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APPENDIX 13-2

LCA ASSESSMENT TABLES

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Appendix 13-2: LCA Assessment Tables

Lackareagh Wind Farm, Co.
Clare



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1. LANDSCAPE CHARACTER AREA (LCA) ASSESSMENT TABLES

This appendix comprises an impact assessment addressing the landscape effects of the Proposed Project upon each designated Landscape Character Area (LCA) scoped in for assessment in Chapter 13 of this EIAR; please refer to Section 13.4.5.2: Preliminary Analysis: LCAs of the Chapter.

The impact assessment for each LCA is set out in its own table below, organised by county. In the tables, the term 'the site' refers to the Proposed Project site and the discussion of theoretical visibility in each LCA refers to Zone of Theoretical Visibility (ZTV) mapping as outlined in Section 13.3: Visibility of the Proposed Project of the Chapter.

It is recommended that the impact assessments in this appendix are read in conjunction with the following figure in the chapter:

➤ Figure 13-11: ZTV & Designated LCAs Map.

The above map illustrates the boundary of each LCA and is overlain by the Half-Blade ZTV, or ZTV, which extends to the 15km LCA Study Area for the assessment of effects on designated LCAs; the brief and full methodologies for determining the LCA Study Area boundary are provided respectively in Section 13.2.2: Scope and Definition of LVIA Study Area of the main chapter and in Section 1.4 of the same name in *Appendix 13-1: LVIA Methodology*.

Regarding the 'Significance of Effect' ratings in the tables below: The definition of classification is taken from the 'Guidelines on the Information to be Contained in Environmental Impact Assessment Reports' of the Environmental Protection Agency of Ireland (EPA) (2022); refer to Section 1.7.5 'Landscape Effects Assessment Matrix' in *Appendix 13-1*.

1.1 County Clare

In the tables of this section, reference is made to the Landscape Character Assessment of County Clare 2004 (LCACC) (ERM Ireland Ltd., 2004), the Clare County Development Plan 2023–2029 (CCDP) and the CCDP Volume 6: Clare Wind Energy Strategy (CWES).

In the CWES, *Chapter 4* is called 'Advice on Landscape Capacity for Wind Energy Developments based on Landscape Character Areas (LCAs)' and includes specific information about the sensitivity of each LCA in relation to wind energy development. That chapter and its 'Table 4a: Strategic Guidance on Landscape Capacity for Wind Energy Developments' have also informed the impact assessments in the tables below.

1.1.1 LCA-8: Slieve Bernagh Uplands (contains all proposed turbines)

Clare LCA-8: Slieve Bernagh Uplands	
Map Ref.	C-LCA-8
Distance from the Site to Nearest/Furthest Area of LCA	The Proposed Wind Farm site containing all turbines T1-T7 is located within this LCA. At its furthest point, this LCA extends 4.9km from turbine T2. Approximately 7.6km of the Proposed Grid Connection Route (underground) traverses the central part of the LCA.

Clare LCA-8: Slieve Bernagh Uplands	
LCA Key Characteristics	<p>From the LCACC (p.4-37 or 118):</p> <ul style="list-style-type: none"> > <i>'Area of gentle and rolling hills reaching 530m at Sliabh Bernagh;</i> > <i>Settlement is scattered, confined to lower fringes;</i> > <i>Hedgerows create a wooded feel and are often planted with fuchsia around dwellings;</i> > <i>Historically little settlement other than ritual, as evidenced by a number of cairns, barrows and standing stones identified on the eastern slopes. Broadford Gap is an important Bronze Age passing route;</i> > <i>Remote and isolated with panoramic views afforded to Lough Derg, lower drumlin farmland and Shannon estuary;</i> > <i>Vegetation dominated by heather moorland with plantation forests and semi-natural deciduous woodland on lower slopes and along water courses'.</i>
LCA Capacity for Wind Energy Development	<p>From the CWES, Table 4a (p.36):</p> <ul style="list-style-type: none"> > <i>'There are certain parts of this LCA that are highly sensitive due to their nature designations and scenic qualities. In particular, the foothills and mountains over-looking Lough Derg and the unenclosed bogs of Lackareagh and Glenvagalliagh Mountain;</i> > <i>However, other areas on the north west and westerly aspects of the mountain are more robust and can accommodate number of large or medium wind farms;</i> > <i>In the Broadford Hills areas, the areas around Woodcock Hill, Ballycar, Corlea and Knockaunnamoughilly are identified as Strategic Areas;</i> > <i>Potential Renewable Energy Generation for this area is 150 MW (LCEA)'.</i>
Landscape Sensitivity to Wind Farm Development	<p>Sensitivity = Low.</p> <p>Rationale: The CWES (<i>Table 4a</i>) assigns a sensitivity rating of 'Medium to Low' to this LCA, which is the lowest possible rating given in the guidance owing to the robustness of mountain ridges, such as those on which the Proposed Project is sited (Glenagalliagh Mt and Lackareagh Mt), and their capacity to accommodate 'small- to medium' wind farm development. In relation to Slieve Bernagh Uplands, the CWES designates only certain small areas of this LCA as 'Strategic Areas' for wind energy development, however, the majority of area in this LCA is designated as 'Open for Consideration'.</p> <p>Further, the CWES (<i>Table 2a</i>) indicates that this LCA has the following features relating to its classification within the wind energy strategy: <i>'good wind speeds, proximity to grid, remote in parts'</i>. The CWES also states that the LCA may have <i>'landscape and visual impacts associated with Lough Derg'</i>; however, the nearest proposed turbine (T3) is located approximately 5.4km from Lough Derg, one the ridge of the spatial enclosure of Glenomra Valley, thus avoiding the foothills of Lough Derg. Lastly, the CWES states that some portions of LCA-8 were excluded within the Wind Energy Strategy due to its containing <i>'Special Areas of Conservation (SAC) around</i></p>

