

14.5 Visual Baseline

This section identifies the visual receptors to be scoped in for assessment in this chapter based upon ZTV mapping and on-site visibility appraisals conducted during site visits throughout 2024. The visual baseline exercise is used to inform the selection of photomontage viewpoints (VPs). All visual receptors with ZTV mapping are shown in the A0 scale LVIA Baseline Map – Appendix 4.

14.5.1 Visual Receptors

14.5.1.1 Designated Scenic Views and Prospects

16 no. designated Scenic Views and Prospects are existent within the LVIA Study Area; these were previously identified in Section 14.4.1 Landscape Designations and Policy Context. The preliminary analysis and scoping are provided below.

Table 14-6: Designated Scenic Routes and Views in the LVIA Study Area

Map Ref.	Description	Direction of View	Directed to Proposed turbines?	Theoretical Visibility	Scoped in for Assessment
Up to 5km	a.				
LSV-4	Views towards Knockmannon Hill.	South-South- West	No	Yes	Yes
LSV-14	Views towards Caponellan Hill.	South-East	Yes	Partial	Yes
LSV-15	Views over farmland and River Goul.	North-West	No	Partial	No
KK-SV-12	Views overlooking Castlecomer and Ballyragget on the Castlecomer/Ballyragget Road (R694) between its junctions with roads LT5852 and LT5847.	South-West and South- East	No	Partial	Yes
KK-SV-19	View west towards the Slieve Bloom Mountains on road no's LS5840 and LS5839 from the junction with roads LS5839 and LS5846 (Ballymartin Cross Roads).	West	Yes	Full	Yes
5-10km					
LSV-13	Views over farmland and River Nore.	North-West	No	No	No
L-SV-21	Views of Cullahill Castle and Knockmannon Hill.	South-East	No	Partial	Yes



Map Ref.	Description	Direction of View	Directed to Proposed turbines?	Theoretical Visibility	Scoped in for Assessment
L-SV-22	Views of Mass Lough and of Ballymartin Hill and beyond.	South	No	Full	No visibility as determined from site visits.
L-SV-23	Views over farmland and of Ballymartin Hill.	South	No	Full	Yes
KK-SV-14	Views north and east on the Johnstown/Gattabaun Road No. LP1805 between junctions with roads LT18054 and LT18056.	North and East	Yes	Partial	Yes
15-20km					
LSV-12	Views over farmland.	South-West	No	Partial	No visibility as determined from site visits.
L-SV-16	Views over farmland and Slieve Bloom Mountain.	North-West	No	No	No
KK-SV-13	Views southwest over Kilkenny City and southeast over Carlow on Ballysallagh/Kanesbridge Road No. LP 1851 between the junctions with roads LT6654 and LS5886.	South-West and South- East	No	No	No
KK-SV-31	Panoramic view of River Nore Valley from Bleach Road.	West	No	No	No
KK-SV-32	View of River Nore Valley to east from Ossory Bridge.	East	No	No	No



14.5.1.2 OSi Viewing Areas

According to the Ordinance Survey of Ireland (OSi) maps, 1 no. OSi Viewing Area was identified within the LVIA Study Area.

Table 147: OSi Viewing Areas in the LVIA Study Area

Map Ref.	Description	Direction and Range of View	Directed to Proposed turbines?	Theoretical Visibility	Scoped in for Assessment		
Up to 10km							
No.165	OSI Viewing Area in the townland of Ballykieran.	30-degree view to the North-East.	Yes	Partial	Yes		

14.5.1.3 **Settlements**

To identify which settlements within the LVIA Study Area should be considered for VP selection, the settlement strategies and hierarchy set out in the core strategies of the KKCDP and LCDP were consulted. The preliminary analysis and scoping are provided below.

The settlement hierarchies of both counties use differing classifications and naming conventions; therefore, 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 was given one of the following classifications according to its size, population density and existing designation in the relevant county development plan:

- County Hub Town,
- > Town,
- Village,
- Rural Settlement Cluster.

Table 14-8: Settlements in the LVIA Study Area

Settlement	County	County Hierarchy	Standardised Hierarchy	Theoretical Visibility	Scoped in for Assessment
Up to 5km					
Ballyragget	Kilkenny	Small Town/Village	Village	Yes	Yes
Lisdowney	Kilkenny	Rural Node	Village	Yes	Yes
Durrow	Laois	Town	Small Village of Local importance	Yes	Yes
Attanagh	Laois	Village	Small Village of Local importance	Yes	Yes



Settlement	County	County Hierarchy	Standardised Hierarchy	Theoretical Visibility	Scoped in for Assessment
5-10km					0.00
Abbeyleix	Laois	Self-Sustaining Town	Village	Full	Yes
Gathabawn	Kilkenny	Rural Node	Small Village of Local importance	No	No
Freshford	Kilkenny	Rural Town/Village	Village	Yes	Yes
Connahy	Kilkenny	Rural Node	Small Village of Local importance	Yes	Yes
Bymesgrove	Kilkenny	Rural Node	Small Village of Local importance	Partial	No visibility as determined from site visits.
Skehana	Kilkenny	Rural Node	Small Village of Local importance	No	No
Ballacolla	Laois	Village	Small Village of Local importance	Yes	Yes
Ballinakill	Laois	Village	Small Village of Local importance	Yes	Yes
10–15km					
Castlecomer	Kilkenny	Towns > 1,500 in population	Town	No	No
Clogherinka	Kilkenny	Rural Node	Small Village of Local importance	Yes	No actual visibility as determined from site visits.
Ballyfoyle	Kilkenny	Rural Node	Small Village of Local importance	Yes	No actual visibility as determined from site visits.
Threecastles	Kilkenny	Rural Node	Small Village of Local importance	Yes	Yes



