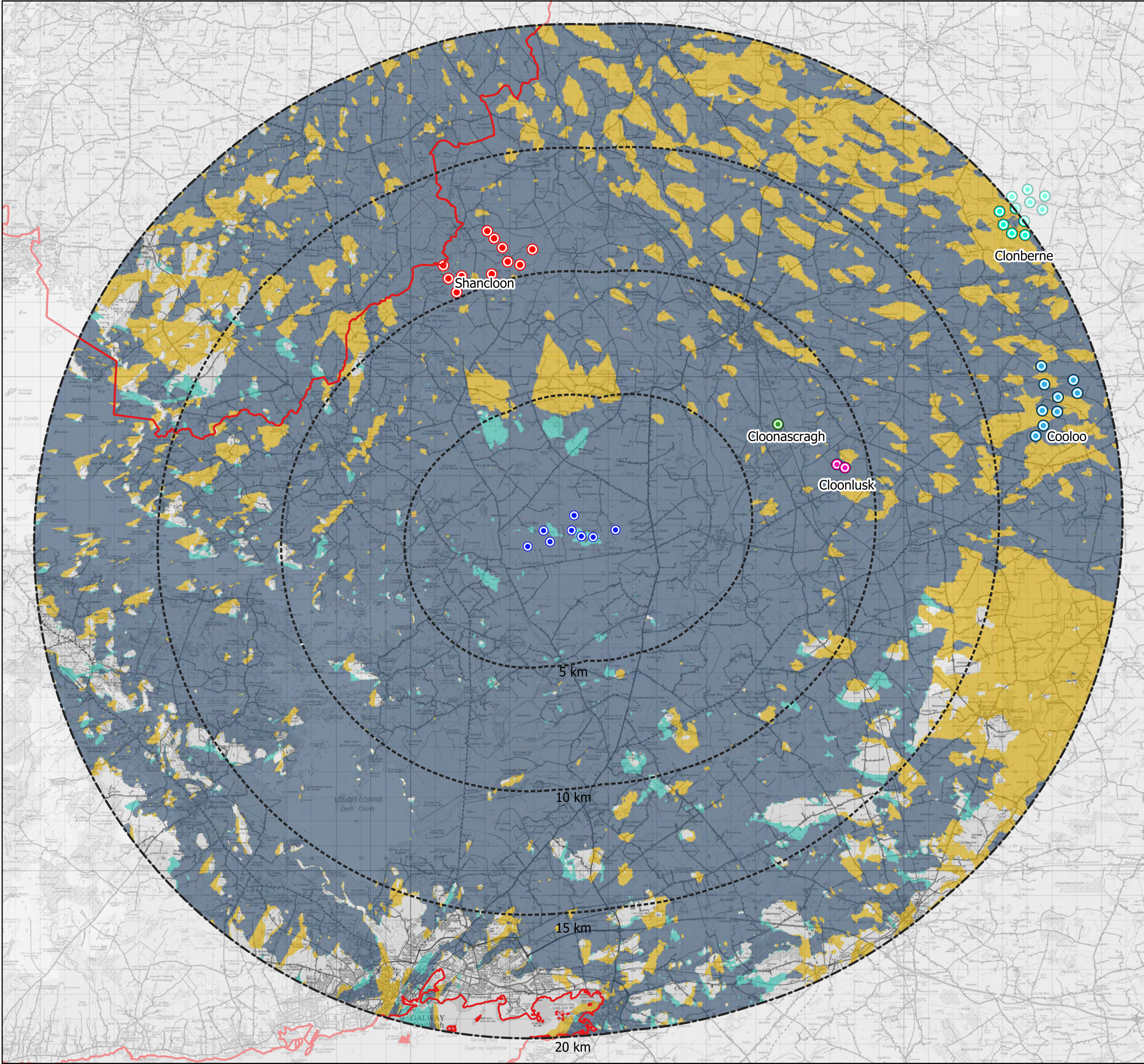
Drawing No.
Figure 14-14

Drawing Title
Cumulative Context

Project Title
Laurclavagh Renewable Energy Development

| | | | | |
|--------------------|-----------------------|--------------------|----------------|------------------|
| Scale 1:170,000 | Project No. 210627 | Date 07.03.2024 | Drawn By SF | Checked By JW |
|--------------------|-----------------------|--------------------|----------------|------------------|






Map Legend

- Proposed Turbine Locations
- LVIA Study Area
- County Borders
- Cumulative Wind Farm Developments within the LVIA Study Area**
 - Cloonlusk
 - Turbine at Cloonascragh (Permitted)
 - Clonberne Wind Farm (Proposed)
 - Cooloo Wind Farm (Proposed)
 - Shancloon Wind Farm (Proposed)
- Comparative Cumulative ZTV**
 - Only the Proposed Wind Farm turbines Visible
 - Only Existing, Permitted and Proposed cumulative turbines theoretically visible
 - Theoretical Visibility of the Proposed Wind Farm turbines along with Existing, Permitted and Proposed cumulative turbines

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| | | | | | |
|---|----------------------------|--------------------|----------------|------------------|--|
|  | Drawing No. | | | | |
| | Figure 14-15 | | | | |
| | Drawing Title | | | | |
| | Comparative Cumulative ZTV | | | | |
| | Project Title | | | | |
| Laurclavagh Renewable Energy Development | | | | | |
| Scale 1:150,000 | Project No. 210627 | Date 07.03.2024 | Drawn By SF | Checked By JW | |



14.7.1 Assessment of Cumulative Effects: ZTVs & Photomontages

Figure 14-15 compares the cumulative theoretical visibility of all existing, permitted and proposed wind farms with an additional visibility of the Proposed Project. The legend on Figure 14-15 shows the theoretical visibility of the proposed turbines and cumulative turbines for each corresponding colour, which are as follows:

- Teal: only Proposed turbines theoretically visible
- Orange: Existing, Permitted and Proposed cumulative turbines theoretically visible
- Navy: Theoretical Visibility of the Proposed Wind Farm turbines along with Existing, Permitted and Proposed cumulative turbines

The majority of the LVIA Study Area shows that there will be visibility of the proposed turbines with other wind farm developments. There are sections within 5km and within 10 to 15km to the south where the Cumulative ZTV shows that there is theoretical visibility of the proposed turbines along with theoretical visibility of the existing Cloonlusk turbines and permitted turbine at Cloonascragh. Compared to the proposed turbines, the existing turbines within the LVIA Study Area are smaller, therefore, there is less potential of visibility of these turbines within the LVIA Study Area due to topographical features and vegetation.

Beyond 10km of the proposed turbines, there are large areas within the LVIA Study Area where there is only theoretical visibility of existing, permitted or proposed cumulative turbines. In the wider LVIA Study Area, to the north of the Proposed Wind Farm site, the cumulative ZTV shows that there are large areas of theoretical visibility of the proposed turbines along with the proposed Shancloon, Clonberne and Cooloo turbines. Knockma Hill is located between the proposed turbines and the proposed Shancloon turbines, therefore visibility from the south of these two wind farm developments will be very unlikely unless from areas of high elevation. Although the cumulative ZTV shows large areas of theoretical visibility of the proposed turbines and other wind farm developments throughout the LVIA Study Area, due to the intervening vegetation in the landscape actual visibility will be substantially less.

Photomontage Visualisations for Assessment of Cumulative Effects

As noted previously, the ZTV does not account for localised undulations in topography and other screening factors, and actual visibility in this lowland vegetated landscape is likely to be far less than is indicated by the ZTV. Whilst the cumulative ZTV is a useful tool to aid assessment of cumulative effects and screen out areas where certain cumulative impacts will not occur, its utility is limited in the lowland landscape type of the LVIA Study Area. In this landscape type, photomontages are a more informative tool for assessing potential cumulative landscape and visual impacts. visibility appraisals and photomontage visuals show that there is in fact a very limited cumulative impacts with other wind farm developments in a vast proportion of the LVIA Study Area. Most cumulative effects will be perceived from elevated vantage points in the LVIA Study Area where long ranging views are permitted across the lowland landscape.

As detailed in Section 1.4.2 of Appendix 14-1 – *LVIA Methodology*, all other existing, permitted and proposed wind farms (excepting proposed Shancloon for reasons outlined previously) are included in the visualisations in the Volume 2: Photomontage Booklet.

- **Existing View, and, Existing Wireline View** – Turbines of existing wind energy developments currently operational in the baseline landscape at the time of conducting this LVIA;

- **Proposed with Cumulative View, and, Proposed with Cumulative Wireline View –**
As well as the proposed turbines, turbines of all other existing, permitted and under construction are presented in the photomontages and wireline views. Also, well-developed wind farm proposals* with project details in the public domain are also included in this photomontage and wireline view.

**Cumulative effects between the Proposed turbines and other proposed wind farms (not permitted) are more uncertain and is reliant on an outcome of the planning and consenting system.*

An assessment of cumulative landscape and visual effects are included in the assessment of effects detailed in Section 14.8.3. Likely cumulative landscape effects are assessed in the landscape character assessment tables in Appendix 14-2, and likely cumulative visual effects are assessed in the photomontage assessment tables in Appendix 14-3.

Cumulative landscape and visual effects reported both in this chapter and within the assessment appendices (Appendix 14-2 - *LCA Assessment Tables*; Appendix 14-3 - *Photomontage Assessment Tables*) uses appropriate and logical narrative to discuss cumulative interactions between the proposed turbines and all other wind energy developments irrespective of whether they are existing, permitted or proposed. Whilst the categories provide clarity in presentation of visuals considering the scope of potential development in this landscape, discussion of cumulative interactions on specific landscape and visual receptors is relative to the effects on that receptor and proportionate to the likelihood of significant landscape and visual effects occurring.

14.8 Likely or Significant Landscape and Visual Effects

14.8.1 'Do-Nothing' Scenario

If the Proposed Project were not to proceed, the existing uses of small-scale agriculture would continue. The opportunity to harness the wind energy resource of County Galway would be lost, as would the opportunity to contribute to meeting Government and EU targets for the production and consumption of electricity from renewable resources and the reduction of greenhouse gas emissions. The opportunity to generate local employment and investment would also be lost.

14.8.2 Construction Phase Effects

It is estimated that the construction phase of the Proposed Project will last between 18 - 24 months. The construction of the development will involve the construction of 8 turbines with a blade tip height of 185m and all associated works, and an onsite 110kV substation and associated works including underground cabling. Construction phase effects also include the associated effects resulting from the movement of construction and turbine transport vehicles into and out of the Site, to allow the construction of the turbines, roads, and associated elements.

14.8.2.1 Landscape Effects (Construction Phase)

The earthworks such as cut and fill required to facilitate construction of the Proposed Wind Farm will have the greatest potential for landscape effects. Where excavation is required, existing landcover, vegetation and spoil will be removed during the construction phase. In most instances, groundworks and excavation trenches will be re-instated upon completion of construction. The construction activities may potentially cause temporary impacts on the landscape such as the creation of temporary structures, dust, minor soil erosion and minor alterations to drainage. In general, it is considered that the construction phase will have a Short-Term, Moderate, Negative effect in terms of direct landscape effects.

The construction phase of the Proposed Grid Connection underground cabling route will be short-term, localised and transient in nature, as the works move along the cabling route. The works will include roadside vegetation removal, soil/road surface stripping, excavation and other associated construction activities. These activities will cause temporary change to the physical landscape along the underground cabling route. Changes will be localised to the immediate environment surrounding the Proposed Grid Connection underground cabling route and will not permanently affect the character of the landscape setting or visual amenity of the wider area.

The following measures should be implemented to mitigate effects during the construction phase of the Proposed Grid Connection underground cabling route:

- In all circumstances, excavation depths and volumes will be minimised, and excavated material will be re-used where possible.
- Where the proposed underground grid connection cabling trench is to be located in the road verge, subsoil should be piled on site and re-used after cabling works. Should any medium planting be removed, it should be replaced with the same or similar species whenever it is not possible to salvage and reinstate. New topsoil should be provided should the existing topsoil not be of sufficient standard (to comply with BS 3882:2015).
- Any areas of bare soil remaining after the landscaping phase will be seeded as soon as possible with a grass seed mix to minimise sediment run-off.

The construction works will be temporary/short-term in nature and completed as soon as practically possible. All construction activities will follow best practice methods to reduce impacts upon the environment and landscape of the Proposed Project. Further details are contained in the Construction and Environmental Management Plan (CEMP) contained in Appendix 4-5 of this EIAR.

The Proposed Grid Connection underground cabling works are likely to cause 'Slight' temporary, negative, landscape effects.