Clare LCA-8: Slieve Bernagh Uplands	
	<p><i>the summit and unenclosed areas</i>’; however, the site is not located within an SAC.</p> <p>This LVIA identifies two primary character features of LCA-8 Slieve Bernagh Uplands as follows: (i) high sensitivity of Lough Derg foothills and unenclosed boglands and (ii) commanding views of Lough Derg, lower drumlin farmlands and the Shannon Estuary. The effects on these landscape character features are likely to be relatively low for two reasons. First, the LCA’s unenclosed boglands are not affected by the Proposed Project or by combination-views with any of the cumulative wind farms listed in the below ‘Cumulative Effects’ row. Second, its commanding views of Lough Derg, lower drumlin farmlands and the Shannon Estuary, are relatively distant from the site (>15km) and thus draw the viewer’s eye well away from localised views of valleys and hills. Therefore, the greatest impacts of the Proposed Project are most likely to be of a localised visual nature (within Glenomra Valley), rather than changes to landscape character as it has been defined above. On balance, the sensitivity of LCA-8 to wind energy development is deemed to be ‘Low’.</p> <p>Refer to Section 1.7.3: Sensitivity of Landscape Character Areas in <i>Appendix 13-1: LVIA Methodology</i> and CWES, <i>Table 2a</i> (p.26) and <i>Table 4a</i> (p.36).</p>
Visibility of the Proposed Project from within the LCA	<p>The entire spatial enclosure of Glenomra Valley is contained within this LCA, which is the physical landscape feature that encloses the Proposed Wind Farm and limits visibility of the proposed turbines in the wider landscape.</p> <p>Within the spatial enclosure of Glenomra Valley, ZTV mapping indicates that theoretical visibility to the south and south-west of the proposed turbines is mainly full (5-7 turbines), with some pockets of no visibility owing to localised undulations. Theoretical visibility becomes intermittent in this direction to the south-west, due to screening from Formoyle More, Knockanuarha, Knockshanvo and Woodcock Hill.</p> <p>ZTV mapping indicates no theoretical visibility outside the spatial enclosure of Glenomra Valley, to the north of this LCA, due to topographical screening by the Slieve Bernagh range, with some pockets of low to partial (1-4 turbines) theoretical visibility to the east of the proposed turbines.</p> <p>Viewpoints VP03, 04, 05, 06, 07, 08, 13, 14 and 15 are located within this LCA.</p>
Cumulative Effects	<p>Five permitted and proposed wind energy developments are located within LCA-8 Slieve Bernagh Uplands. They are:</p> <ul style="list-style-type: none"> ➤ Permitted Fahy Beg Wind Farm; ➤ Permitted Carrownagowan Wind Farm; ➤ Proposed Knockshanvo Wind Farm; ➤ Proposed Oatfield Wind Farm; ➤ Proposed Ballycar Wind Farm. <p>Overall, as shown on the ZTV map for cumulative context (see Section 13.6 ‘Cumulative Context: Other Wind Farms’ of Chapter 13), the majority of</p>