Settlement	County	County Hierarchy	Standardised Hierarchy	Theoretical Visibility	Scoped in for Assessment
Moneenroe	Kilkenny	Rural Town/Village	Village	No	No Oo
Johnstown	Kilkenny	Rural Town/Village	Town	No	No
Galmoy	Kilkenny	Rural Node	Small Village of Local importance	Partial	No visibility as determined from site visits.
Rathdowney	Laois	Town	Small Village of Local importance	Yes	No visibility as determined from site visits.
Clough	Laois	Village	Small Village of Local importance	Partial	No visibility as determined from site visits.
Shannahoe	Laois	Village	Small Village of Local importance	Partial	No visibility as determined from site visits.
Ballyroan	Laois	Village	Small Village of Local importance	No	No
Moneenroe	Kilkenny	Small Town/Village	Small Village of Local importance	No	No
15-20km					
Kilkenny City	Kilkenny	Significant Key Town	County Hub Town	Partial	No visibility as determined from site visits.
Tullaroan	Kilkenny	Rural Node	Small Village of Local importance	No	No
Urlingford	Kilkenny	Rural Town/Village	Village	No	No
Crosspatrick	Kilkenny	Rural Node	Small Village of Local importance	Partial	No visibility as determined



Settlement	County	County Hierarchy	Standardised Hierarchy	Theoretical Visibility	Scoped in for Assessment
					from site visits.
Johnswell	Kilkenny	Rural Node	Small Village of Local importance	No	No
Coan	Kilkenny	Rural Node	Small Village of Local importance	No	No
Errill	Laois	Village	Small Village of Local importance	No	No
Newtown Doonane	Laois	Village	Small Village of Local importance	No	No
The Swan	Laois	Village	Small Village of Local importance	No	No
Timahoe	Laois	Village	Small Village of Local importance	No	No
Castletown	Laois	Village	Small Village of Local importance	No	No

14.5.1.4 Recreational Routes and Cultural and Tourist Destinations

Recreational routes are considered sensitive receptors as persons are likely to utilise them in a recreational capacity with value placed upon views and the scenic amenities of the landscape. The term recreational routes encompass waymarked walking routes and trail systems, cycle routes and scenic drives of regional, national or international renown.

In addition, popular recreational, cultural and tourist destinations were identified in the LVIA Study Area through a desktop exploration of localised tourism plans as well as considering the most popular tourism destinations in Co. Kilkenny and Co. Laois. Note that the term "cultural destination" in this section refers to sites of popular renown in the sense of general tourism and not necessarily in the sense of designated or protected cultural heritage assets; a detailed assessment of cultural heritage sites in relation to the Proposed Development is provided in this EIAR, Chapter 13 Cultural Heritage.

Prominent outdoor tourism, cultural, and recreational destinations identified in the LVIA Study Area are listed in the table below. The preliminary analysis and scoping are provided.



Route Name	Description	Theoretical Visibility	Actual Visibility	Scoped in for Assessment
Up to 5km				₹?
Dunmore Woods Loop and Leafy Loop	"This is a 4.5-km loop trail near Dunmore, County Laois. Generally considered an easy route, it takes an average of 1 h 6 min to complete. This is a popular trail for running and walking, but you can still enjoy some solitude during quieter times of day".	Full theoretical visibility at entrance but mixed theoretical visibility in the woods themselves.	No visibility as determined from site visits due to visual screening from vegetation and undulating topography.	No
North Kilkenny Cycle Route	"This is a 25.1-km loop trail near Kilkenny, County Kilkenny. Generally considered a moderately challenging route. This trail is great for road biking and bike touring, and it's unlikely you'll encounter many other people while exploring".	Yes	Yes	Yes
Binnianea Loop and Heathy Loop (Cullahill walking trails)	These loops are considered part of Cullahill walking trails, a portion of which is within 5km of the Site. "This loop circles around a cluster of low hills above the village of Cullahill on field paths, forest tracks, lanes and minor roadways with fine views of rural County Laois as well as the Slieve Bloom, Comeragh, Galtee, Blackstairs, Wicklow, Keeper Hill and Slieve na mBan Mountains, while closer to hand it passes the ruins of Cullahill Castle, a Lime Kiln, Cummer Well and a Rath or Fort".	Full theoretical visibility within 5km.	There is potential visibility from parts of the walking trail system closest to the Site.	Yes
5 to 10km				
Cullahill Mountain Well Walk (Cullahill walking trails)	This loop is considered part of Cullahill walking trails; this portion is just outside 5km of the Site.	Partial	There is potential visibility from parts of the	Yes