14.8.2.2 Visual Effects (Construction Phase)

The most substantial visual effects will arise from requisite construction activities such as building tower sections and erecting the turbines. There will be temporary scenarios during the construction phase where the proposed turbines will be partially constructed and may be seen as either stand-alone tower sections, or incomplete turbines where only one or two blades are visible. The equipment and vehicles required to transport and erect the wind farm components include large cranes and large haulage vehicles. These construction activities will cause Slight, short-term negative visual effects.

General housekeeping measures, necessary for Health & Safety requirements, will ensure that the active construction areas will be kept tidy, mitigating localised visual impacts during the construction phase. A detailed description of the Site is included in Chapter 4 of this EIAR. The following sections assess the visual effects associated with the construction phase of the other (non-turbine) components of the Site:

14.8.2.2.1 Proposed Wind Farm

Site Access Roads and Hardstand Areas

The proposed access roads and hardstand areas are flat features and will be most visible within their immediate surroundings, within the Proposed Wind Farm site where there are no sensitive visual receptors. Every use will be made of the existing access tracks on the Proposed Wind Farm site. Some tracks will be upgraded appropriately whilst several stretches of new internal roads will need to be constructed. The impact of the construction of these flat and hard surfaces will be very localised. The visual effects arising from the access roads and hardstand areas is considered to be negative, highly localised, short-term and 'Slight'.

Meteorological (Met) Mast

One met mast is proposed as a part of the Proposed Project. This will be a slender structure, 30 metres in height, and will not be an imposing structure in terms of visual impact. The landscape and visual effects of the construction of the proposed mast will be localised, considering that construction activities related to this will be most visible within their immediate surroundings. Within the Proposed Wind Farm site and its immediate landscape setting, the landscape and visual effects arising from the construction of the met mast is considered to be of highly localised Negative, Short-Term 'Slight' effect.

Turbine Delivery Route (TDR) Accommodation Works

Works such as road widening and temporary alterations are sometimes required along proposed turbine delivery route to accommodate the large vehicles used to transport turbine components to a wind farm site. For the Proposed Wind Farm, minor temporary alterations will be required to the existing streetscape and roundabout islands such as overruns of roundabout island and temporary relocation of some signs and street furniture. Full details of the assessment are included as part of the traffic impact assessment set out in Chapter 15 of this EIAR.

The landscape value and sensitivity of these temporary works areas are deemed to be low and change to occur will be highly localised. These works are likely to cause Not Significant, Temporary, Negative Visual Effects.

14.8.2.2.2 **Proposed Grid Connection**

Underground Cabling Route

The electrical cabling route will be located underground, therefore the greatest effects attributed to this element of the Proposed Project will occur during the construction phase. The underground electrical cabling route works are to be carried out along existing public road corridors. The construction phase of the Proposed Grid Connection underground cabling route will be short-term, localised and transient in nature, as the works move along the cabling route. The works will include roadside vegetation removal, soil/road surface stripping, excavation and other associated construction activities. Changes will be localised to the immediate environment surrounding the Proposed Grid Connection underground cabling and will not permanently affect the character of the landscape setting or visual amenity of the wider area. The Proposed Grid Connection underground cabling works are likely to cause 'Slight' temporary, negative visual effects.

Proposed Onsite 110kV Substation and Temporary Construction Compound

Visual effects will occur as the proposed onsite 110kV substation and temporary construction compound is built due to the earthworks and requisite construction activities; these will cause a substantial but localised change to views in the immediate area. As established in the baseline investigations, the proposed onsite 110kV onsite substation is located in a field in the middle of the Proposed Wind Farm site. Due to screening from vegetation and local undulations in the landscape, no visibility of the proposed onsite 110kV substation construction is anticipated from any nearby residential receptors. The adjacent temporary construction compound will benefit from the same screening, although is temporary in nature and will only be onsite for the duration of the construction period. Therefore, visual effects are likely to be highly localised, Negative, Short-Term and will be 'Low'.

14.8.3 **Operational Phase Effects**

14.8.3.1 **Landscape Effects (Operational Phase)**

14.8.3.1.1 **Landscape of the Proposed Wind Farm site**

The landscape character of the Proposed Wind Farm site will undergo a change in character from its current condition by the introduction of vertical man-made structures into the landscape. The footprint of the proposed turbines and ancillary infrastructure comprises 13.8 hectares (ha) of the area within the EIAR Site Boundary. There will be a substantial magnitude of change to the landscape in localised areas within the Proposed Wind Farm site where the landscape is materially altered (infrastructure footprint).

In a local context, the Proposed Wind Farm is located in a modified working, agricultural landscape of local value. It is not recognised as a landscape of any regional or national value or importance. The Site is located within an Area of Low Sensitivity. The Proposed Wind Farm site itself and its immediate setting do not comprise any unique landscape receptors of county regional or national interest. There will be a substantial magnitude of change to the landscape in localised areas in the vicinity of the Proposed Wind Farm site where the landscape will be materially altered by the introduction of tall structures.

The landscape value and sensitivity of the Proposed Wind Farm site was deemed to be Low in Section 14.5.3.2 above. Low sensitivity balanced with a substantial magnitude of change amounts to long-term landscape effects of Moderate significance upon the physical fabric of the landscape of the Proposed Wind Farm site (See LVIA Methodology, Appendix 14-1). These direct landscape effects will be highly localised to the footprint of the Proposed Wind Farm site and its immediate surrounds. Effects on the perceptual and aesthetic character of the Proposed Wind Farm site are also deemed to be of Moderate significance.

Mitigation of Landscape Effects within the Landscape of the Proposed Wind Farm site

The following measures have been included in the Proposed Project design in order to avoid or reduce direct effects on landscape receptors of the Proposed Wind Farm site:

- The internal site road layout makes use of the existing roads/ tracks wherever possible, to minimise the requirement for new tracks within the Proposed Wind Farm site and where possible retain the integrity of existent field boundary walls, hedgerows and trees.
- In all circumstances, excavation depths and volumes will be minimised, and excavated material will be re-used where possible.
- During initial vegetation stripping, all topsoil material will be temporarily stored on Proposed Wind Farm site and used for landscaping the edges of the development infrastructure during reinstatement/regrading. The stripped topsoil will contain a natural seed source of local provenance and result in the establishment of a species rich grassland.

Residual Landscape Effects

Once the proposed turbines are operational and construction activity is complete, the landscape will naturally re-vegetate around the Proposed Project footprint with the aid of mitigation measures (e.g., retention of natural seedbank during soil stripping). Considering the mitigation measures above, residual effects upon the landscape of the Proposed Wind Farm site are deemed to be 'Slight'.

14.8.3.1.2 Landscape Designations

Several designated landscape receptors were identified in the landscape baseline as having high sensitivity and some theoretical visibility indicated by the ZTV, the likely landscape effects on these receptors are discussed below. The proposed turbines will not directly alter the physical fabric of these landscape receptors and therefore any landscape effects are only likely to impact their character or setting. In all instances there will be no significant impact on the sensitivities of these receptors due to the large set back distances and limited visibility of the Proposed turbines from them. Where appropriate, assessment of visual effects from these landscape receptors are discussed and reported in the following section – *Visual Effects (Operational Phase)*.

Lough Corrib

As one of the largest inland lakes in the Republic of Ireland, Lough Corrib is designated as 'Highly sensitive to change' in the GCDP (2022-28). At its closest point, Lough Corrib is located approximately 4.3km southwest of the nearest proposed turbine (T1). The ZTV shows full theoretical visibility for the majority of Lough Corrib, however, on site appraisals found that the landscape surrounding Lough Corrib was highly vegetated and actual visibility is likely to be substantially less. The areas around the lough are generally at very low elevation and scenic amenity is primarily directed towards the lake itself. Very limited visibility is anticipated from the eastern shore of Lough Corrib due to vegetation. VP14 shows a view from Kilbeg Pier on the east side of the lake, the turbines are slightly visible over the vegetation in the background of the view. Views from piers and viewing points on the west side of the lake towards the proposed turbines will be screened by vegetation on islands within the lake.

The GCDP also mentions ‘*areas that overlook Lough Corrib in the west*’ as a key attribute of this Landscape Character Type where the proposed turbines are located. There will be locations from elevated vantage points where the turbines and Lough Corrib will both be visible. The proposed turbines will not interfere with these views of Lough Corrib. These specific views and visual effects are discussed further in Section 14.8.3.2.3.

Although this is a receptor of high sensitivity, on balance, it is considered that no significant landscape and visual effects are likely to occur from Lough Corrib. The recreational value attributed to the lake will not be impacted by the proposed turbines. There will be no impact on the landscape of the lake and its immediate setting.

14.8.3.1.3 Landscape Character Areas

An assessment of the effects on landscape character was undertaken for the five LCUs within the study area that are listed in Table 14-4 of the same section. The individual assessments for each LCU are summarised in Table 14-13 below and included in detail in Appendix 14-2 Landscape Character Assessment Tables. The assessment criteria and grading scales which aided the assessment of landscape effects are detailed in Section 1.4.2 of the methodology appendix – Appendix 14-1.

Table 14-13: Landscape Character Effects of LCUs within the LVIA Study Area.

| Landscape Character Unit (LCU) | LCU Sensitivity to Wind Farm Development | Magnitude of Change | Significance of Landscape Character Effect |
|--|--|---------------------|--|
| LCU 6a - Black River Basin Unit | Low | Moderate | Slight |
| LCU 5a - North River Clare Basin Unit | Low | Slight | Not Significant |
| LCU 6b - Southern River Clare Basin Unit | Low | Slight | Not Significant |
| LCU 4b - Lower Corrib Environs Unit | High | Slight | Slight |
| LCU 4a - Upper Corrib Environs Unit | Very High | Slight | Slight |

Discussion of Landscape Effects on LCAs

The largest magnitude of change will occur in Galway LCU 6a - Black River Basin Unit, as the proposed turbines will materially alter the landscape of this LCU. The proposed turbines are likely to be most visible from areas within 5km of the proposed turbines and elevated areas within this LCU. Due to the flat nature of the landscape the intervening vegetation and infrastructure within the landscape, will screen views of the turbines from many areas within this LCU. The proposed turbines will change the visual and perceptual aesthetic qualities of some areas in this LCU. The magnitude of change was deemed to be ‘Moderate’ as the addition of uncharacteristic new features (turbines) will cause a change in landscape character in a localised area but will not redefine the character of the LCU. The entirety of this LCU is located within an area designated as ‘Low’ Sensitivity within the GCDP 2022-28.

Galway LCU 4a – Upper Corrib Environs Unit was deemed to be of ‘Very High’ sensitivity as it is located within an ‘Iconic’ Landscape Sensitivity designation (GCDP, 2022-28), which is described as a ‘*Unique landscape with high sensitivity to change*’. This LCU is located approximately 8.6km west of