Clare LCA-8: Slieve Bernagh Uplands	
	<p>the area within this LCA has theoretical visibility of only cumulative turbines or only the proposed turbines, with some areas having theoretical visibility of both cumulative and proposed turbines. Well defined ridgelines throughout this LCA interrupt the visual connectivity between most of these permitted and proposed wind energy developments, including the well defined spatial enclosure of Glenomra Valley. Furthermore, it is noted that the lower lying landscape of this LCA is characterised by dense vegetation around the low-intensity agricultural land borders as well as along many local roads, resulting in intermittent cumulative views of the proposed turbines and cumulative turbines from within the valley lowlands, as shown in the <i>EIAR Volume 2: Photomontage Booklet</i> accompanying this application.</p> <p>Permitted Fahy Beg Wind Farm (8 no. turbines) is located directly south of the proposed turbines and is the closest development to the Proposed Wind Farm. Both 'simultaneous' and 'successional in-combination views (defined in Section 13.7.3.3 of Chapter 13) are likely to occur within this LCA.</p> <p>Permitted Carrownagowan Wind Farm (19 no. turbines), the largest of the cumulative developments within the LCA, is located to the north of the Proposed Wind Farm, beyond the ridgeline of the Slieve Bernagh range and in most cases will not be viewed in combination with the proposed turbines. 'Successional in-combination' views (defined in Section 13.7.3.3 'Cumulative Effects: Other Wind Farms' of Chapter 13) may occur from elevated vantage points of the highest peaks within the Slieve Bernagh range.</p> <p>Proposed Knockshanvo (9 no. turbines) and proposed Oatfield (11 no. turbines) Wind Farms, both located to the west of the Proposed Wind Farm, will be seen successional in combination with the proposed turbines from areas within this LCA, although mainly only from elevated vantage points.</p> <p>Proposed Ballycar Wind Farm (12 no. turbines), located approx. 11km south-west of the Proposed Wind Farm, will not be seen in combination with the proposed turbines; however, in-succession views may occur from elevated vantage points of Woodcock Hill.</p> <p>Excepting Carrownagowan and Fahy Beg, many of these developments are 'proposed' (some in planning, some not) and their likelihood of influencing cumulative effects on this LCA are reliant upon many factors, including the outcome of the consenting system.</p> <p>All of these other wind farm developments in combination with the Proposed Project have the potential to contribute to cumulative landscape effects on this LCA. However, this is to be anticipated considering the policy designations in local planning policy (<i>Table 4a</i> of the CWES) and characteristics of this upland landscape type, which has been designated as having the capacity to absorb multiple wind energy developments.</p>
Magnitude of Change	<p>Magnitude = Moderate.</p> <p>Rationale: The change to recognisable landscape features in this LCA will be most prominent inside the localised region of Glenomra Valley; further, two primary features of landscape character will not be affected by the</p>

Clare LCA-8: Slieve Bernagh Uplands	
	<p>Proposed Project or cumulative views (see evaluation in previous row of this table).</p> <p>For the definition of this rating, refer to Section 1.7.4: Magnitude of Landscape Change in <i>Appendix 13-1: LVIA Methodology</i>.</p>
Significance of Effect	<p>Low × Moderate = Minor = ‘Slight’ (EPA, 2022)</p> <p><i>‘An effect which causes noticeable changes in the character of the environment without affecting its sensitivities’.</i></p> <p>Refer to Section 1.7.5: Landscape Effects Matrix in <i>Appendix 13-1: LVIA Methodology</i>.</p>
Mitigation Factors	<p>Mitigation factors include:</p> <ul style="list-style-type: none"> ➤ The proposed turbines and development infrastructure will only materially alter a very localised portion of LCA-8; ➤ The majority of LCA-8 land area is designated as ‘Open to Consideration’ for wind energy development by the CWES, including the location site of the Proposed Wind Farm; ➤ A key characteristic of the LCA is described by the CCDP and CWES as having capacity to absorb multiple wind farm developments of medium-to-small size, which aligns with the Proposed Project of 7 no. proposed turbines; ➤ The Proposed Wind Farm site has no direct impact and a limited indirect effect on key landscape sensitivities within the LCA including the foothills of Lough Derg and unenclosed boglands in Slieve Bernagh range; ➤ The Proposed Wind Farm site will not materially alter the two higher-sensitivity characteristics of the LCA according to the CCDP, identified as: (i) unenclosed boglands of Glenagalliagh Mt and (ii) commanding views of Lough Derg, lower drumlin farmlands and the Shannon Estuary; ➤ The Proposed Grid Connection Route is entirely underground and thus will not affect key landscape character characteristics or have long-term effects.

1.1.2

LCA-9: River Shannon Farmland

Clare LCA-9: River Shannon Farmland	
Map Ref.	C-LCA-9
Distance from the Site to Nearest/Furthest Area of LCA	<p>While the proposed turbines are not located within LCA-9, the Proposed Grid Connection Route passes directly through the LCA for a distance of 2.8km from its northern border to Ardnacrusa Hydro Station in the centre of the LCA. The nearest proposed turbine (T5) is located approximately 2.4km to the north-west of the north-easternmost area of the LCA.</p>