Route Name	Description	Theoretical Visibility	Actual Visibility	Scoped in for
	"This loop follows field paths, woodland tracks, lanes and minor roadways in a cluster of low hills above the village of Cullahill with fine views of rural County Laois as well as some of the mountains in the surrounding counties, while closer to hand it passes the ruins of Cullahill Castle, a Lime Kiln, Cummer Well and a Rath or Fort." The trail name is also known as Cullahill Heathy Loop.		walking trail system closest to the Site.	D. 09/07/2020
Collins Bog Loop	"This walk on woodland tracks, bog paths, old railway line and country roads takes you through different environments around Abbeyleix, from old buildings to the Lord's Walk, from woodland to bogland to old railway line and through an area managed as a wildlife habitat. It has much of historical interest to offer".	Yes	No visibility as determined from site visits due to visual screening from vegetation and an undulating topography.	No
Granstown Wood and Lake Lake Trail	"Managed by National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, this trail follows well-constructed tracks through this woodland nature reserve generally hugging the shore as it circles secluded Granstown Lake hidden within the surrounding woodland in this serene nature reserve with pleasant views".	Little to no theoretical visibility.	No visibility as determined from site visits due to visual screening from vegetation and an undulating topography.	No
Jenkinstown Wood - Walled Garden loop	"Enclosed within the walls of the old Bellew's estate this charming loop winds through the remnants of its mixed broadleaves and conifers on woodland trails".	Little to no theoretical visibility.	No - No visibility as determined from site visits due to visual screening from vegetation and an undulating topography.	No



Route Name	Description	Theoretical Visibility	Actual Visibility	Scoped in for
Gathabawn Short Loop	"This 5.1-km loop trail near Balleen, County Kilkenny. Generally considered a moderately challenging route, it takes an average of 1 h 26 min to complete. This trail is great for hiking, running, and walking, and it's unlikely you'll encounter many other people while exploring".	No	No	No Oslonia
10 to 15km				
Castlecomer - Captains Loop	"This pleasant walk follows wide compacted tracks through mixed woodlands encircling the lower lake as it winds its way through part of the old Wandesforde demesne and is named after a former owner of the estate, Captian R.H. Prior Wandesforde".	No	No	No
Castlecomer - Ardra Loop	"This pleasant walk follows wide compacted tracks and narrower paths through the trees as it winds its way through part of the old Wandesforde demesne encircling the two lakes and passing the Site where Ardra Castle once stood".	No	No	No
Grangefertagh Round Tower	Former abbey tower approx. 31m tall with angle-headed and lintelled windows, complete to the comice with partial cap.	No	No	No
Dunmore Cave	"Dunmore Cave, not far from Kilkenny town, is a series of limestone chambers formed over millions of years. It contains some of the most impressive calcite formations found in any Irish underground structure".	Little to no theoretical visibility.	No visibility as determined from site visits due to visual screening from vegetation and an undulating topography.	No



Route Name	Description	Theoretical Visibility	Actual Visibility	Scoped in for
South Kilkenny Loop	"This is a 38.1-km loop trail near Kilkenny, County Kilkenny. Generally considered a moderately challenging route. This trail is great for road biking and bike touring, and it's unlikely you'll encounter many other people while exploring".	Partial	No visibility as determined from site visits due to visual screening from vegetation and an undulating topography.	No Oo O

14.5.1.5 Transport Routes

Motorways, national primary roads, and national secondary roads were identified within the LVIA Study Area. Transport routes are not typically considered to represent receptors of high sensitivity. Therefore, potential for significant effects is only likely to occur for transport routes in close proximity to the Proposed Wind Farm site where the magnitude of change is likely to be greater. Consideration is also given to the number of receptors travelling these routes (as per GLVIA3 guidance). In mind of this, only prominent high trafficked transport routes such as national roads and motorways are considered to 20km and only regional roads within 10km are considered in the visual baseline exercise. The visibility of the Proposed turbines from regional and local roads within 3km was previously reported in the RSA in Section 14.3.5.

On-site appraisals determined that, in most instances, where ZTV mapping has indicated full visibility from large portions of these routes, the actual visibility is quite limited due to local topography and roadside screening. Considering this, for the purpose of viewpoint selection, specific locations from which the greatest visibility is likely to occur were selected on these transport routes.

The preliminary analysis is provided below. The road types are prefixed as follows: regional (R), national (N), and motorway (M).

Table 14-10: Transport Routes in the LVIA Study Area

Transport Route	Theoretical Visibility	Actual Visibility	Scoped in for Assessment
Up to 5 km			
N77	Yes	Yes	Yes
R432	Yes	Yes	Yes
R694	Yes	No visibility as determined from site visits due to visual screening from vegetation and an undulating topography.	No
R639	Partial	No visibility as determined from site visits due to visual screening from vegetation and an undulating topography.	No
R434	Yes	Yes	Yes



Transport Route	Theoretical Visibility	Actual Visibility	Scoped in for
5 to 10km			16.
M8	Mixed	There are some areas where there may be open views towards the Proposed Development	Yes
R639	Mixed	There are some areas where there may be open views towards the Proposed Development	Yes
R435	No	No visibility as determined from site visits due to visual screening from vegetation and an undulating topography.	No
R502	No	No visibility as determined from site visits due to visual screening from vegetation and an undulating topography.	No
R433	Yes	Yes	Yes
10 to 15km			
M7	Mixed	No visibility as determined from site visits due to visual screening from vegetation and an undulating topography.	No
N78	Mixed	No visibility as determined from site visits due to visual screening from vegetation and an undulating topography.	No
R434	Yes	Yes	Yes
R435	No	No visibility as determined from site visits due to visual screening from vegetation and an undulating topography.	No
R430	Mixed	No visibility as determined from site visits due to visual screening from vegetation and an undulating topography.	No
R425	Mixed	No visibility as determined from site visits due to visual screening from vegetation and an undulating topography.	No
15 to 20km			
N76	Mixed	No visibility as determined from site visits due to visual screening from vegetation and an undulating topography.	No
R426	No	No visibility.	No
R427	No	No visibility.	No