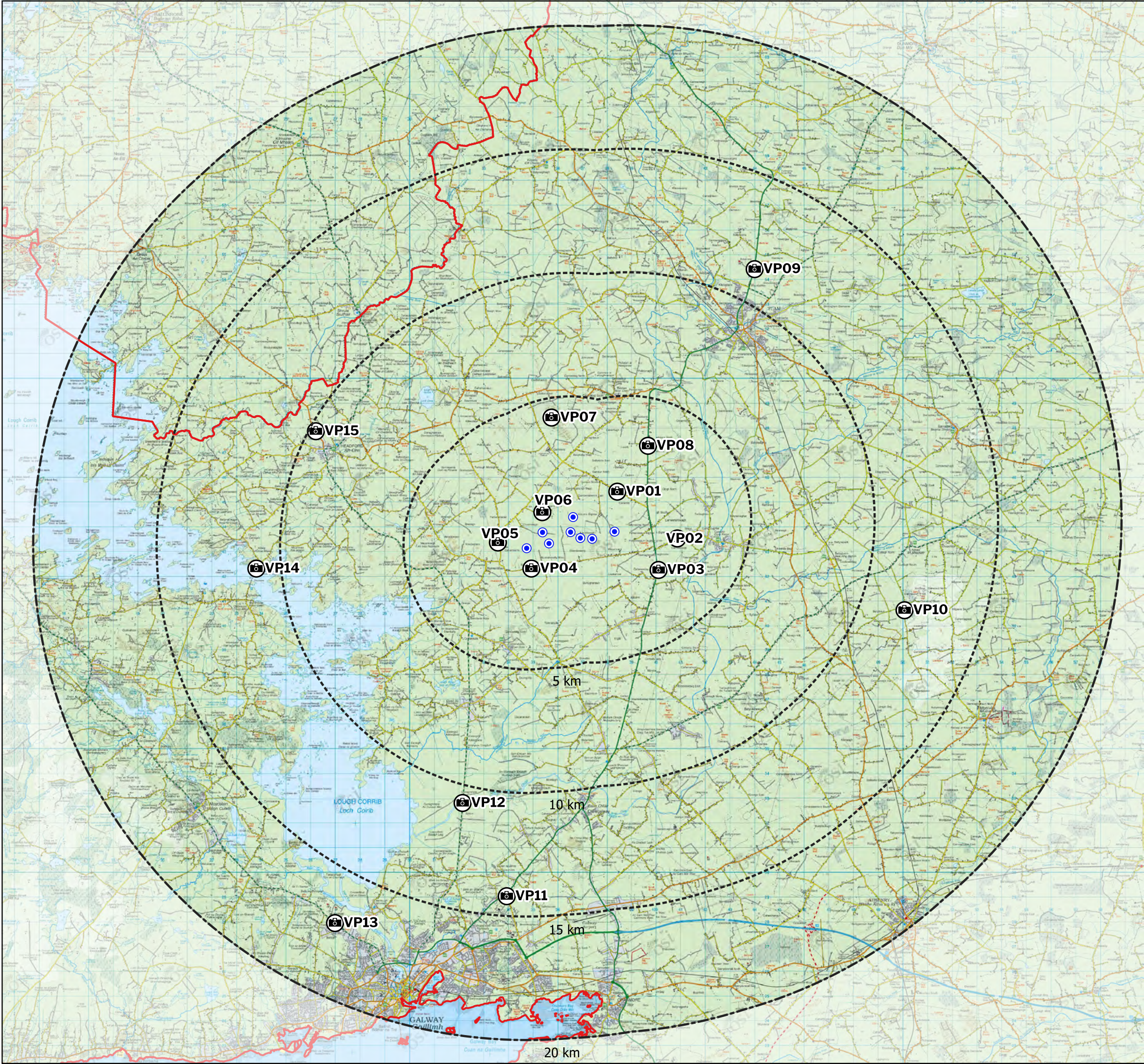
the nearest proposed turbine and there are large areas of no visibility within this LCU. The most sensitive areas of this LCU is Lough Corrib which is located approximately 9km from the nearest proposed turbine (within this LCU). As shown in VP14 there is limited visibility of the proposed turbines from this location along the shores of Lough Corrib due to the lower elevation of the lake in comparison to the Proposed Wind Farm site and the intervening vegetation.

The proposed turbines will not materially alter any of the other LCUs in the LVIA Study Area. However, when the proposed turbines will be visible from another LCU, they will likely cause a 'Slight' impact on landscape character.

14.8.3.1.4 Cumulative Landscape Effects

Cumulative impacts on the character of the wider landscape are most likely to occur as a result of the proposed turbines, where they might be visible in conjunction with other wind farm developments. A description of the cumulative visual interactions between the proposed turbines and other cumulative projects in the LVIA Study Area is included in the photomontage assessment tables contained in Appendix 14-3. A comprehensive assessment of likely visual effects arising from the intervisibility of the proposed turbines and other wind farms is included in Section 14.8.3.3 – *Discussion of Cumulative Visual Effects*.

In a cumulative context, the proposed turbines are located within a relatively flat agricultural plain. There is limited wind energy development existing at present within this landscape and within the LVIA Study Area, aside from the 2 existing Cloonlusk Wind Turbines, and some and proposed wind energy developments. The visibility of these turbines is restricted as a result of generally flat and vegetated landscape. In this sense the landscape of the LVIA Study Area has capacity to absorb additional wind energy development without significant effects on the character of the landscape. Wind energy developments do not dominate this landscape type and the addition of the proposed turbines will not substantially alter the baseline status of the landscape in this regard. There will be additional areas and locations where turbines will now be visible as a result of the Proposed Project, although again views will be intermittent as result of the flat terrain and vegetation in the landscape. From locations beyond this, any views of the proposed turbines will be background views where the proposed turbines occupy a limited horizontal and vertical extent within views. Cumulative Visual Effects are discussed further in Section 14.8.3.3.



Map Legend

- Proposed Turbine Locations
- County Borders
- LVIA Study Area
- EIAR Volume 2:
Photomontage Viewpoint Locations

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Drawing No.

Figure 14-16

Drawing Title
Photomontage Viewpoint Locations

Project Title
Laurclavagh Renewable Energy Development

| | | | | |
|--------------------|-----------------------|--------------------|----------------|------------------|
| Scale 1:150,000 | Project No. 210627 | Date 07.03.2024 | Drawn By SF | Checked By JW |
|--------------------|-----------------------|--------------------|----------------|------------------|



14.8.3.2 Visual Effects

14.8.3.2.1 Selection of Photomontage Viewpoints

An assessment of the visual effects arising as a result of the proposed turbines was undertaken from 15 no. selected viewpoint locations. The locations chosen for photomontages follow a detailed and extensive process including review of baseline information, site visits and high-quality photo taking at multiple locations within the LVIA study area. Many locations, which based on a desktop review had the potential for views of the proposed turbines, had complete intervening screening or were screened to such an extent that the development of photomontages was not considered useful in terms of the assessment process i.e. little or no visibility towards the Proposed Wind Farm site.

An assessment of the visual effects of the proposed turbines was undertaken from the 15 viewpoint locations identified in Section 14.6.1.1 above using the assessment methodology described in Appendix 14-1. The locations of these viewpoints are shown in Figure 14-16 above. The individual assessments from the 15 viewpoints are presented in Appendix 14-3 and summarised in Table 14-14 below. Appendix 14-3 and Table 14-14 should be read in conjunction with the photomontage booklet forming Volume 2 of this EIAR.

Alternative Photomontage Viewpoints – Photowires

Photomontage imagery was captured from many locations in the LVIA Study Area other than the 15 no. Photomontage viewpoints that were selected for the EIAR Volume 2: Photomontage Booklet. Photowires are early-stage photomontage visualisations comprising panoramic photos with overlaid wirelines (Classified as Type 3 Visualisations in the Landscape Institute Technical Guidance Note, 2019). Photowires were produced from 24 other viewpoint locations in the LVIA Study Area. These viewpoints were not selected for inclusion in the EIAR Volume 2: Photomontage Booklet due to limited visibility of the proposed turbines or a more appropriate nearby location being included in Volume 2 instead. These Photowires do not form part of the assessment of visual effects included in Appendix 14-3. However, 24 no. Photowires are presented within Appendix 14-5, and they are discussed later in this section of the Chapter to illustrate certain points. The location of Photowire viewpoints in Appendix 14-5 are marked as orange icons in Figure 14-17 below and are discussed throughout the chapter as Photowire Viewpoint Locations (referred to as PWVPs (e.g., PWVP-A, etc.)).

Table 14-14: Viewpoint Assessment Summary

| VP No | Description | Grid Ref. | Visual Sensitivity of Receptor(s) (at viewpoint) | Magnitude of Change | Residual Significance of Visual Effect |
|-------|---|--------------------------|--|---------------------|--|
| 02 | View from the L3108 Local Road in the Townland of Glennaveel. This viewpoint is located approximately 12.1km east of the nearest proposed turbine (T8) | E: 550,024 N: 740,656 | Low | Slight | Not Significant |
| 07 | View from the N83 National Road in the Townland of Glennafosha. This viewpoint is located approximately 3.7km northeast of the nearest proposed turbine (T8). | E: 539,633 N: 747,315 | Medium | Moderate | Moderate |
| 14 | View from a local road in the townland of Biggera More. This viewpoint is located approximately 850m north of the nearest proposed turbine (T2) | E: 535,353 N: 744,628 | High | Substantial | Significant |
| 16 | View from a local road in the Townland of Bunnahevelly Beg. This viewpoint is located approximately 818m south of the nearest proposed turbine (T1). | E: 534,910 N: 742,345 | High | Substantial | Significant |
| 17 | View from the L-2122 Local Road in the Townland of Cahermorris. This viewpoint is located approximately 1.2km northwest of the nearest proposed turbine (T1). | E: 533,554 N: 743,400 | High | Moderate | Moderate |
| 23 | View from a local walking trail on Knockma Hill. This viewpoint is located approximately 4.1km north of the nearest proposed turbine (T4) | E: 535,726 N: 748,457 | High | Moderate | Moderate |
| 27 | View from the N83 National Road in the Townland of Cahervoley. This viewpoint is located approximately 2.3km southeast of the nearest proposed turbine (T8). | E: 540,061 N: 742,288 | Medium | Moderate | Moderate |

| VP No | Description | Grid Ref. | Visual Sensitivity of Receptor(s) (at viewpoint) | Magnitude of Change | Residual Significance of Visual Effect |
|-------|--|--------------------------|--|---------------------|--|
| 30 | View from the L7101 Local Road in the Townland of Polkeen, on the outskirts of Galway City. This viewpoint is located approximately 14km southeast of the nearest proposed turbine (T8). | E: 533,911 N: 729,082 | Medium | Slight | Slight |
| 31 | View along the N84 National Road on the Curramore Bridge over the River Clare in the Townland of Sylau. This viewpoint is located approximately 10.6km southwest of the nearest proposed turbine (T1). | E: 532,124 N: 732856 | Medium | Slight | Slight |
| 34 | View from Co. Galway Designated Protected View 31 at Kilbeg Pier on Lough Corrib in the Townland of Kilbeg. This viewpoint is located approximately 10.9km west of the nearest proposed turbine (T1). | E: 523,770 N: 742345 | High | Slight | Not Significant |
| 35 | View from the N59 National Road at Glenlo Abbey in the Townland of Kentfield on the outskirts of Galway City. This viewpoint is located approximately 17.1km southwest of the nearest proposed turbine (T1). | E: 526,956 N: 727,994 | Medium | Slight | Slight |
| 37 | View from the N17 National Road in the Townland of Lambhill, north of Tuam Town. This viewpoint is located approximately 12km north of the nearest proposed turbine | E: 543,954 N: 754,466 | Medium | Moderate | Slight |
| 38 | View from a local road in the Townland of Culleen. This viewpoint is located approximately 1.6km north of the nearest proposed turbine (T8). | E: 538,391 N: 745,459 | Medium | Moderate | Moderate |
| 44 | View from the R334 Regional Road in the Townland of Cordarragh, northwest of Headford. This viewpoint is located approximately 9.8km northwest of the nearest proposed turbine (T1). | E: 526,181 N: 747,906 | Medium | Slight | Not Significant |

| VP No | Description | Grid Ref. | Visual Sensitivity of Receptor(s) (at viewpoint) | Magnitude of Change | Residual Significance of Visual Effect |
|-------|---|--------------------------|--|---------------------|--|
| 45 | View from the L2123 Local Road in the Townland of Carrowreagh. This viewpoint is located approximately 2.6km east of the nearest proposed turbine (T8). | E: 540,826 N: 743,560 | Medium | Moderate | Moderate |

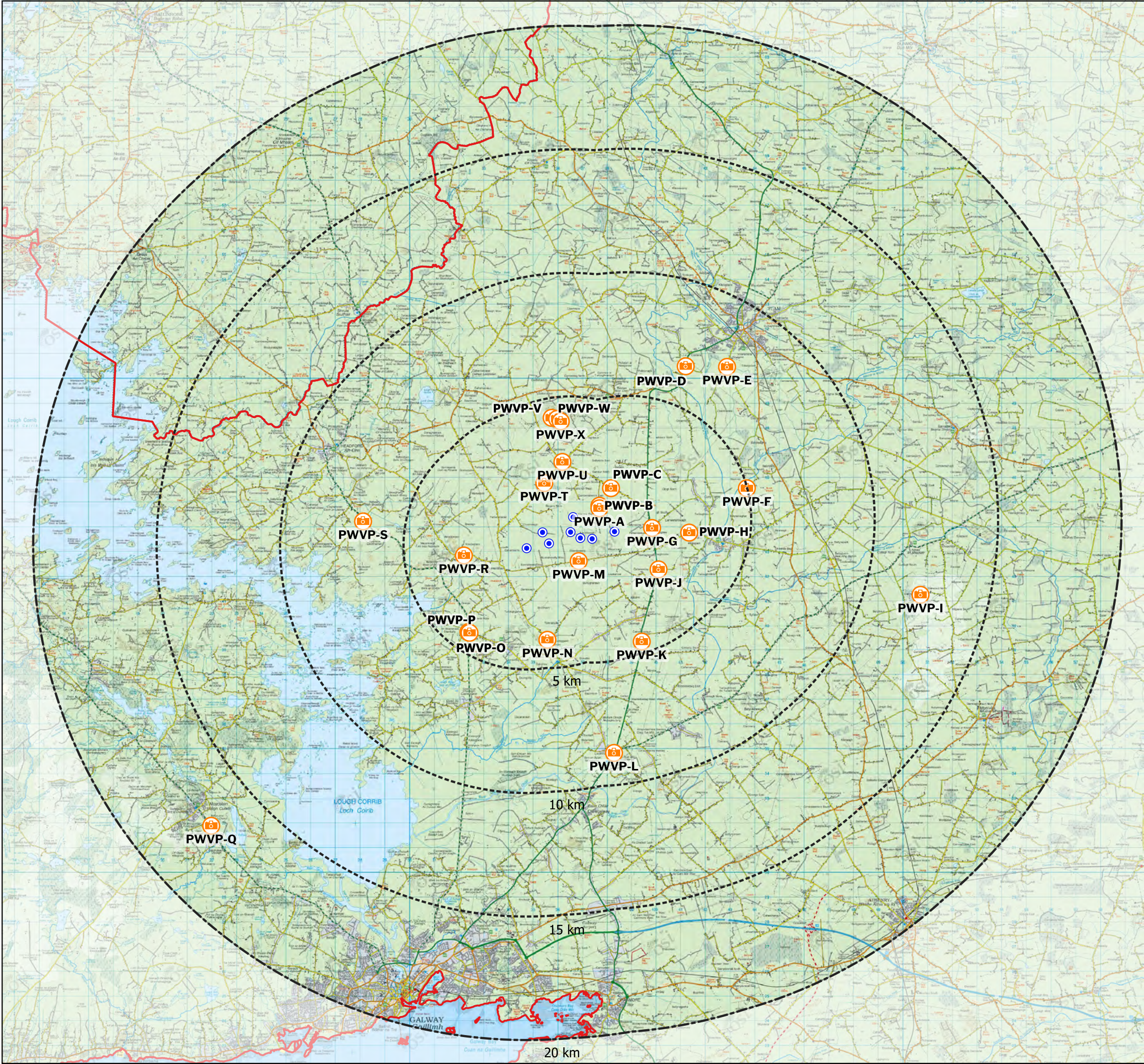
The assessment of visual effects determined the residual significance of the visual effects to range from 'Significant' to 'Not Significant', with the number of findings at each level of significance listed in Table 14-15 below.