Clare LCA-9: River Shannon Farmland	
LCA Key Characteristics	<p>From the LCACC (p.4-42 or 123):</p> <ul style="list-style-type: none"> ➤ <i>‘Lowland farming area with meandering River Shannon providing key focus;</i> ➤ <i>Small settlements/villages such as Parteen and Cloonlara;</i> ➤ <i>Agricultural, rural landscape with intact features and well maintained;</i> ➤ <i>Framed by undulating lowland farmland with Sliabh Bernagh and Broadford Hills in the distance;</i> ➤ <i>O'Briensbridge is an Architectural Conservation Area (ACA)’.’</i>
LCA Capacity for Wind Energy Development	<p>From the CWES, Table 4a (p.37):</p> <ul style="list-style-type: none"> ➤ <i>‘There is some capacity in the southern part of this LCA for development away from Lough Derg and Killaloe;</i> ➤ <i>Small or medium wind farms would be most appropriate. Due to the low lying nature of the LCA, lower turbine height would be most appropriate’.</i>
Landscape Sensitivity to Wind Farm Development	<p>Sensitivity = Medium.</p> <p>Rationale: The CWES assigns a rating of ‘<i>Medium</i>’ sensitivity to LCA-9 in terms of its capacity for wind energy development and notes that this LCA has the capacity to absorb ‘<i>small or medium</i>’ wind farms, which would be most appropriate for this LCA to the southern parts of this LCA, away from Lough Derg and Killaloe. On balance, the sensitivity of LCA-9 to wind energy development is deemed to be ‘Medium’.</p> <p>For the definition of this rating, refer to Section 1.7.3: Sensitivity of Landscape Character Areas in <i>Appendix 13-1: LVIA Methodology</i> and CWES, <i>Table 4a</i> (p.37).</p>
Visibility of the Proposed Project from within the LCA	<p>Regarding the Proposed Grid Connection Route, the entire cabling will be underground and on the side or underside of road crossings such as bridges, thus no visibility of the Proposed Grid Connection Route is anticipated after completion of the construction phase.</p> <p>Regarding the proposed turbines, as shown by the ZTV Map in Figure 13-1 of the main Chapter, theoretical visibility of the proposed turbines within LCA-9 ranges from partial to none within 5km of the nearest proposed turbine. Beyond 5km, as the LCA extends to the south, there are large patches of full theoretical visibility with pockets of no theoretical visibility due to localised undulations.</p> <p>The entirety of the LCA is situated outside to the south of the spatial enclosure of Glenomra Valley, on the south side of upland terrains of Woodcock Hill and Cappakea, which help to limit (screen) visibility of the proposed turbines looking northward into the valley.</p> <p>Site visits have determined that due to the flat nature of the LCA, most locations beyond 5km of the Proposed Wind Farm will have very limited visibility of the proposed turbines due to the visual screening from vegetation and infrastructure within the landscape.</p>

Clare LCA-9: River Shannon Farmland	
	Viewpoints VP08 and 09 and photowire point PW-P are located in this LCA.
Cumulative Effects	No other existing, permitted or proposed wind energy developments are located within LCA-9; however, cumulative turbines within LCA-8 Slieve Bernagh Uplands may be seen from locations within this LCA, thus cumulative effects to landscape character may occur.
Magnitude of Change	<p>Magnitude = Negligible.</p> <p>Rationale: One key feature of the landscape character of LCA-9 is its distant views of Slieve Bernagh range; however, this constitutes only a small part of the overall character. Further, these distant views are largely visually screened along local roads owing to mature vegetation, thus full views of the proposed turbines will not only be distant but also intermittently visually screened by vegetation. Therefore, such changes to the character of LCA-9, if any, will be localised in the northern-most tip of the LCA, meaning the area closest to (but still outside of) the spatial enclosure of Glenomra Valley. Finally, the Proposed Grid Connection Route passes through upper-middle portion of the LCA, for a distance of approximately 2.8km; however, the connection is underground and will not constitute perceivable long-term change.</p> <p>For the definition of this rating, refer to Section 1.7.4: Magnitude of Landscape Change in <i>Appendix 13-1: LVIA Methodology</i>.</p>
Significance of Effect	<p>Medium × Negligible = Minor/Negligible = Not Significant (EPA, 2022)</p> <p><i>‘An effect capable of measurement but without significant consequences’.</i></p> <p>Refer to Section 1.7.5: Landscape Effects Matrix in <i>Appendix 13-1: LVIA Methodology</i>.</p>
Mitigation Factors	<p>Mitigation factors include:</p> <ul style="list-style-type: none"> ➤ The Proposed Grid Connection Route is entirely underground and thus will not affect key landscape character characteristics or have long-term effects; ➤ Visibility of the proposed turbines from most areas within this LCA is effectively screened by local topography surrounding the spatial enclosure of Glenomra Valley (i.e. Woodcock Hill and Cappakea); ➤ Effects on the landscape character of this LCA as a result of the proposed turbines are significantly mitigated by distance to the Proposed Wind Farm.