Transport Route	Theoretical Visibility	Actual Visibility	Scoped in for
R431	No	No visibility.	No O.
R434	Mixed	No visibility as determined from site visits due to visual screening from vegetation and an undulating topography.	No No
R639	No	No visibility.	No
R445	Mixed	No visibility.	No
R689	No	No visibility.	No
R693	Mixed	In some areas there may be views of the Proposed Development but there is no visibility along the majority of the road.	Yes – Scoped in to represent Freshford.
R695	Mixed	No visibility.	No
R700	Mixed	No visibility as determined from site visits due to visual screening from vegetation and an undulating topography.	No
R712	Mixed	No visibility as determined from site visits due to visual screening from vegetation and an undulating topography.	No
R886	Mixed	No visibility.	No
R887	Mixed	No visibility.	No
R909	Mixed	No visibility.	No

14.5.2 **Preliminary Analysis: Visual Receptors**

Visual Receptors Scoped in for Assessment. Following preliminary scoping and analysis in the tables above, the table below lists all visual receptors selected for assessment in this LVIA and indicates the Photomontage viewpoint (VP) or Photowire viewpoint (PWVP) representing views for those receptors.

Photomontage imagery was captured to represent views from these receptors, totalling 23 no. viewpoints. Of these, 15 no. viewpoints (VP01-VP15) were selected for full assessment in this LVIA (see next section); these are presented in the *EIAR Volume 2 Photomontage Booklet*, which includes the assessment of cumulative effects with other wind energy developments. Photomontages VP01-VP15 represent the most sensitive receptors where open visibility of the Proposed turbines occurs and provide a good geographical spread of views surrounding the Site.

The remaining viewpoints (PWVP-A to PWVP-H) are maintained as photowire images (early-stage draft photomontages); these are presented separately in *Appendix 14-5 Photowire Visualisation Booklet* and are useful visual aids to inform the discussion of visual effects later in this LVIA.



Table 14-11: Visual Receptors Scoped in for Assessment and representative VPs/PWs

	1 /	
Category	Visual Receptor	VP or Photowire No.
Designated Scenic Routes & Views	LSV-4, LSV-14, LSV-21, LSV-23.	VP09, 11. PWVP-E, C.
Routes & Views	KK-SV-12, KK-SV-14, KK-SV-19.	VP01, 02. PWVP-A.
OSI Viewing Area	OSI Viewing Area no.165 in Ballykieran (corresponding to KK-SV-14).	PWVP-A.
Settlements	Ballyragget, Lisdowney, Durrow, Attanagh, Connahy, Ballacolla, Ballinakill, Threecastles.	VP04, VP06, VP10, VP12, PWVP-I, VP13, VP11.
Recreational Routes	North Kilkenny Cycle Route and Cullahill walking trails (Mountain Well Walk, Binnianea Loop and Heathy Loop).	PWVP-D, VP03, VP06, VP07, VP08, PWVP-C, PWVP-F, PWVP-G, PWVP-H
Transport Routes	N77, R432, R434, M8, R639, R433, R434.	VP03, VP04, VP05, VP10, VP 11, VP12, VP13, PWVP-C, PWVP-E, PWVP-B, PWVP-I

Visual Receptors Scoped Out. ZTV mapping and visibility appraisals conducted on-site during 2024 were used to inform the analysis and exclude visual receptors from further assessment. These receptors were excluded from further assessment due to the very limited visibility of the Proposed turbines, as determined by the ZTV as well as onsite appraisals of each visual receptor location. In some cases, the factor of distance to the Proposed turbines as well as the directional focus of views was included in the preliminary analysis and was a contributing factor in excluding these locations from being selected as viewpoints.

14.5.3 **Photomontage Viewpoint Locations**

Table 14-12 identifies the 15 no. photomontage viewpoints (VP01-VP15) which are presented in the EIAR Volume 2 Photomontage Booklet and comprehensively assessed in Appendix 14-3: Photomontage Visual Impact Assessment Tables. All VPs are mapped below with the Visual Baseline and ZTV map. Note that the full map is followed by an enlargement of the same map to 10km to allow better visibility of the receptors and VPs in close proximity to the Site.