Table 14-15: Summary of Viewpoint Impact Assessment Results

| Significance of Residual Visual Effect | Description | No. of Viewpoints |
|--|--|-------------------|
| Profound | An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment | 0 |
| Very significant | An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment | 0 |
| Significant | An effect, which by its character, magnitude, duration or intensity alters a sensitive aspect of the environment | 2 |
| Moderate | An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends | 6 |
| Slight | An effect which causes noticeable changes in the character of the environment without affecting its sensitivities | 4 |
| Not Significant | An effect which causes noticeable changes in the character of the environment but without significant consequences. | 3 |
| Imperceptible | An effect capable of measurement but without significant consequences | 0 |

The significance of the residual visual effect was not considered to be 'Profound' or 'Very Significant' at any of the 15 viewpoint locations. A residual effect of 'Significant' was deemed to arise at 2 of the viewpoint locations. In these two cases (VP06 and VP04) a residual effect of 'Significant' is due to the proximity of the visual receptor (<1km from the proposed turbines). These two viewpoints and other viewpoints in close proximity to the proposed turbines are discussed in detail below in the Local Residential Visual Amenity section (Section 14.8.3.2.2) A residual effect of 'Moderate' was deemed to arise at 6 of the 15 No viewpoints. All other viewpoints were assessed as resulting in 'Slight' (4) or 'Not Significant' (3) residual visual effects.

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



Map Legend

- Proposed Turbine Locations
- County Borders
- LVIA Study Area
- Appendix 14-5: Photowire Visualisations Booklet

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Drawing No.

Figure 14-17

Drawing Title
Photowire Viewpoint Locations

Project Title
Laurclavagh Renewable Energy Development

| | | | | |
|--------------------|-----------------------|--------------------|----------------|------------------|
| Scale 1:150,000 | Project No. 210627 | Date 07.03.2024 | Drawn By SF | Checked By JW |
|--------------------|-----------------------|--------------------|----------------|------------------|



14.8.3.2.2 Local Residential Visual Amenity

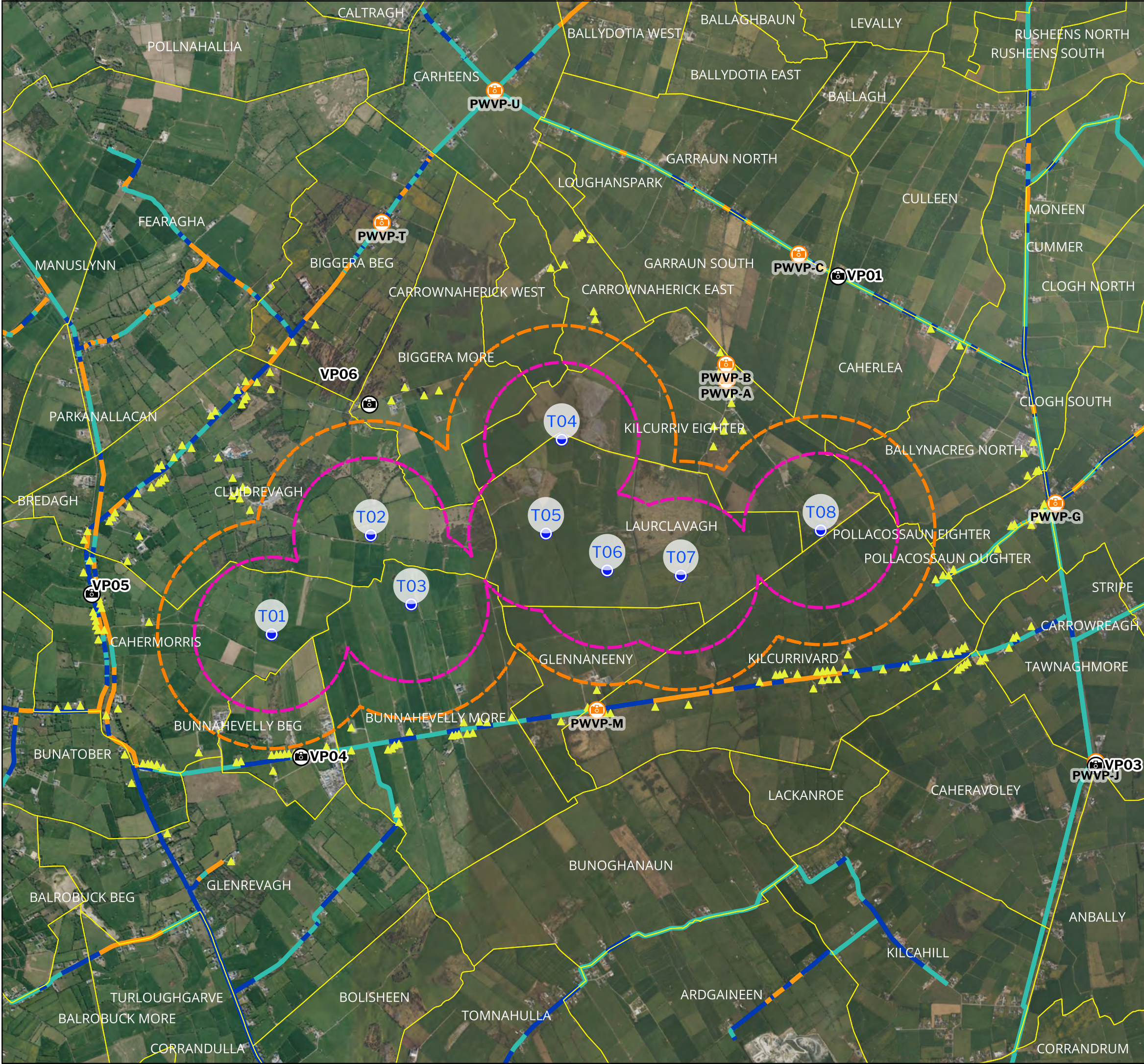
The Proposed Project design process has implemented set-back distances, with regard to the siting of turbines in proximity to residential dwellings. The Proposed Project adheres to the recommended 500m set back distance in the Guidelines and also the 4 times tip height set-back distance set out for residential visual amenity prescribed by the draft Guidelines, with the closest turbine located >740m from the nearest residential receptor.

6 of the 15 Photomontage Viewpoints and 11 of the 26 Photowire Viewpoints are located within 3km of the proposed turbines. As detailed throughout this chapter, the proposed turbines are only likely to be visible from locations in very close proximity to the Proposed Wind Farm site or from areas of high elevation in the wider LVIA Study Area.

Photomontages are just one of the tools employed during the LVIA that was conducted in order to inform the assessment of landscape and visual effects. It would be a disproportionate measure to include an individual photomontage from every residential dwelling and this is not required to conduct a thorough and robust assessment of landscape and visual effects. In line with the guidance laid out in the GLVIA (2013), the viewpoints selected for the LVIA conducted were informed by a range of factors including the *“ZTV analysis, by fieldwork, and by desk research”* (para 6.18, GLVIA 2013). Furthermore, the GLVIA (2013) states that representative viewpoints are *“selected to represent the experience of different types of visual receptor, where larger numbers of viewpoints cannot all be included individually and where the significant effects are unlikely to differ”* (para 6.19 GLVIA, 2013). It is submitted that the large number of viewpoints used in the conduct of the LVIA particularly in very close proximity to the proposed turbines are sufficient to represent the residential receptors within the LVIA study area, including the *“distribution of population”* (para 6.18, GLVIA 2013).

Four photomontage viewpoints are located within 2km of the proposed turbines. VP06, VP04, VP05 and VP01 were all taken from local roads in townlands adjoining the Proposed Wind Farm site. These viewpoints were specifically selected to assess the visual effects on residential amenity and receptors of local community importance in close proximity to the Proposed Wind Farm site. They were strategically selected where there are relatively open views in very close proximity with limited screening.


The following discussion of effects on residential visual amenity is informed by the four viewpoints mentioned above, Photowires included in Appendix 14-5, the mapping outcome of the Route Screening Analysis and other information gathered during site surveys. The discussion will follow the geography of the Proposed Wind Farm site in a clockwise orientation from the townland of Culleen (VP01, north-east of Proposed Wind Farm site), to the west, then south, then west and north-west.



Map Legend

- Proposed Turbine Locations
- Volume 2: Photomontage Booklet Viewpoint Locations
- Appendix 14-5: Photowire Visualisations Booklet
- Residential Dwellings in Close Proximity**
 - Residential Property within 1.5km of the Proposed Turbines
- Set Back Distance Compliance - 740 metres 4 x tip height (DoHPLG, 2019)
- Set Back Distance Compliance - 500 metres (DoEHLG, 2006)
- Route Screening Analysis**
 - Class 1 - No / Very Little Screening
 - Class 2 - Partial / Intermittent Screening
 - Class 3 - Dense / Full Screening

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| | | | | |
|---|----------------------------|------------|----------|------------|
|  | Drawing No. | | | |
| | Figure 14-18 | | | |
| | Drawing Title | | | |
| | Residential Visual Amenity | | | |
| | Project Title | | | |
| Laurclavagh Renewable Energy Development | | | | |
| Scale | Project No. | Date | Drawn By | Checked By |
| 1:24,000 | 210627 | 07.03.2024 | SF | JW |



Residential Receptors to the North-East of the Proposed Wind Farm site

Viewpoint 01: Assessed visual effects from the townland of Culleen. This viewpoint was given a 'Medium' sensitivity on account of the residence proximity to the proposed turbines (1.6km). From this perspective, the proposed turbines are evenly spaced and read coherently in the landscape. The magnitude of change was deemed to be 'Moderate'. The turbines are sited at a relatively lower base elevation than the viewpoint and the residential receptors represented by this viewpoint. Landscape elements such as local undulations in the landform accentuate the effect of screening. This provides a sense that the turbines are set-back in relation to the viewpoint, reducing visual prominence. 'Moderate' residual effects were recorded from this viewpoint. PWVP-C shows a view from a similar perspective slightly west of VP01. From this location, the turbines also appear set back due to the topography screening the majority of the turbine towers from view. No significant effects are likely to arise for residents in this location. These viewpoints demonstrate the effect that distance has in this area. From this distance, compared to that of closer views (VP06, VP04 and VP05), this viewpoint demonstrates that the scale of the turbines is reduced quickly with increased distance.

A cluster of residential dwellings are located in the townland directly north of the Proposed Wind Farm site. PWVP-A was captured approximately 1.1km northeast of the nearest proposed turbine (T4), slightly north of this residential cluster. As seen from PWVP-A below and in Appendix 14-5, the proposed turbines are mostly screened by vegetation and topography throughout the view. The residential dwellings south of this viewpoint are enclosed by vegetation and the views of the turbines will be very limited. PWVP-B was captured from further north on the local road. Similarly, several of the turbines are screened from view at this location due to vegetation in the landscape.