1.1.3

LCA-11: East Clare Loughlands

Clare LCA-11: East Clare Loughlands	
Map Ref.	C-LCA-11
Distance from the Site to Nearest/Furthest Area of LCA	At the closest point, LCA-11 is located approx. 5km east of the nearest proposed turbine (T1).
LCA Key Characteristics	<p>From the LCACC (p.4-12 or 132):</p> <ul style="list-style-type: none"> ➤ <i>‘The landscape is an attractive mosaic of loughs, farmlands and occasional limestone outcrops reflected in the presence of stone walls;</i> ➤ <i>The area is predominately rural in character dissected by quiet minor roads, increasingly busy towards Sixmilebridge and Limerick;</i> ➤ <i>Settlement is traditional and scattered across the area in the form of single and two storey isolated dwellings, punctuated by small nucleated settlements such as Bodyke and Kilkishen;</i> ➤ <i>An intact rural feel, declining towards the southern end; views are frequently limited due to drumlins, strong presence in the landscape’.</i>
LCA Capacity for Wind Energy Development	<p>From CWES, Table 4a (p.37):</p> <ul style="list-style-type: none"> ➤ <i>‘The enclosed drumlin landscape offers some capacity for wind farms though the small scale of the landscape would support small wind farms only’.</i>
Landscape Sensitivity to Wind Farm Development	<p>Sensitivity = Medium.</p> <p>Rationale: The CWES (p.37) assigns a rating of ‘<i>Medium to High</i>’ sensitivity to LCA-11 in terms of its capacity for wind energy development and indicates that ‘<i>small</i>’ wind farms are appropriate. Further, this LCA does not contain any areas of high-sensitivity landscape designation (i.e. ‘Heritage Landscape’) according to the CCDP. On balance, the sensitivity of LCA-11 to wind energy development is deemed to be ‘Medium’.</p> <p>For the definition of this rating, refer to Section 1.7.3: Sensitivity of Landscape Character Areas in <i>Appendix 13-1: LVIA Methodology</i> and CWES, Table 4a (p.37).</p>
Visibility of the Proposed Project from within the LCA	<p>There is primarily little to no theoretical visibility of the proposed turbines within 10km of LCA-11. There is a patch of full theoretical visibility within 10-15km of the Proposed Wind Farm; however, in general, actual visibility is much less than is indicated by the ZTV due to localised landform undulations such as drumlins and mature boundary vegetation within the landscape. At this distance, given the low-lying nature of this LCA and landscape characteristics (drumlins and vegetation), visibility is only likely to occur from elevated vantage points and where open water bodies (e.g. Loughlands) permit longer-ranging views.</p> <p>Photowire point PW-N is located in this LCA and is one location where the angle and field of view through the Broadford Gap permits visibility of the proposed turbines. This photowire does not necessarily represent visibility in most of the LCA; rather, it represents a small area from which the</p>

Clare LCA-11: East Clare Loughlands	
	turbines will be visible. As shown by the photowire, the proposed turbines appear as small elements in the background of the view.
Cumulative Effects	<p>No other existing, permitted or proposed wind energy developments are located within LCA-11; however, cumulative turbines within LCA-8 Slieve Bernagh Uplands may be seen from locations within this LCA, thus cumulative effects to landscape character may occur.</p> <p>The permitted Carrownagowen Wind Farm, proposed Knockshanvo Wind Farm and proposed Oatfield Wind Farm are located on upland areas at the northern extent of Slieve Bernagh Uplands. These developments will likely be visible from within LCA-11 in a future receiving environment and some cumulative effects on landscape character will arise.</p>
Magnitude of Change	<p>Magnitude = Negligible.</p> <p>Rationale: The key landscape characteristics of LCA-11 are not affected by any views of the proposed turbines when looking into Glenomra Valley through Broadford Gap from the north-west.</p> <p>For the definition of this rating, refer to Section 1.7.4 'Magnitude of Landscape Change' in <i>Appendix 13-1: LVIA Methodology</i>.</p>
Significance of Effect	<p>Medium × Negligible = Minor/Negligible = Not Significant (EPA, 2022)</p> <p><i>'An effect capable of measurement but without significant consequences'.</i></p> <p>Refer to Section 1.7.5: Landscape Effects Matrix in <i>Appendix 13-1: LVIA Methodology</i>.</p>
Mitigation Factors	<p>Mitigation factors include:</p> <ul style="list-style-type: none"> ➤ The Proposed Project will not materially alter the physical fabric of the landscape of LCA-11; ➤ Visibility of the Proposed Project from within this LCA is effectively screened by local topography of Glenomra Valley (i.e. Broadford Gap); ➤ Effects on the landscape character of this LCA as a result of the proposed turbines are significantly mitigated by distance; ➤ The proposed turbines will have a very small contribution to cumulative effects arising as a result of multiple wind energy developments permitted and proposed in Slieve Bernagh Uplands.

1.2

County Limerick

In the table of this section, reference is made to *Chapter 6* of the Limerick Development Plan 2022–2028 (LDP), which details information and mapping of the Landscape Character Assessment of County Limerick and the designated LCAs in the county.