Table 14-12: Viewpoints VP01-VP15 for Impact Assessment

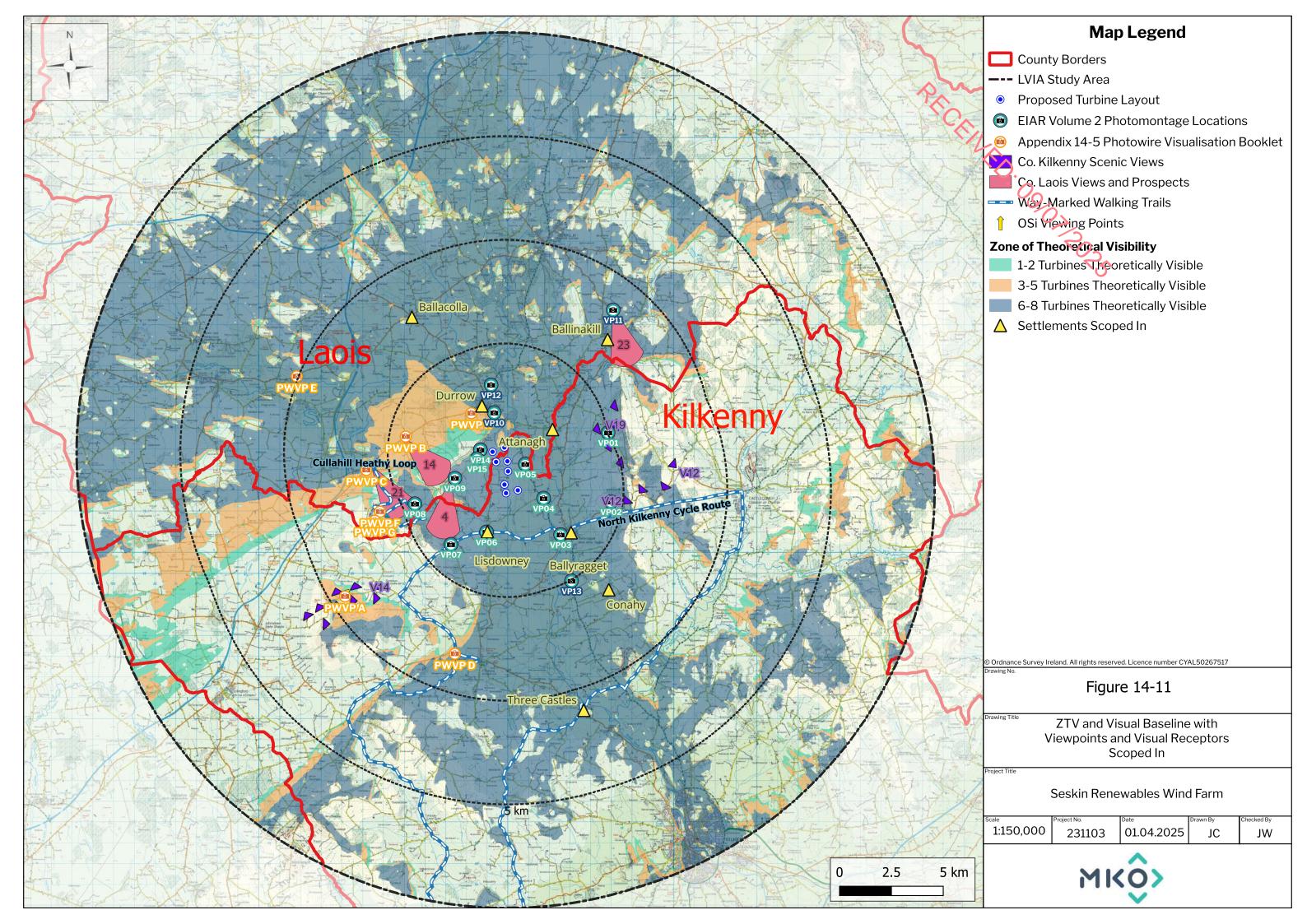
VP No.	Description	Grid Ref.
		E 646798
VP01	Ballyoskill . View from the LS5839 Local Road in the townland	N 675814
	of Ballyoskill, representing Co. Kilkenny designated Protected	
	View 19. Located approximately 5.1km east of the nearest	
	proposed turbine (T1).	
		E 646934
VP02	Finnan. Open view from the south-east across the Nore Valley	N 672479
	in the townland of Finnan, representing Co. Kilkenny	
	designated Protected View 12. Located approximately 4.5km	
	south-east of the nearest Proposed turbine (T7).	
		E 644505
VP03	Ballyragget. Open view from the south-east in the town of	N 670892
	Ballyragget along the N77 National Road. Located	



VP No.	Description	Grid Ref.
	approximately 3km south-east of the nearest Proposed turbine (T7).	CE/LA
VP04	Ballyconra . Open views from the townland of Ballyconra along the N77 National Road. Located approximately 1.3km southeast of the nearest Proposed turbine (T7).	E 643626 N 672648
VP05	Ballynaslee . Residential receptor in the townland of Ballynaslee along the N77 National Road. Located approximately 900m east of the nearest Proposed turbine (T3).	E 642802 N 674289
VP06	Lisdowney . View from the L1810 Local Road in the townland of Lisdowney. Located approximately 2km south-west of the nearest Proposed turbine (T8).	E 640930 N 671019
VP07	Knockmannon Cross-Roads . View from the Knockmannon cross-roads to the west of the townland of Lisdowney. Located approximately 3.6km south-west of the nearest Proposed turbine (T8).	E 639217 N 670424
VP08	Ballykealy . View from a local unnamed road in the townland of Ballykealy. Located approximately 4.4km south-west of the nearest Proposed turbine (T6).	E 637479 N 672380
VP09	Aharney. View from the L5753 Local Road in the townland of Aharney, representing Co. Laois designated Scenic View and Prospect 4. Located approximately 2.1km south-west of the nearest Proposed turbine (T4).	E 639406 N 673621
VP10	Durrow Townparks . View from the N77 National Road in the townland of Durrow Townparks. Located approximately 1.7km north of the nearest Proposed turbine (T1).	E 641305 N 676771
VP11	Heywood Gardens. View from Heywood Gardens in the townland of Heywood Demesne, representing Co. Laois designated Scenic View and Prospect 23. Located approximately 8.5km north-east of the nearest Proposed turbine (T1).	E 647045 N 681726
VP12	Course. View from the N77 National Road outside of the town of Durrow in the townland of Course. Located approximately 3.1km north of the nearest Proposed turbine (T1).	E 641152 N 678113
VP13	Oldtown. View from the N77 National Road in the townland of Oldtown. Located approximately 5.2km south of the nearest Proposed turbine (T8).	E 645047 N 668533
VP14	Archerstown North-East. View from an elevated vantage point along the L5753 Local Road in the townland of Archerstown. Located approximately 600m north of the nearest Proposed turbine (T2).	E 640636 N 674983
VP15	Archerstown South-West. View from an elevated vantage point along the L5752 Local Road in the townland of Archerstown.	E 640475 N 674553