Figure 14-19 Extract from PWVP-A within Appendix 14-5

Residential Receptors to the East of the Proposed Wind Farm site

Viewpoint 02: This viewpoint is located to the east of the Proposed Wind Farm site along the road approaching from Corofin. The village of Corofin is the closest settlement to the Proposed Wind Farm site (4.1km east of the nearest proposed turbine (T8)). Views towards the Proposed Wind Farm site are limited within the village due to screening from the townscape of the village itself and vegetation in the intervening landscape. VP02, located approximately 2.5km east of the nearest proposed turbine (T8), was given a 'Medium' sensitivity on account of the residents along the road with views not focused in the direction of the proposed turbines. The magnitude of change was deemed to be 'Moderate' as the turbines are visible in a medium extent of the view but do not appear substantially different in scale and character from the surroundings and wider setting. Visual effects were deemed to be 'Moderate'.

PWVP-H presents a view further east to VP02 along the L2123 Local Road. This location is the first time the turbines will be visible along this local road coming from Corofin. Residents along this road do not have primary views towards the proposed turbines. Plate 14-17 below shows the view from outside residential dwellings on the L2123 Local Road. The views direction faces north/northeast towards

Knockma Hill (seen in the image below). The proposed turbines are located to the west of this view and are not obstructing the primary views of these residents.



Plate 14-17 Primary view from residential dwellings along the L23123 Local Road

Viewpoint 03: this viewpoint is located approximately 2.3km southeast from the nearest proposed turbine (T8). The viewpoint was given a 'High' sensitivity on account of its location along the N83 and proximity to residential dwellings along the route. The magnitude of change is deemed to be 'Moderate' as the proposed turbines are seen to introduce novel elements into the view and are visible over a medium extent. Overall, this viewpoint was given a 'Moderate' residual effect.

PWPV-G is located approximately 1.6km directly east from the nearest proposed turbine (T8). The turbines are sited at a similar base elevation to the viewpoint, and so the vegetation within the view screens the turbines from this location. Residential Receptors to the South of the Proposed Wind Farm site.

Residential Receptors to the South of the Proposed Wind Farm site

Viewpoint 04: This viewpoint is located beside a cluster of houses south of the Proposed Wind Farm site. A 'High' sensitivity rating was given to this viewpoint on account of the residential receptors with views towards the proposed turbines. A 'Substantial' magnitude of change was determined as the proposed turbines are almost fully visible over a wide extent, at close proximity to the Proposed Wind Farm site (< 900m to the nearest proposed turbine). 'Significant' residual effects were recorded from this viewpoint. It is noted that the majority of residential dwellings along this road and in this location will not have open views of the turbines. In relation to these receptors, the Proposed Project adheres to the recommended 500m set back distance in the Guidelines and also the 4 times tip height set-back distance set out for residential visual amenity prescribed by the draft Guidelines.

The Route Screening Analysis in Section 14.4.3 shows that over half the road directly south of the Proposed Wind Farm site had either dense or intermittent roadside screening. Plate 14-18 below shows a view along the road of the dense roadside screening in this area. From this section of the road views towards the Proposed Wind Farm site will be very limited.



Plate 14-18 Section of the road directly south of the Proposed Wind Farm site that shows dense screening.

PWVP-M within Appendix 14-5 presents a view from another location along this local road. Landscape elements such as local landform undulations and mature vegetation accentuate the effect of screening, causing a disproportionate screening effect which reduces visibility of the proposed turbines in the landscape. Topography and vegetation partially obscure most of the proposed turbines from other views along this road to the south of the Proposed Wind Farm site.

Residential Receptors to the West and Northwest of the Proposed Wind Farm site

Viewpoint 05: This viewpoint is located approximately 1.2km northwest of the nearest proposed turbine (T1) and is representative of open views in this location. It was given a 'High' sensitivity on account of the residential receptors with views towards the proposed turbines in close proximity. All the proposed turbines are visible from this viewpoint. The magnitude of change was deemed to be 'Moderate' as the proposed turbines would result in a large-scale change in the baseline view but only take up a small horizontal extent of the view. As seen in the route screening analysis in Section 14.4.3, other sections along this road have some sort of roadside screening therefore, the proposed turbines are likely to be partially obscured from other residential receptors and views in this area.

Viewpoint 06: This viewpoint is located approximately 850m north of the nearest proposed turbine (T2). This viewpoint was given a 'High' sensitivity on account of the residential receptors with views towards the proposed turbines in close proximity. For effects on residential visual amenity a relatively large horizontal extent of turbines is visible. The magnitude of change was deemed to be 'Substantial' as the proposed turbines would result in a large-scale change in the baseline view. A residual visual effect of Significant was deemed to arise in relation to the receptors located adjacent to the viewpoint, which comprise a limited number of Residential Receptors.

Again, in relation to these receptors, the Proposed Project adheres to the recommended 500m set back distance in the Guidelines and also the 4 times tip height set-back distance set out for residential visual amenity prescribed by the draft Guidelines. For both of these viewpoints it is noted that whilst the turbines are large features in the view, the proposed turbines do not obstruct or interfere with any sensitive or scenic views from this location. The baseline view is generally unremarkable and is typical of many other views of agricultural fields within the surrounding area. The turbines will be seen as large vertical features within views from these sensitive receptors, however, given the similar base elevations of the turbines in relation to these receptors the field structure, vegetation, and other landscape elements seen throughout these views act as a physical landscape buffer and provide a sense of scale in relation to the setback distance of the turbines, with turbines viewed as sited beyond multiple fields or behind a treeline.

Of the 6 Photomontage Viewpoints located within 3km of the proposed turbines 2 viewpoints recorded ‘Significant’ visual effects due to their location within 1km of the proposed turbines. Residential receptors with views towards the Site at VP06 and VP04 are the only residential receptors identified within the LVIA Study Area for which these ‘Significant’ residual visual effects will arise. These viewpoints are representative of limited residential receptors and other residential receptors in the area will have more limited views towards the proposed turbines as there is roadside screening. Beyond 1km the scale of the turbines is reduced quickly with increased distance, all other viewpoints within 3km recorded ‘Moderate’ residual effects.

14.8.3.2.3 **Visual Effects in the overall LVIA study area**

Co. Galway Designated Protected Views

Protected View 31 – Kilbeg Pier

VP14 in the Volume 2: Photomontage Booklet was captured from Kilbeg Pier. This viewpoint was deemed ‘High’ sensitivity, as it is located at a GCDP (2022-28) designated protected view. The protected view is located approximately 11km west of the nearest proposed turbine (T1). The viewpoint is located at a lower elevation to the proposed turbines as it is on the edge of the lake. The proposed turbines are visible in the background of the view behind vegetation. Due to the distance and screening the magnitude of change was deemed to be ‘Slight’. It is worth noting that the direction of this protected view is not towards the turbines and the turbines do not detract from the scenic quality of the protected view. The Galway Wind Park and surrounding turbines are visible approximately 12km to the southwest of this viewpoint, outside of the LVIA Study Area. They will not be seen in the same field of view as the proposed turbines but if a viewer at this location turns their head, they will be able to see the existing Galway Wind Park and surrounding turbines to the southwest. Considering the setback distance is 12km in each direction from this location, no significant cumulative effects will arise between the existing Galway Wind Park and surrounding turbines and the proposed turbines. The residual visual effects were deemed to be ‘Not Significant’ from this viewpoint.

Co. Galway Designated Scenic Routes

Galway to Clifden Scenic Route and Lough Corrib Scenic Route

These two designated scenic routes are located approximately 17km from the nearest proposed turbine (T1). Within the LVIA Study Area the two routes follow the same road and so have been assessed together. Views towards the proposed turbines along this section of the route are very limited due to roadside screening as seen in Plate 14-19. There will be a few elevated points along the road with views over Lough Corrib where the turbines will be barely visible in the background of the landscape. PWVP-Q shows a view from south of Moycullen <1km from where the Scenic Routes start. The proposed turbines are visible in a neat linear feature in the background of the view but at significant distance from this receptor. No significant visual effects are likely to occur along this route.



Plate 14-19 View along the N59 Galway to Clifden Scenic Route and Lough Corrib Scenic Route

Lough Corrib

In the GCDP 2022-2028 Lough Corrib is designated as 'Highly sensitive to change'. As mentioned previously, the closest point of the lake is located approximately 4.3km southwest of the nearest proposed turbine (T1). From this location site visits determined that there would be limited views of the proposed turbines from the shore of the lake due to the vegetation surrounding the lake. Where there are views towards the Proposed Wind Farm site, the proposed turbines will appear as background features and will not obstruct views of the lake. As mentioned previously VP14 shows a view from Kilbeg Pier on the east side of the lake, the turbines are slightly visible over the vegetation in the background of the view. Due to the screening from vegetation around the lake views from the east side will be very limited. Where there are open views of the lake on the west side, there may be locations where the proposed turbines will be slightly visible. Figure 14-20 below shows a view towards the Proposed Wind Farm site from Knockferry Pier on the west bank of the lake. From this location there are open views of the lake however, the proposed turbines will be screened by vegetation on islands within the lake as seen in the image.

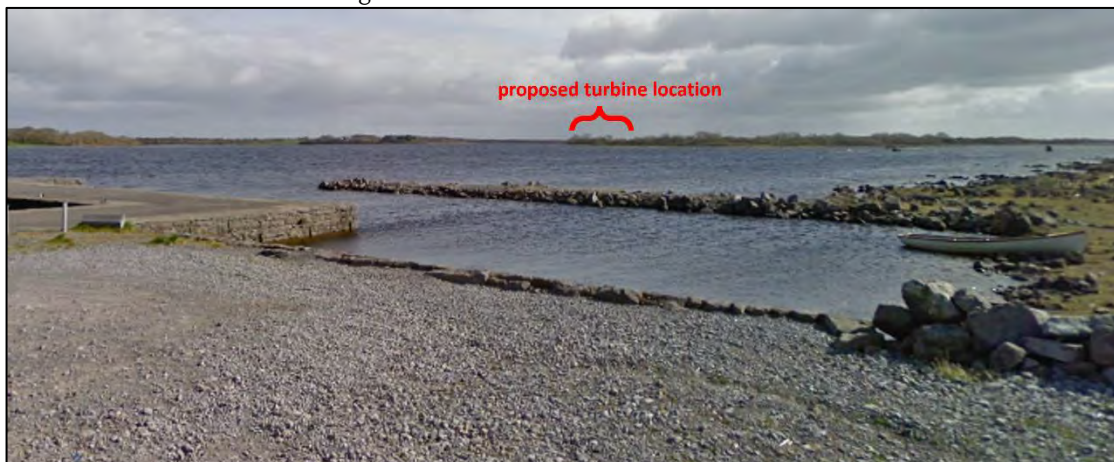


Figure 14-20 View towards the Site from Knockferry Pier on the west bank of Lough Corrib

From locations on Lough Corrib there will be instances where the proposed turbines may be visible to the east of the lake and the existing Galway Wind Park and surrounding turbines visible to the west of the lake. There will be no locations on the lake where there will be views of the proposed turbines and these existing wind farm developments together and very limited locations where there will be views of turbines in two directions. Considering the setback distance between the proposed turbines and the existing Galway Wind Park and surrounding turbines (23km), no significant cumulative effects will arise from Lough Corrib.

Where there are elevated views within the LVIA Study Area, there are panoramic views of the landscape including Lough Corrib. From the east of Lough Corrib on elevated locations such as

Knockma Hill, the proposed turbines will be visible in a differing field of view to the lake. From Knockma Hill Lough Corrib is visible to the west of the hill whereas the proposed turbines are visible to the south. As seen in VP07 within the Volume 2: Photomontage Booklet, the proposed turbines are visible in the landscape but do not obstruct view of the lake. VP10 was taken from a slightly elevated vantage point to the east of the LVIA Study Area. The image shows an expansive view of the landscape. Due to the distance (approximately 19km), Lough Corrib is not visible from this location and so the proposed turbines will not obstruct views of the lake.

As seen in VP13, where there are views of the proposed turbines and Lough Corrib in the same field of view, the proposed turbines are viewed in the background behind the lake. The proposed turbines will change the character of the view as they introduce novel features in the landscape but will not obstruct views of the lake itself.