1.2.1

LCA-06: Shannon Coastal Zone

Limerick LCA-06: Shannon Coastal Zone	
Map Ref.	L-LCA-06
Distance from the Site to Nearest/Furthest Area of LCA	At the closest point, LCA-06 is located approx. 5.8km south-east of the nearest proposed turbine (T7).
LCA Key Characteristics	<p>From LDP (p.187):</p> <ul style="list-style-type: none"> ➤ <i>‘This zone comprises a large area of northern Limerick and is bounded on one side by the Shannon Estuary, while its southern boundary is defined by the gradually rising ground, which leads onto the agricultural zone and the western hills to the south west.</i> ➤ <i>The presence of the estuary is the defining characteristic of the region.</i> ➤ <i>The landscape itself is generally that of an enclosed agricultural type, essentially that of a hedgerow dominant landscape.</i> ➤ <i>This differs from the other agricultural landscapes of the County, in that the field patterns, particularly close to the Estuary, tend to be less regular than those elsewhere in Limerick’.</i>
LCA Capacity for Wind Energy Development	<p>From LDP ‘Specific Objectives’ (p.187):</p> <ul style="list-style-type: none"> ➤ <i>‘Where wind farms are permitted, it is recommended that single lines of equally spaced turbines shall be considered, in order to limit the visual and landscape impact’.</i>
Landscape Sensitivity to Wind Farm Development	<p>Sensitivity = Medium.</p> <p>Rationale: While the LDP does not assign specific capacity ratings for LCAs, the wind energy-related objective above indicates that LCA-06 does have capacity to absorb development if the specific objective is met regarding the style of turbine layout and spacing. Further, it is noted that this LCA includes certain valuable and sensitive landscape receptors, including the River Shannon and Shannon Estuary. On balance, the sensitivity of LCA-06 to wind energy development is deemed to be ‘Medium’.</p> <p>For the definition of this rating, refer to Sections 1.6.2: Landscape Value, Sensitivity & Susceptibility to Change and 1.7.3: Sensitivity of Landscape Character Areas in <i>Appendix 13-1: LVIA Methodology</i>.</p>
Visibility of the Proposed Project from within the LCA	The extent of LCA-06 within the LCA Study Boundary (15km from the nearest proposed turbine) has primarily full theoretical visibility with small pockets of no visibility due to localised undulations.

Limerick LCA-06: Shannon Coastal Zone	
	On-site visibility appraisals determined that actual visibility will be limited beyond 5km from the site, due to the low-lying nature of this LCA and vegetation screening views towards the proposed turbines.
Cumulative Effects	No other existing, permitted or proposed wind energy developments are located within LCA-06; however, cumulative turbines within LCA-8 Slieve Bernagh Uplands may be seen from locations within this LCA, thus cumulative effects to landscape character may occur.
Magnitude of Change	<p>Magnitude = Negligible.</p> <p>Rationale: No changes are caused to the primary characteristic feature of LCA-06, which is the Shannon Estuary, as it is primarily not in view of the Proposed Project. Any changes will be extremely localised near the south end of Glenomra Valley and directed away from primary views of this LCA.</p> <p>For the definition of this rating, refer to Section 1.7.4: Magnitude of Landscape Change in <i>Appendix 13-1: LVIA Methodology</i>.</p>
Significance of Effect	<p>Medium × Negligible = Minor/Negligible = Not Significant (EPA, 2022)</p> <p><i>‘An effect capable of measurement but without significant consequences’.</i></p> <p>Refer to Section 1.7.5: Landscape Effects Matrix in <i>Appendix 13-1: LVIA Methodology</i>.</p>
Mitigation Factors	<p>Mitigation factors include:</p> <ul style="list-style-type: none"> ➤ The Proposed Project will not materially alter the physical fabric of the landscape of LCA-06; ➤ Due to set-back distances and the actual nature of visibility likely to occur in this LCA, the Proposed Project will have a very limited impact on the key characteristics and sensitivities of the landscape of this LCA, such as the Shannon River Corridor.

1.3 County Tipperary

In the tables of this section, reference is made to landscape designations and terminology in the Tipperary County Development Plan 2022–2028 (TCDP) as well as the TCDP ‘Volume 3: Landscape Character Assessment & Schedule of Routes and Views’ (TCDP Vol. 3).

Regarding the LCA ‘Sensitivity’ ratings in the tables below: The TCDP Vol. 3 assigns sensitivity ratings to its LCAs with respect to general development, thus including wind farms. The full range of sensitivity categories for LCAs in Co. Tipperary is taken from the TCDP Vol. 3, ‘Table 5.2 Sensitivity Rating of Landscape Character Areas’ (p.47): ‘Robust, Normal, Transitional Sensitivity, Sensitive, Transitional Vulnerability, Vulnerable’. Each LCA is assigned a range of sensitivity based on these categories (e.g. Normal to Sensitive); then, within that range, one category is assigned as the ‘Dominant Sensitivity Rating’ indicated by a Class 0–5 depending on the range.

For example, an LCA is assigned a sensitivity range of ‘Normal to Sensitive’ with a Dominant Sensitivity Rating of Class 3, indicating ‘Sensitive.’ This means that, of the range composed of three

classes: Normal, Transitional Sensitivity and Sensitive; the third class 'Sensitive' is the dominant rating in consideration of visual impact assessment.

In this LVIA, while the 'Sensitivity' rating assigned to the LCA considers the 'Dominant' rating by the TCDP, the rating assignment also considers the full range of sensitivity classes with regard to the setting and impact of the LCA specifically related to the Proposed Project; thus, the final rating may differ from what is emphasised in the TCDP Vol. 3.