VP No.	Description	Grid Ref.
	Located approximately 800m west of the nearest Proposed turbine (T2).	C. L.
		· O.
		302
		,00





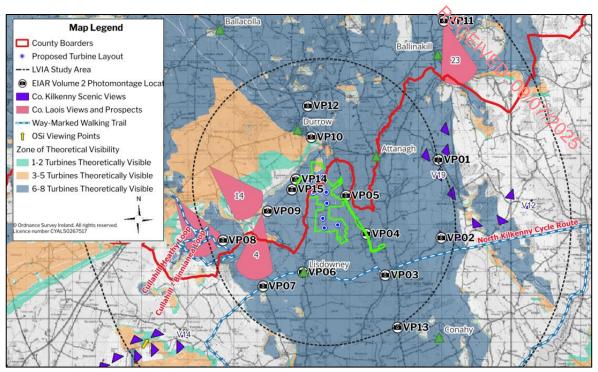


Figure 14-12 Enlargement of previous map Figure 14-11 to 10km



Cumulative Context: Other Wind Energy Developments

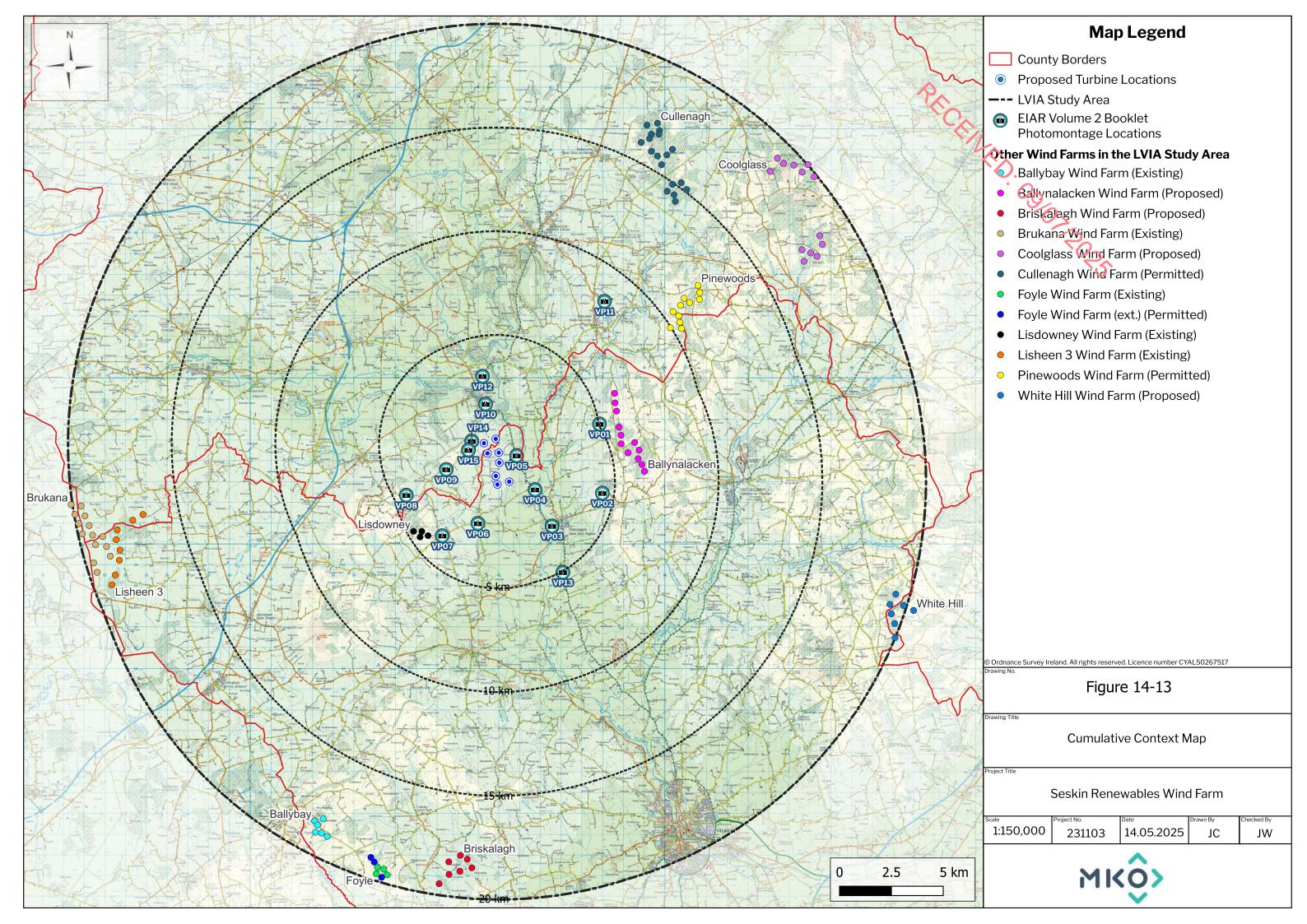
Table 14-13 lists 12 no. wind farm developments identified within the LVIA Study Area which are included in the cumulative assessment for this LVIA; these are mapped below along with the 15 no viewpoint photomontage locations (VP01-VP15) assessed in *Appendix 14-3*. The definitions of Existing Permitted and Proposed wind farms are given as follows:

- **Existing:** Existing wind energy developments currently operational in the baseline landscape at the time of conducting this LVIA.
- **Permitted:** Wind energy developments either under construction or Permitted (consented) at the time of conducting this LVIA; these developments have a high probability of being operational in a future receiving landscape.
- **Proposed:** All well-developed wind farm proposals with project specifications in the public domain at the time of conducting this LVIA. Cumulative effects between the Proposed Development and the development within this category are more uncertain and are reliant on an outcome of the planning and consenting system.

All cumulative turbines are included within the relevant photomontage imagery presented in the *EIAR Volume 2 Photomontage Booklet* and assessed in *Appendix 14-3: Viewpoint Assessment Tables*. Section 1.10 of *Appendix 14-1: LVIA Methodology* reports the detailed methodology of the rationale for the search process of identifying cumulative wind farms, the rationale of cumulative assessment and the details of how cumulative wind farms are visually presented in the booklet.

Table 14-13: Other Wind Energy Developments in the LVIA Study Area

Wind Energy Development Name	Status	No. of Turbines	Distance from the Nearest Proposed Turbine
Up to 5km			
Lisdowney	Existing	4	4.1km
5 to 10km			
Ballynalacken	Proposed	12	5.8km
Pinewoods	Permitted	11	9.9km
10 to 15km			
Cullenagh	Permitted	18	14.3km
15 to 20km			
Lisheen 3	Existing	8	16.9km
Coolglass	Proposed	13	17.1km
Briskalagh	Proposed	7	18.1km
Ballybay	Existing	6	18.2km
Brukana	Existing	14	19.0km
Foyle	Existing	4	19.1km
White Hill	Proposed	7	19.3km
Foyle (ext.)	Permitted	3	19.4km





Likely 'Significant' Landscape and Visual Colombia. - stacts 14.7

14.7.1 'Do Nothing Scenario'

present, with no changes made to the existing land use of agriculture, and potential for Landscape and Visual impacts through the construction, operation and decommissioning of the Proposed Development would not occur.

If the Proposed Wind Farm were not to proceed, the opportunity to capture part of Co. Kilkenny's and Co. Laois's valuable renewable energy resource from a highly suitable landscape for wind energy 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.

14.7.2 Construction Phase Effects

It is estimated that the construction phase of the Proposed Wind Farm will last between 12-18 months. Construction of the Proposed Development will involve the installation of the 8 no. turbines with a blade-tip height of 175m and all associated works, as well as the onsite 38kV substation and the Proposed Grid Connection Route. Construction phase effects will include the associated effects resulting from the movement of transport vehicles into and out of the Proposed Wind Farm, to allow for construction of the turbines, roads and associated elements.

14.7.2.1 Landscape Effects during Construction Phase

Proposed Wind Farm. Associated earthworks, such as the cut and fill required to facilitate construction of the Proposed Wind Farm, have the greatest potential for landscape effects. Where excavation is required, the 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 the construction phase. The construction activities may also potentially cause temporary impacts on the landscape such as the creation of temporary structures, dust, minor soil erosion and minor alterations to drainage. It is considered that the construction phase will have a Short-Term, Moderate and Negative effect in terms of direct residual landscape effects and effects on landscape character.

Proposed Grid Connection Route. The Proposed Grid Connection Route will be underground; therefore, the greatest landscape effects attributed to this element of the project will occur during the construction phase as the landscape is materially altered to allow the underground installation. The majority of cable route works are to be carried out along existing N77 National Road corridors. The construction phase of the Proposed Grid Connection Route will be temporary, localised, and transient in nature, as the works proceed along the cable route. The works will include roadside vegetation removal, soil stripping, excavation, and other associated construction activities. These activities will cause temporary change to the physical landscape along the Proposed Grid Connection Route; however, these changes will be localised to the immediate environment surrounding the route and will not affect the character of the landscape setting or visual amenity of the wider area. The construction works will be short-term in nature and completed as soon as practically possible. The Proposed Grid Connection Route construction works are likely to result in Short-Term, Slight and Negative landscape effects.