Settlements

Corofin

As mentioned previously in Section 14.8.3.2.2 - Residential Visual Amenity. There will be no views of the proposed turbines in Corofin due to the screening surrounding the Village. Plate 14-20 below shows a view from the Church carpark towards the proposed turbines, the hedge and building in the background of the photo provide screening within the village that restrict views towards the Proposed Wind Farm site. When leaving the village, the first view of the proposed turbines will be along the local road to the west of the village. PWVP-H in Appendix 14-5 shows this view. The proposed turbines will be visible to the right of the road in the background of the view. The proposed turbines take up a medium extent of the view but do not appear larger than the existing vegetation within the view and therefore do not extend the vertical extent of the view. Further along the road to the west, VP02 shows a view of the proposed turbines. No significant effects are likely to arise from Corofin or local roads surrounding the village.

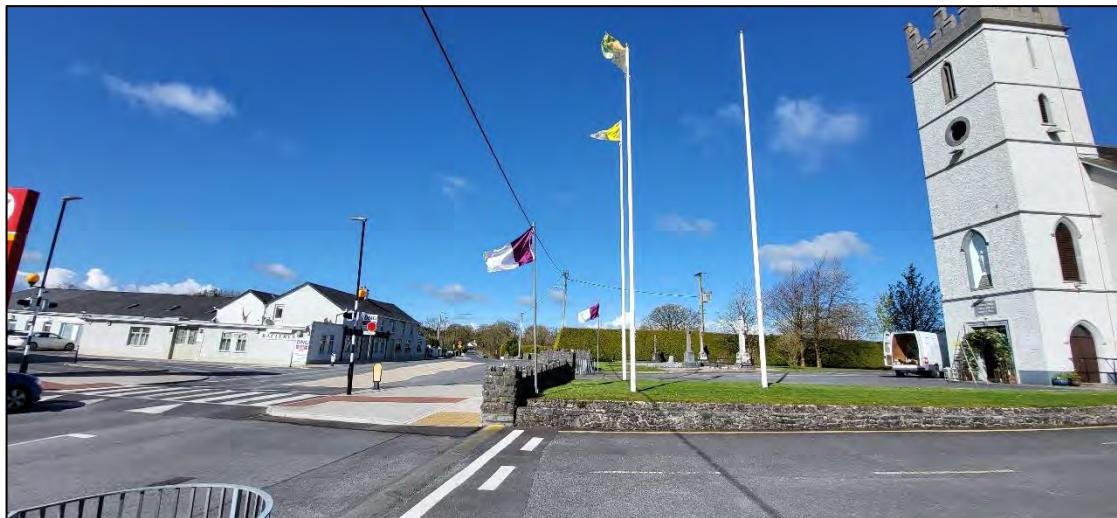


Plate 14-20 View towards the proposed turbines from within Corofin

Tuam

Tuam Town is located approximately 9.5km northeast of the nearest proposed turbine (T8). The town itself is located at a lower elevation than the majority of the proposed turbines. The landform to the south of Tuam slopes slightly upwards towards the proposed turbines and so will screen views of the turbines from the town. Within the town there will be no visibility of the proposed turbines due to the topography screening to the south and screening from vegetation and residential infrastructure within the town itself. The proposed turbines will be visible from an elevated vantage point along the N17 to the north of Tuam before you enter the town. VP09 shows views from this location. This viewpoint was

given a 'Medium' sensitivity on account of its proximity to Tuam town and location along the N17 a well trafficked road. The magnitude of change was deemed to be 'Moderate' as the turbines are visible in the view but do not obstruct any views of a scenic quality. Overall, residual visual effects were deemed to be 'Moderate' from this location. No significant effects are deemed to occur within the town of Tuam itself.

Headford

The small town of Headford is located approximately 8.8km northwest of the nearest proposed turbine (T1). Similarly, to Tuam, it is located at a lower elevation than the majority of the proposed turbines. On site appraisals determined that there was no visibility from within the town due to the intervening screening from infrastructure and vegetation. VP15 was captured to the northwest of Headford along the R334 Regional Road. This viewpoint was given a 'Medium' sensitivity on account of its location along the R334 Regional Road and proximity to Headford. The proposed turbines are visible behind the dense treeline in the background of the view. The treeline screens the towers of the turbines and only the hubs and blades are visible about the treeline. This magnitude of change was deemed to be 'Moderate' for this viewpoint, resulting in 'Not Significant' residual visual effects. No significant visual effects are deemed to occur within the small town of Headford. VP15 is representative of one of the only locations the turbines will be visible around Headford.

Site visits found that as the N84 travels from Headford to Galway City, there is a large amount of roadside screening directly south from Headford (see Plate 14-21 below). PWVP-S presents a view from along the N84 west of the proposed turbines and south of Headford. It shows that the proposed turbines are mostly screened by the vegetation within the landscape. This is the case for the majority of the views south of Headford along the N84. Views along the N84 are discussed in further detail below in the Major Transport Route section. Imperceptible effects will occur in and around the town of Headford.



Plate 14-21 vegetation screening along the N84 south of Headford

Claregalway

Views from within Claregalway will be very limited due to screening from the infrastructure within the area. PWVP-L was captured from an open view along the N83 north of Claregalway. As seen in PWVP-L in Appendix 14-5, 3 of the proposed turbines are fully screened by the vegetation in the landscape and the remaining 5 turbines are partially screened. PWVP-L is representative of one of the first open views of the turbines along the N83 from Claregalway to Tuam. No significant visual impacts are likely to occur from Claregalway as a result of the proposed turbines.

Galway City

Galway City is located approximately 16km south of the nearest proposed turbine (T1). Views from within the city will be very limited due to screening from the townscape. There will be limited views of

the proposed turbines from elevated vantage points on the outskirts of the city. VP11 is located on the outskirts of the city north of Briarhill on an elevated local road adjoining to the N83. This viewpoint was given a 'medium' sensitivity on account of its location to Galway city and receptors in the area. This will be one of the only views from this side of the city and there will be no views from Briarhill as it is located at a lower elevation than this viewpoint. The magnitude of change was deemed to be 'Slight' as the turbines will be visible in the background of the view, and they appear as a near linear feature that does not extent the vertical extent of the view in comparison to Knockma Hill in the background. A 'Slight' residual effect was given at this viewpoint.

VP13 was captured from the west of Galway City on the N59 next to Glenlo Abbey. This viewpoint was also captured from an elevated point along the road with views over Lough Corrib and surrounding landscape. This viewpoint was deemed 'Medium' sensitivity on account of its location along a National Road and proximity to Galway City. Glenlo Abbey is also a popular destination within Galway City with a Golf Course and views over the lake. The magnitude of change was deemed to be 'Slight' as all turbines are visible however, they appear in the background of the view and do not detract from the picturesque landscape views of Lough Corrib. A 'Slight' residual effect was given at this viewpoint.

Moycullen

Moycullen Village is located approximately 17km southwest of the nearest proposed turbine (T1). The village is located on an elevated vantage point south of Lough Corrib. When approaching the village from Galway City along the N59 there are sections along the road with open views over Lough Corrib, however, once in the village, views are limited due to screening from the village infrastructure. To the north of Moycullen the landform slopes down towards Lough Corrib. As seen in Plate 14-22 below, there is a large amount of vegetation in the landscape surrounding the lake that will restrict views towards the proposed turbines. PWVP-Q in Appendix 14-5 was captured along the N59 approximately 1km southeast of Moycullen and shows one of the last open views towards the lake before entering the village. The turbines will be visible from this location in the background of the view. They do not obstruct the scenic views of the lake and appear in the background as a neat linear feature. No significant effects are deemed to arise from Moycullen.

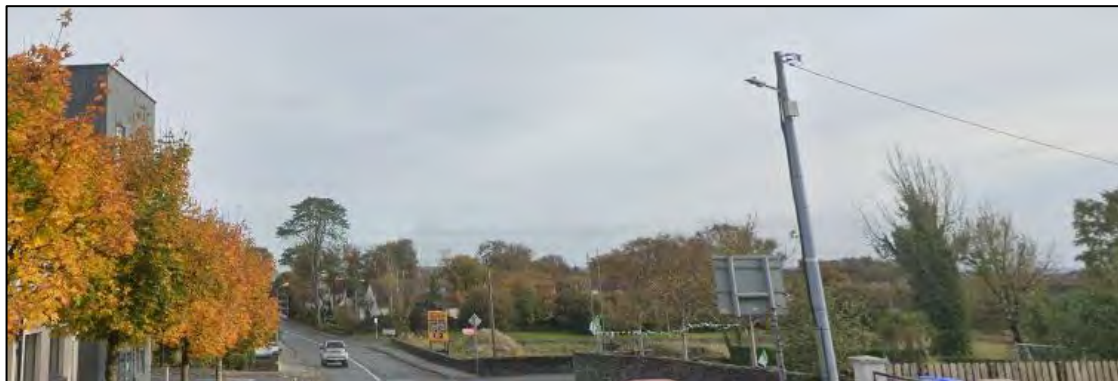


Plate 14-22 View towards Lough Corrib from Church Road in Moycullen

Tourist Destinations

Knockma Hill is located approximately 4.1km north of the nearest proposed turbine (T4). This viewpoint is one of the most elevated locations in the LVIA Study Area and represents one of the most open views of all the proposed turbines. Figure 14-21 below shows a trail map of all walking trails at Knockma Hill. Figure 14-22 below shows a zoomed in map of the ZTV on Knockma Hill. The ZTV shows that there is full theoretical visibility on the south side of the hill where a few of the trails and archaeological sites are located. The main route shown in Green on the map is the Forest Loop. There will be no visibility along this route as shown by the ZTV in Figure 14-22 and as it is located within the forest there will be full screening from the trees. The other named trails on the hill are located on the

south side where the ZTV shows full theoretical visibility. Several National Monuments are located on the south side of the hill and the ZTV shows full theoretical visibility of the proposed turbines. A full discussion of the effects on these National Monuments is detailed in Chapter 13 – Cultural Heritage.

A number of viewpoints were captured from several locations along these trails. VP07 was captured from the peak of Knockma Hill along a walking trail. Although not designated as a walking route, Knockma Hill is of local importance and therefore VP07 has been given a ‘High’ sensitivity. All 8 proposed turbines are visible from this viewpoint. One of the turbines (T8) is partially screened by the vegetation on this hill side but would be visible from other locations on the hill. The magnitude of change was deemed ‘Moderate’. The residual visual effects were deemed to be ‘Moderate’ from this viewpoint, as the proposed turbines are effectively absorbed in the expansive, panoramic, and long ranging landscape view and do not obstruct any designated scenic views. Views from other locations along the trails show that there is screening from vegetation along the trails which limit panoramic views as seen in Plate 14-23 below. Although there are panoramic views from several locations on Knockma Hill the views of a more scenic quality are directed towards Lough Corrib. The proposed turbines are located directly to the south of Knockma Hill whereas Lough Corrib is located further southwest. Therefore, the proposed turbines will not interfere with the views of Lough Corrib from locations on Knockma Hill.

The two existing Cloonlusk turbines and proposed Cooloo turbines are located to the southeast of Knockma Hill. From VP07 these turbines are out of sight from this image. The proposed turbines and existing Cloonlusk and proposed Cooloo turbines will not be visible in the same view extent. However, there may be times where if a viewer is looking south towards the proposed turbines and then turns their head to the east, they will then have visibility of the two existing Cloonlusk and proposed Cooloo turbines. In addition, the Galway Wind Park and surrounding turbines will be visible in the background of this panoramic view across Lough Corrib as the view turns their head to the southwest. The Galway Wind Park and surrounding turbines will be barely visible in the background of the view. No significant cumulative effects will arise at this location as a result of the proposed turbines.