1.3.1

LCA-12: River Shannon – Newport

Tipperary LCA-12: River Shannon – Newport	
Map Ref.	T-LCA-12
Distance from the Site to Nearest/Furthest Area of LCA	At its closest point, which is the eastern bank of Lower Lough Derg, this LCA is located approx. 5.5km SE of the nearest proposed turbine (T5).
LCA Key Characteristics	<p>From <i>Appendix 1</i> of TCDP Vol. 3 (p.47):</p> <ul style="list-style-type: none"> ➤ <i>Diverse landforms with rolling hills, broad valley, river plain and raised bogs creating a varied landscape;</i> ➤ <i>Strong westwards orientation towards County Limerick and the River Shannon;</i> ➤ <i>Long history of providing access with N7 alignment following ancient Sli Dala route; the access is further reinforced by the alignment of the Dublin to Limerick railway corridor;</i> ➤ <i>Proximity to Limerick results in quite heavy settlement and noticeable amount of new buildings, however nucleated settlements are limited to Newport town and Birdhill;</i> ➤ <i>Undulating hills create an intimate landscape with occasional views from elevated points afforded eastwards to the Silvermines and Arra Mountains;</i> ➤ <i>Lower boggy areas create remote landscape offering contrast with more heavily settled hilly areas.</i>
LCA Capacity for Wind Energy Development	<p>From TCDP Vol. 3, 'Table 6.1 Land-Use Capacity between LCAs and Land-Use Types' (p.49):</p> <ul style="list-style-type: none"> ➤ <i>'Control unavoidable new developments or uses unless it can conclusively demonstrate capacity to conform to existing appearance and character;</i> ➤ <i>Control the unavoidable intensification or expansion of established patterns of use and settlement to sustain existing appearance and character'.</i> <p>LCA-12 is categorised as part of the 'Lakeland Enclosures' landscape type. The general planning objectives listed above indicate that Lakeland Enclosures do have capacity to absorb development if the specific objectives are met regarding the preservation of visual amenity and landscape appearance and character; however, the subsequent <i>Table 6.2 'Land-Use Compatibility between LCAs and Land-Use Types'</i> of the TCDP (p.50) shows that this LCA is 'Least Compatible' to wind energy development.</p>

Tipperary LCA-12: River Shannon – Newport	
Landscape Sensitivity to Wind Farm Development	<p>Sensitivity = Medium.</p> <p>Rationale: In the TCDP, the sensitivity range of LCA-12 is assigned as 'Normal to Vulnerable' with the 'dominant' sensitivity rating being 'Class 4' (out of five), categorised as 'Transitional Vulnerability' (the categories are listed in this Appendix above at the top of Section 1.3). This LVIA considers that the rating scale also encompasses the lower end of the spectrum, further, this LCA is very similar in character to adjacent Co. Limerick LCA rated with lower sensitivity. On balance, the sensitivity of LCA-12 to wind energy development is deemed to be 'Medium'.</p> <p>Refer to Section 1.7.3: Sensitivity of Landscape Character Areas in <i>Appendix 13-1: LVIA Methodology</i> and TCDP Vol. 3, Table 5.2 (p.47).</p>
Visibility of the Proposed Project from within the LCA	<p>The entirety of LCA-12 within the LCA Study Area primarily shows partial theoretical visibility, except for the southern-most part between 10–15km, which shows full visibility. The partial-visibility area is interspersed with localised small areas of no visibility controlled by undulating terrain features.</p> <p>Because this LCA features relatively elevated terrain looking outward over Lough Derg toward Glenomra Valley and Slieve Bernagh range, there may be visibility of some of the proposed turbines from open areas along roads.</p> <p>Viewpoint VP11 is located in this LCA.</p>
Cumulative Effects	<p>No other existing, permitted or proposed wind energy developments are located within LCA-12; therefore, cumulative effects to landscape character are not likely to occur.</p>
Magnitude of Change	<p>Magnitude = Negligible.</p> <p>Rationale: Views of the proposed turbines from open areas would constitute no change to any of the key characteristics of LCA-12, which are focused on the Shannon floodplain, Lough Derg shoreline meadows and Newport bogs, all of which are directed away from the site.</p> <p>For the definition of this rating, refer to Section 1.7.4: Magnitude of Landscape Change in <i>Appendix 13-1: LVIA Methodology</i>.</p>
Significance of Effect	<p>Medium × Negligible = Minor/Negligible = 'Not Significant' (EPA, 2022)</p> <p><i>'An effect which causes noticeable changes in the character of the environment but without significant consequences'.</i></p> <p>Refer to Section 1.7.5: Landscape Effects Matrix in <i>Appendix 13-1: LVIA Methodology</i>.</p>
Mitigation Factors	<p>Mitigation factors include:</p> <ul style="list-style-type: none"> ➤ The Proposed Wind Farm is not located in LCA-12 and therefore will not materially alter the physical fabric of its landscape;

Tipperary LCA-12: River Shannon – Newport	
	<p>➤ Due to set-back distances and the actual nature of visibility of the proposed turbines likely to occur in this LCA, the Proposed Wind Farm will have a very limited impact on the key characteristics and sensitivities of the landscape of this LCA including the Shannon floodplain, Lough Derg shoreline meadows and Newport bogs.</p>

1.3.2

LCA-13: Arra Mountains – Lower Lough Derg

Tipperary LCA-13: Arra Mountains – Lower Lough Derg	
Map Ref.	T-LCA-13
Distance from the Site to Nearest/Furthest Area of LCA	At its closest point, which is the east bank of the River Shannon near Killaloe, LCA-13 is located approx. 5.5km south-east of the nearest proposed turbine (T3).
LCA Key Characteristics	<p>From <i>Appendix 1</i> of TCDP <i>Vol. 3</i> (p.32):</p> <ul style="list-style-type: none"> ➤ <i>Highly scenic landscape dominated by Arra Mountains and Lough Derg.</i> ➤ <i>Extensive views afforded from uplands across the lake and over to the Sliabh Bernagh and Sliabh Aughties mountains in Clare and Galway;</i> ➤ <i>Lough Derg Walking route traverses this area;</i> ➤ <i>Variety of land uses ranging from Lough shore broadleaf woods to blanket bog;</i> ➤ <i>Cultural heritage features include the Graves of the Leinstermen and numerous links to the slate quarries around the Portroe area, including Castletown graveyard with decorated ‘folk’ slate graves.</i> ➤ <i>Settlement concentrated close to lake shore and the lowlands beneath Arra Mountains include the town of Ballina, representing an important crossing site of Lough Derg and smaller villages including Newtown and Portroe;</i> ➤ <i>Isolated and remote character in upland areas, contrasting with more settled and active character on lower slopes around Ballina.</i>
LCA Capacity for Wind Energy Development	<p>From TCDP <i>Vol. 3</i>, ‘<i>Table 6.1 Land-Use Capacity between LCAs and Land-Use Types</i>’ (p.49):</p> <ul style="list-style-type: none"> ➤ <i>‘Control unavoidable new developments or uses unless it can conclusively demonstrate capacity to conform to existing appearance and character;</i> ➤ <i>Control the unavoidable intensification or expansion of established patterns of use and settlement to sustain existing appearance and character’.</i> <p>LCA-13 is categorised as part of the ‘Lakeland Enclosures’ landscape type. The general planning objectives listed above indicate that Lakeland Enclosures do have capacity to absorb development if the specific objectives are met regarding the preservation of visual amenity and landscape appearance and character; however, the next <i>Table 6.2 ‘Land-Use</i></p>

Tipperary LCA-13: Arra Mountains – Lower Lough Derg	
	<i>Compatibility between LCAs and Land-Use Types</i> ’ (p.50) shows that this LCA is ‘Least Compatible’ to wind energy development.
Landscape Sensitivity to Wind Farm Development	<p>Sensitivity = Low.</p> <p>Rationale: In the TCDP, the sensitivity range of LCA-13 is assigned as ‘Normal to Vulnerable’ with the ‘dominant’ sensitivity rating being ‘Class 4’ (out of five), categorised as ‘Transitional Vulnerability’ (categories listed at the top of Section 1.3 above). This LVIA considers that the rating scale also encompasses the lower end of the spectrum, further, the key characteristics do not include distant views looking toward the site. On balance, the sensitivity of LCA-13 to wind energy development is deemed to be ‘Low’.</p> <p>Refer to Section 1.7.3: Sensitivity of Landscape Character Areas in <i>Appendix 13-1: LVIA Methodology</i> and TCDP <i>Vol. 3, Table 5.2</i> (p.47).</p>
Visibility of the Proposed Project from within the LCA	<p>In the majority of the entire LCA, theoretical visibility is none, where the LCA encompasses the north-eastern slopes of Arra Mountains.</p> <p>Within 5–10km of the site, theoretical visibility ranges up to partial (3–4 turbines) from elevated vantage points, and one peak at approx. 10.5km from the site has open views or full theoretical visibility, with distant views toward Glenomra Valley and Slieve Bernagh range.</p> <p>Viewpoint VP01 and photowire points PW-A, B, C, D and E are located in this LCA.</p>
Cumulative Effects	No other existing, permitted or proposed wind energy developments are located within LCA-13; therefore, cumulative effects to landscape character are not likely to occur.
Magnitude of Change	<p>Magnitude = Negligible.</p> <p>Rationale: Views of the site from open areas would constitute no change to any of the key characteristics of LCA-13, which are directed away from the proposed turbines, focussed on the upland bogs of Arra Mountains and low grasslands and settlements next to Lough Derg; these views are localised rather than distant.</p> <p>For the definition of this rating, refer to Section 1.7.4: Magnitude of Landscape Change in <i>Appendix 13-1: LVIA Methodology</i>.</p>
Significance of Effect	<p>Low × Negligible = Negligible = Imperceptible (EPA, 2022)</p> <p>‘An effect capable of measurement but without significant consequences’.</p> <p>Refer to Section 1.7.5: Landscape Effects Matrix in <i>Appendix 13-1: LVIA Methodology</i>.</p>
Mitigation Factors	<p>Mitigation factors include:</p> <ul style="list-style-type: none"> ➤ The Proposed Wind Farm is not located in LCA-13 and therefore will not materially alter the physical fabric of its landscape;

Tipperary LCA-13: Arra Mountains – Lower Lough Derg	
	<p>➤ Due to set-back distances and the actual nature of visibility likely to occur in this LCA, the Proposed Project will have a very limited impact on the key characteristics and sensitivities of the landscape of this LCA such as the scenic nature of Arra Mountains and Lough Derg.</p>

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APPENDIX 13-2

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