Plate 14-23 View from along the Finvarra Trail



Figure 14-21 Knockma Hill trail map

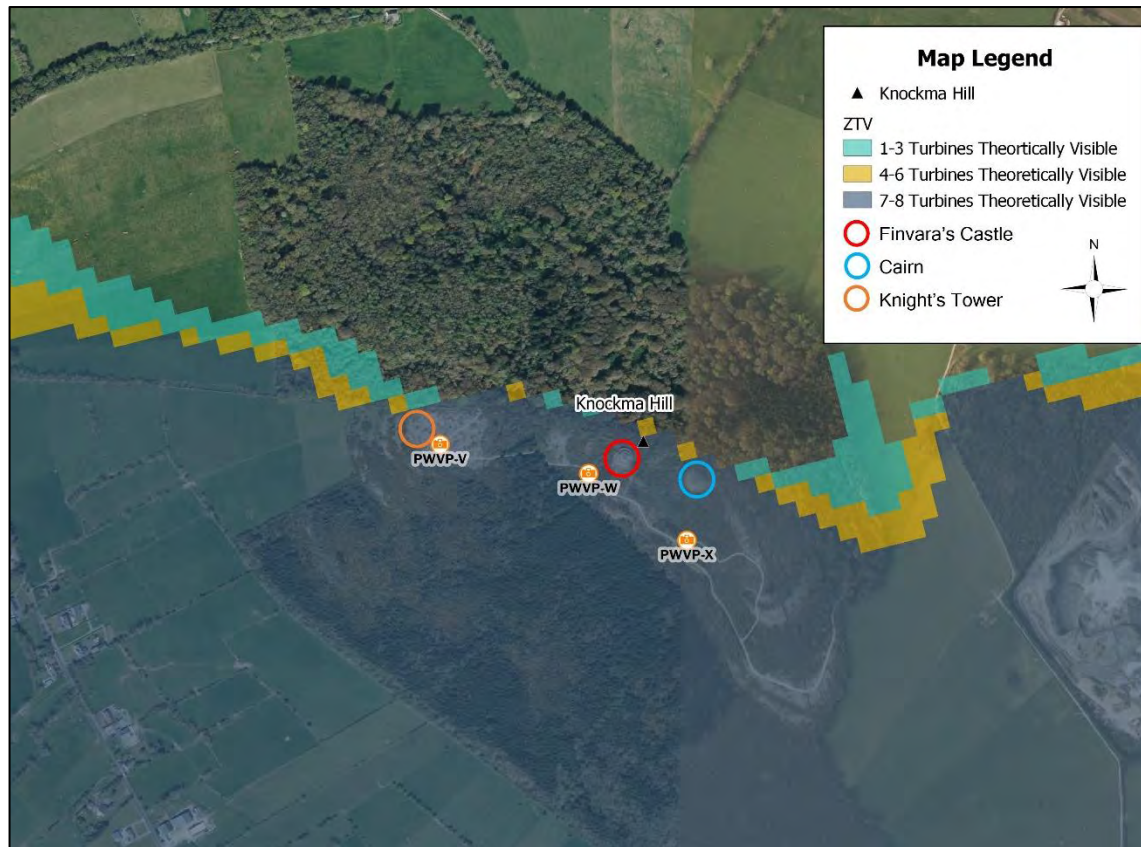


Figure 14-22 ZTV on Knockma Hill

Knockroe Hill is located approximately 12.6km east of the nearest proposed turbine (T8). A holy well is located on the side of the hill and a photowire was captured from this location (see PWVP-I in Appendix 14-5). From this location there is partial screening from vegetation on the hillside and so VP10 was captured for a more representative view from this location. A 'low' sensitivity was given to this viewpoint on account of its location along a local road and given that Knockroe Hill is located on private property, there will be limited visual receptors from this location. The magnitude of change was deemed to be 'Slight' as all 8 proposed turbines are visible in the background of the view. They appear as a neat linear feature within the landscape and do not extend the vertical extent of the view as they present at a similar height as Knockma Hill to the north. From this location, the two existing Cloonlusk turbines can be seen to the north of this viewpoint. No significant cumulative effects are deemed to arise. Residual visual effects were deemed to be 'Not Significant' from this viewpoint.

Major Transport Routes

N83

The N83 is the closest main transport route to the Proposed Wind Farm site, located approximately 1.5km to the east of the Proposed Wind Farm site at its closest point. This route runs in a north-south orientation connecting Galway City to Tuam and beyond. The ZTV shows that majority of the route has full theoretical visibility within the LVIA Study Area. VP08 and VP03 are located along this route representing views of the proposed turbines from the north and south orientations. A residual effect of 'Moderate' was deemed to arise at VP08 which is located at a slightly elevated location along the N83, 3.8km northeast of the nearest proposed turbine (T8). The proposed turbines will all be visible in the landscape from this location. VP03, located approximately 2.3km from the nearest proposed turbine (T8), was given a 'Moderate' residual effect as the proposed turbines introduce novel elements into the view.

PWVP-L, PWVP-K, PWVP-G, PWVP-J and PWVP-D were also captured along the N83 representing views of the proposed turbines various orientation and distances. From the location of PWVP-G and PWVP-K, the proposed turbines are fully screened by the vegetation and residential dwellings in the surrounding landscape. From the other viewpoints, the proposed turbines are partially screened. Due to the screening from vegetation in the intervening landscape, views of the proposed turbines will be significantly less than that shown on the ZTV map. No significant effects are likely to occur along this transport route.

N84

The N84 passes through the southwest of the LVIA Study Area and is located 3.5km from the proposed turbines at its closest point. The ZTV shows full theoretical visibility of the proposed turbines along the majority of this route. As discussed previously in the route screening analysis in Section 14.4.3 and as seen in Plate 14-24 a large section of the N84 has some sort of roadside screening. 5.5km of the N84 National Road where it is located within 5km of the proposed turbines. Only 33% of this road was shown to have no roadside screening, therefore there is limited locations where receptors travelling this route would have open and clear views in the direction of the Proposed Wind Farm site.



Plate 14-24 Roadside screening along the N84

PWVP-S, PWVP-P and PWVP-O are located along this transport route. These viewpoints represent locations where there is no roadside screening. As seen in these images, the proposed turbines are still partially or fully screened by the localised topography or vegetation screening in the intervening landscape.

VP12 is located on Curraghmore Bridge along the N84 to the southeast of the Proposed Wind Farm site. This viewpoint is representative of an open view along the road and was given a 'Medium' sensitivity. All 8 of the proposed turbines are visible in a neat linear arrangement in the background of the view. The magnitude of change was deemed to be 'Slight' and residual visual effects were deemed to be 'Slight'. This is one of the only views along this National Road where there are open views towards the turbines with limited intervening screening. No significant effects are likely to arise on the N83 as a result of the proposed turbines.

When travelling along this route there will be instances where the proposed turbines are visible to the east and the existing Galway Wind Park and surrounding turbines are visible to the west. Considering the setback distance between the proposed turbines and the existing Galway Wind Park and surrounding turbines (23km), no significant cumulative effects will arise from the N84.

N17

The N17 National Road is located approximately 11km northeast of the nearest proposed turbine (T8). The ZTV shows that there is mixed visibility along this route. From site visits it was determined that there would be limited visibility of the proposed turbines from the majority of this route as the road is located at a similar elevation to the proposed turbines the flat nature of the landscape accentuate the

screening from intervening vegetation. VP09 is located approximately 2.5km north of Tuam Town on an elevated section of the N17. This viewpoint was given a 'Medium' sensitivity on account of its proximity to Tuam town and location along the N17 a well trafficked road but located greater than 5km from the proposed turbines. The magnitude of change was deemed to be 'Moderate' as the turbines are visible in the view but do not obstruct any views of a scenic quality. Overall, residual visual effects were deemed to be 'Moderate' from this location. This viewpoint location is one of the only locations along the N17 where there will be views of the proposed turbines. No significant effects were deemed to arise along the N17 National Road.

M17

The M17 runs in a north-south orientation connecting Sligo to Galway. This road is located to the east of the Proposed Wind Farm site and a part of the road runs within 5km of the proposed turbines. There is primarily full theoretical visibility along this route within the LVIA Study Area. Site visits found that along the majority of the M17 there is roadside screening as seen in Plate 14-25 below. PWVP-F is located along local roads in close proximity to the M17 and are representative of open views from the M17 Motorway. Both viewpoints show that there is visibility of the proposed turbines from these locations. PWVP-F was taken from a local road parallel to the M17 where there are open views within 5km of the proposed turbines. The proposed turbines are partially screened by the vegetation within the landscape, the turbines that are visible appear in the background of the view.



Plate 14-25 View north along the M17 Motorway with the Proposed Wind Farm site to the west

14.8.3.2.4 Ancillary Project Elements including Grid Connection

For the purposes of this LVIA, a number of individual elements of the Proposed Project, ancillary to the proposed turbines, have been grouped together for the assessment of effects, given the similar nature of the works required. These operational project elements that are part of the Proposed Project, include the access roads, turbine hardstand areas and met mast components. The Proposed Grid Connection, including the onsite 110kV substation and underground cabling route along with the other ancillary project elements may give rise to potentially similar landscape and visual effects. Details of these components of the Proposed Project and the required works to construct them are contained in Chapter 4 of this EIAR.

Due to the screening from hedgerows, treelines and undulating landform surrounding the Site, most visibility of the lower (shorter), less visually prominent Proposed Project components will occur in their immediate surroundings; hence, visual effects will be localised and are predominantly confined to within the Site itself.

Site Access Roads and Hardstand Areas

The proposed access roads and hardstand areas are flat features. They will be most visible within their immediate surroundings; therefore, any landscape and visual effects will be very localised. Every use will be made of the existing farm and access tracks on the Proposed Wind Farm site. Some tracks will be upgraded appropriately whilst several stretches of new internal roads will need to be constructed. Landscape and visual effects are likely to be highly localised, long-term and will be 'Slight'.

Meteorological (Met) Mast

One met mast is proposed as a part of the Proposed Project. This will be a slender structure, 30 metres in height, and will not be an imposing structure in terms of visual impact. The landscape and visual effects of the proposed met mast will be localised, considering that it will be significantly less visible than any turbine given its shorter and slender lattice form and will fade from view at a distance of anything more than a few kilometres (approx. 2km) where it will have little to no impact. As shown in the EIAR Volume 2: Photomontage Booklet, the met mast is only likely to be visible in VP05. The wireline within the photomontage booklet shows the met mast in several other photomontage viewpoints, however, due to screening from vegetation, topography and infrastructure views are limited. There are views of the met mast from Knockma Hill but due to the slender structure of the mast and height of 30m, it is unlikely that the met mast will be distinguishable within the expansive views from Knockma Hill. Within the Site and its immediate landscape setting, the landscape and visual effects arising from the met mast is considered to be 'Slight'.

14.8.3.2.5 **Proposed Grid Connection**

Underground Cabling Route

As the proposed underground electrical cabling route is located underground, landscape and visual effects during the operational phase will be Imperceptible once vegetation has re-established along the roadway following earthworks during the construction phase. The landscape and visual effects occurring during the construction phase of the proposed underground electrical cabling route are reported previously in Section 14.8.2.2 In general, the proposed ancillary infrastructure elements (discussed above) will cause negative landscape and visual effects 'Slight'.

Proposed Onsite 110kV Substation

The proposed onsite 110kV substation and its compound are one of the larger and more visually prominent elements of the ancillary infrastructure. The footprint of the proposed onsite 110kV substation compound measures approximately 8,230 square metres (m²) in area. As shown in previously in Figure 14-8 (Section 14.5.2 – *Landscape Character of the Proposed Wind Farm site*) the proposed onsite 110kV substation is located in a field in the middle of the Proposed Wind Farm site. Plate 14-14 shows that the proposed onsite 110kV substation is sited in a location enclosed by vegetation, reducing visibility from receptors in the surrounding landscape. Due to the elevated views on Knockma Hill within 5km of the proposed turbines; the proposed onsite 110kV substation and associated infrastructure, may also be visible from this location. However, due to the nature of the proposed onsite 110kV substation, as it will appear similar in height to residential infrastructure around the area, it will likely be barely distinguishable and absorbed into the panoramic views from Knockma Hill. Any landscape and visual effects are likely to be highly localised, long-term and will be 'Slight'.

14.8.3.3 **Discussion of Cumulative Visual Effects**

There are many potential scenarios and interactions where cumulative visual effects may occur. These scenarios can include interactions between the Proposed Project, other energy developments (wind farms or grid infrastructure), as well as other man-made landscape features (quarries, transport

networks, overhead telecommunication lines). Guidance for assessment of cumulative effects of onshore wind farms (SNH,2012) & (NatureScot, 2021) clearly states the following:

“At every stage in the process the focus should be on the key cumulative effects which are likely to influence decision making, rather than an assessment of every potential cumulative effect”

“The level of information generated can distract attention from the most significant cumulative effects which are likely to influence the consenting decision. Assessments should therefore focus on the most significant cumulative effects and conclude with a clear assessment of those which are likely to influence decision making”

Following this guidance, a primary focus is given to the cumulative effects likely to occur as a result of other wind turbines identified in the LVIA Study Area. Cumulative visual effects were assessed as part of the Photomontage Assessment Tables found in Appendix 14-3. Whether a visual effect is deemed to be positive, negative or neutral, this involves a degree of subjectivity. What appears to be a positive effect to one viewer could be deemed to be a negative effect by another viewer. All predicted visual effects are Long Term and Direct effects.

There are 5 other existing, permitted or proposed wind farms or individual wind turbines located within 20km of the proposed turbines, as discussed above in Section 14.7. The Cumulative ZTV shown above in Figure 14-15, shows that throughout the majority of the LVIA Study Area the proposed turbines will likely be visible on their own. There are small areas within 5km that show there is theoretical visibility of the proposed turbines with the other cumulative turbines in the LVIA Study Area. To the south of the proposed turbines there is a large area of cumulative theoretical visibility between 5-15km. VP11 and VP12 show views of the proposed turbines from south of the LVIA Study Area. These viewpoints are located within an area where the Cumulative ZTV shows theoretical visibility of the proposed turbines and the cumulative turbines. There are no cumulative turbines visible from these locations as seen in VP11 and VP12 in the Volume 2: Photomontage Booklet.

The two existing Cloonlusk turbines are located approximately 9.4km from the nearest proposed turbine (T8). These turbines have tip height of 117m and considering their distance from the proposed turbines in this flat vegetated landscape, there will be limited locations where the proposed turbines will be seen in combination with the existing Cloonlusk turbines. There will be some locations to the north and east of the proposed turbines, where there will be views of the proposed turbines in one direction, and views of the Cloonlusk turbines to another, creating a combined (in succession, where an observer has to turn their head to see both wind farms) views of turbines in two directions. For example, from VP10 within the Volume 2: Photomontage Booklet, the proposed turbines are visible to the west, but when the observer turns towards the north the existing Cloonlusk turbines are visible in the landscape. Similarly, PWVP-D to the northeast of the proposed turbines along the N83, shows that the proposed turbines are visible to the southwest of this viewpoint, but if the observer was to turn to the east the existing Cloonlusk turbines are visible in the landscape. However, from these locations the turbines of the Cloonlusk Wind Farm will be seen as small background elements within views, and limited cumulative visual effects will arise as a result. Given the distance of these locations around the Cloonlusk turbines from the proposed turbines and their smaller vertical extent within views, the proposed turbines will frequently be screened from view as a result of the vegetation in the landscape. This will give rise to sequential views (where the observer moves to a different point along the route to see the different wind farms) of the proposed turbines and the Cloonlusk turbines. However, these views will be intermittent, and again as a result of the distance between Proposed Wind Farm site and the Cloonlusk turbines cumulative visual effects will be minor.

As mentioned within Section 14.7 above, the existing Galway Wind Park and surrounding turbines are located outside the LVIA Study Area. There will be visibility of these existing turbines within the LVIA Study Area. It is unlikely that the proposed turbines will be seen in combination these existing wind farm developments. However, there will be instances from locations within LVIA Study Area where there will be visibility of the proposed turbines in one direction and the existing Galway Wind Park and

surrounding turbines will be visible in another direction. Considering the substantial separation distance between the developments (23km) their interaction within the landscape, will not amount to Significant Cumulative Effects.

VP07 is located on Knockma Hill, one of the highest locations within the LVIA Study Area, due to the vegetation on the hill there are limited 360-degree views and so it is unlikely that there will be visibility of the proposed turbines in combination with cumulative turbines. The Galway Wind Park turbines are visible in the background of the view, although they are located beyond the LVIA Study Area and not included in the cumulative assessment it is important to acknowledge that they will also be visible along with the proposed turbines from this location. Although they will be visible from Knockma Hill and Lough Corrib, the intervening distance between the proposed turbines and the existing Galway Wind Park turbines mitigates effects and therefore, no significant cumulative effects will arise. The two existing Cloonlusk turbines and proposed Cooloo turbines are located to the southeast of this viewpoint, out of sight from this image. The proposed turbines and existing Cloonlusk or proposed Cooloo turbines will not be visible in the same view extent. However, there may be times where if a viewer is looking south towards the proposed turbines and then turns their head to the east, they will then have visibility of the two existing Cloonlusk turbines and the proposed Cooloo turbines.

The proposed Shancloon turbines are visible in the background of three viewpoints (VP10, VP11 & VP13), they are also visible in the wireline of VP04 and VP12 within the Volume 2: Photomontage Booklet. Due to the vegetation screening in the landscape, the proposed Shancloon turbines will only be visible from areas of high elevation. As a result of the distance between VP10, VP11 & VP13 the proposed Shancloon turbines appear as small background features within the view and are barely discriminable. No significant visual effects will occur between the proposed turbines and the proposed Shancloon turbines.

The proposed Clonberne turbines are visible in the wirelines of three viewpoints (VP11, VP12 & VP13) within the Volume 2: Photomontage Booklet. The proposed Clonberne turbines will be visible as very small features in the background of the view from VP11. At this distance, cumulative effects between the proposed turbines and the proposed Clonberne turbines are likely to be 'Imperceptible' from this viewpoint. The wirelines of VP12 and VP13 also show the visibility of the proposed Clonberne turbines however, due to the screening within the view, there is no visibility of the proposed Clonberne turbines with the proposed turbines.

The proposed Cooloo turbines are visible in the wirelines of four viewpoints (VP04, VP11, VP12 and VP13) within the Volume 2: Photomontage Booklet. The proposed Cooloo turbines are not visible in any of the proposed photomontage views. It is unlikely that the proposed Cooloo turbines will be visible with the proposed turbines due to the vegetation screening in the landscape. No significant visual effects will occur between the proposed turbines and the proposed Cooloo turbines.

Overall, the flat terrain and high screening levels prevent wind energy developments from dominating the landscape, views of the proposed turbines and other wind farm developments will mostly be limited to elevated areas within the LVIA Study Area. No significant cumulative visual effects are likely to occur as a result of the proposed turbines.

14.8.4 Decommissioning Phase Effects

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

The important element of decommissioning from a landscape and visual impacts perspective is the dismantling and removal of the wind turbines. This will occur for a limited period of time and will predominately involve cranes adjacent to the turbines during the dismantling process. Upon decommissioning of the Proposed Project, the wind turbines will be disassembled in reverse order to how they were erected. The turbines will be disassembled with a similar model of crane that was used

for their erection. The turbine will likely be removed from the Proposed Wind Farm site using the same transport methodology adopted for delivery to the Proposed Wind Farm site initially.

Turbine foundations would remain in place underground and would be covered with earth and reseeded as appropriate. This naturalisation process would revert the landscape of Proposed Wind Farm site to a condition similar to the current landscape baseline. The Proposed Grid Connection underground electrical cabling route and onsite 110kV substation will remain in place as it will be under the ownership and control of the ESB and Eirgrid.

Removal of the turbines and ancillary infrastructure from the Proposed Wind Farm site will result in a Short-term, Slight, Negative visual effect. A Decommissioning Plan has been prepared (Appendix 4-6) the detail of which will be agreed with the local authority prior to any decommissioning. The Decommissioning Plan will be updated prior to the end of the operational period in line with decommissioning methodologies that may exist at the time and will be agreed with the competent authority at that time.

14.9

Conclusion

This Chapter assesses the likely significant landscape and visual impacts arising as a result of the Proposed Project. Although all elements of the Proposed Project are assessed, the Chapter focusses upon the proposed turbines, as they are deemed to be the essential aspects of the proposal under assessment from a landscape and visual perspective. The Chapter describes the baseline landscape and assesses the direct effects on the landscape of the Proposed Wind Farm site, as well as effects on landscape character and the impact on sensitive landscape receptors and Landscape Character Units (LCUs). Visibility of the proposed turbines was assessed from receptors within a study area extending 20km from the proposed turbines; and visual effects were determined from information gathered during multiple site visits as well as other tools such as ZTV mapping and photomontages.

The Proposed Wind Farm site is located in a settled agricultural landscape comprising fields of grazing pasture delineated by stone walls and mature hedgerows. The immediate setting of the Proposed Wind Farm site is a sparsely populated, working landscape, set back from large settlements and population centres. The proposed turbines were sited on a flat landscape, where local undulations and vegetation limit long range views in the wider LVIA Study Area.

On-site visibility appraisals, ZTV mapping, a Route Screening Analysis and assessment of over 40 no. viewpoint locations (15 No. in the EIAR Volume 2: Photomontage Booklet and 26 No. in Appendix 14-5) determined that visibility of the proposed turbines will be very limited from locations beyond 5 km from the proposed turbines. Visibility of the proposed turbines beyond the immediate landscape setting of the Proposed Wind Farm site is limited to localised areas of high elevation where open views across the flat and vegetated landscape are available from elevated vantage points, which is in general not a common occurrence in the 20km LVIA Study Area.

The landscape value of the Proposed Wind Farm site is deemed to be of 'Low' value and the sensitivity of this landscape to wind farm development is deemed to be 'Low'. The introduction of vertical man-made structures and ancillary infrastructure will substantially alter the landscape comprising the proposed infrastructure footprint at the Proposed Wind Farm site. The proposed turbines amount to direct long-term 'Moderate' landscape effects upon the physical fabric of the landscape of the Proposed Wind Farm site itself. In terms of effects on Landscape Character, the proposed turbines are located within Galway LCU 6a - Black River Basin Unit. In terms of the sensitivity of this landscape, the entirety of this LCU is located an area designated as 'Low' Sensitivity within the GCDP 2022-28. The magnitude of change was deemed to be 'Moderate' as the addition of uncharacteristic new features (turbines) will cause a change in landscape character in a localised area but will not redefine the character of the LCU.

All other LCUs within 15km of the proposed turbines were comprehensively assessed in Appendix 14-2. Effects on landscape character from these LCUs only relate to impacts on perceptual and aesthetic qualities. The proposed turbines will not materially alter these landscape receptors and likely effects upon landscape character were not deemed to be significant. Residual effects on landscape character were deemed to be 'Not Significant' for two other LCUs, 'Slight' from two other LCU. Lough Corrib was identified as a 'high' sensitive landscape receptor. At its closest point Lough Corrib is located approximately 4.3km southwest of the nearest proposed turbine (T1). On site appraisals found that the landscape surrounding Lough Corrib was highly vegetated and actual visibility is highly unlikely. VP14 shows a view from Kilbeg Pier on the east side of the lake, the turbines are slightly visible over the vegetation in the background of the view. No significant landscape and visual effects were deemed to occur from Lough Corrib.

Photomontages were used to illustrate the assessment of the visual effects arising as a result of the Proposed Project from 15 No. viewpoint locations. The assessment concluded that no 'Profound' or 'Very Significant' effects occurred at any of the 15 viewpoints. Residual effects of 'Significant' occurred at 2 of the 15 No viewpoints. In these two cases (VP06 and VP04) a residual effect of 'Significant' is due to the proximity of the visual receptor (<1km from the proposed turbines). A residual effect of 'Moderate' was deemed to arise at 6 of the 15 No viewpoints. All other viewpoints were assessed as resulting in 'Slight' (4) or 'Not Significant' (3) residual visual effects.

Considering the limited visibility of the proposed turbines from distant receptors, the assessment of visual effects focussed on locally sensitive residential receptors and rural settlement clusters which will have views of the proposed turbines. 6 of the 15 Photomontage Viewpoints and 11 of the 26 Photowire Viewpoints are located within 3km of the proposed turbines. These viewpoints were specifically selected to assess the visual effects on residential amenity and receptors of local community importance in close proximity to the Proposed Wind Farm site. Of the 6 Photomontage Viewpoints located within 3km of the proposed turbines 2 viewpoints recorded 'Significant' visual effects because of their location within 1km of the proposed turbines. Whilst beyond 1km the scale of the turbines is reduced quickly with increased distance, all other viewpoints within 3km recorded 'Moderate' residual effects. The residual effect of the two other photomontage viewpoints located within 5km of the proposed turbines was also deemed to be 'Moderate'.

Knockma Hill, a local walking trail, is located within 5km of the proposed turbines. Although it is not designated in the GCDP 2022-28, the walking trails on the hill are of local significance to the community and therefore the viewpoint (VP07) captured from this location was given a 'High' sensitivity. This location has panoramic views of the farmland landscape and Lough Corrib. The proposed turbines are visible within the panoramic views but do not detract from the views of Lough Corrib. 'Moderate' residual effects were deemed to arise at this location.

Cumulative effects on landscape character are included in the impact assessment outlined in Appendix 14-2. Cumulative visual effects are also discussed and summarised in Appendix 14-3 and above in this Chapter. The flat terrain and high screening levels prevent wind energy developments from dominating the landscape. In general, views of both the proposed turbines and cumulative turbines in combination will be limited as a result of the flat terrain and vegetated landscape. There is a likelihood that the proposed turbines may potentially be seen in succession with the existing Cloonlusk turbines or the proposed Shancloon or Clonberne turbines. There will be instances from locations within LVIA Study Area where there will be visibility of the proposed turbines in one direction and the existing Galway Wind Park and surrounding turbines will be visible in another direction. Views of the proposed turbines and these wind farm developments will only likely be from isolated areas within the LVIA Study Area. The assessments determined that no significant cumulative landscape and visual effects will occur with any of existing, permitted or proposed wind farm development. The proposed turbines are suitably sited and scaled within the landscape. Considering the limited visual exposure of the proposed turbines and relatively limited number of sensitive landscape and visual receptors impacted within the LVIA Study Area, the Proposed Project is deemed to be acceptable from a landscape and visual perspective.