Mitigation Measures for Landscape Effects during Construction. All construction activities will follow best practice methods to reduce impacts upon the environment and landscape of the Site. Further



details are presented in the Construction and Environmental Management Plan (CEMP) contained in Appendix 4-4 of this EIAR. The following measures should be implemented to mitigate landscape effects during the construction phase of the Proposed Development:

- In all circumstances, excavation depths and volumes will be minimised, and excavated material will be re-used where possible.
- Where the cable 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.
- 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.
- To minimise cut and fill activities required to construct the Proposed Development, the proposed access roads and other infrastructure such as hard stands have been designed to avoid steep gradients and hilly terrain within the Site.
- In all circumstances, excavation depths and volumes will be minimised, and excavated material will be re-used where possible

14.7.2.2 Visual Effects during Construction Phase

Proposed Wind Farm. The most substantial visual effects will arise from requisite construction activities at the Proposed Wind Farm, such as building tower sections and erecting the turbines. There shall be temporary scenarios during the construction phase in which 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 Proposed Wind Farm components include large cranes and large haulage vehicles. The construction of ancillary infrastructure such as roads and hardstands to service and build Turbines T1-T5 will be visible from nearby visual receptors located at elevated vantage points immediately west of the Proposed Wind Farm (e.g. See Viewpoint 14 townland of Archerstown). Wherever possible, the existing tracks within the Site will be utilised.

General housekeeping measures necessary to meet Health & Safety requirements are implemented to ensure that active construction areas within the Site will be kept tidy, thereby mitigating localised visual impacts on the Site itself during the construction phase. Overall, the construction phase at the Proposed Wind Farm will result in Short-Term, Moderate and Negative residual visual effects.

Turbine Delivery Route (TDR) Accommodation Works. Works such as road widening are sometimes required along proposed turbine transport routes to accommodate the large vehicles used to transport turbine components to Proposed Wind Farm. In the case of the Proposed Development, there will be minor accommodation works located at several locations along the TDR (detailed in Chapter 4 Description). Minor accommodation works will include temporary alterations to the existing streetscape and roundabout islands, as well as temporary local road widening, overruns of roundabout island and temporary relocation of some signs and street furniture. The comprehensive traffic impact assessment of the Proposed Development is set out in Section 15.1 Traffic and Transport of Chapter 15 Material Assets. The areas of accommodation works are deemed to have a 'Medium' landscape sensitivity and the change to occur will be concentrated along the N77 National Road corridor in the town of Durrow and in the townland Ballynaslee. These works are likely to be Temporary, Negative visual effects which are Not Significant.

Meteorological (Met) Mast. One met mast is proposed as a part of the Proposed Wind Farm. This will be a slender structure, 100m 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 met mast will be localised, considering that construction activities related to this will be most visible within the immediate surroundings. Construction of the met mast will be seen from several residential receptors and occasional instances from the N77 to the east, north-east and south-east of the Site. Landscape and



visual effects arising from the construction of the met mast are expected to be highly localised, resulting in Short-Term, Slight and Negative visual effects.

Proposed Onsite 38kV Substation Visual effects are to occur from the construction of the proposed onsite 38kV substation due to the related 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 substation is located in an agricultural field of the Proposed Wind Farm near the eastern site boundary, approximately 300m from the N77. The cut and fill, construction vehicles and activities required to build the proposed substation will be partially visible from local residents and users of the N77 in close proximity to the east. Some visual screening will occur due to mature boundary vegetation and undulating topography. Visual effects will be relatively localised and are expected to have Short-Term, Moderate and Negative effects.

Proposed Grid Connection Route. As stated previously, the Proposed Grid Connection Route is to be underground; therefore, the greatest visual effects attributed to this project element will occur during the construction phase along existing public road corridors and include roadside vegetation removal, soil/road surface stripping, excavation, and other associated construction activities. Changes will be localised to the immediate environment and will not permanently affect the visual amenity of the wider area. The Proposed Grid Connection Route construction works are likely to result in Short-Term, Slight and Negative visual effects.

14.7.3 **Operational Phase Effects**

Planning permission is being sought for a thirty-five-year operational life of the Proposed Development from the date of full commissioning of the wind farm and subsequent decommissioning which will involve the removal of the Proposed turbines from the Site. Potential impacts of the Proposed Development during the operational phase are defined as 'Long-Term' as per the definition for duration in the EPA Guidance (2022). The Proposed turbines would be removed from the Site at the end of the operational phase. Therefore, potential landscape and visual impacts effects on receptors caused by the Proposed turbines are not permanent and are reversible.

14.7.3.1 Landscape Effects during Operational Phase

14.7.3.1.1 LCA Assessment Outcomes

The assessment outcomes of 9 no. LCAs in the 15km LCA Study Area to determine landscape effects arising as a result of the Proposed Development are summarised in the table below and detailed in *Appendix 14-2: LCA Assessment Tables*. The assessment criteria and grading scales which aided the assessment of landscape effects are detailed in Section 1.7 Assessing Landscape Effects of *Appendix 14-1: LVIA Methodology*.

LCA Ref.	Name	Sensitivity of LCA	Magnitude of Change in LCA	Residual Significance of Landscape Effect
KK-LCA-A	Slieveardagh Hills (North) (contains 5 no. Proposed turbines)	Low	Moderate	Slight
KK-LCA-A3	Slieveardagh Eastern Transition Area	Low	Moderate	Slight



LCA Ref.	Name	Sensitivity of LCA	Magnitude of Change in LCA	Residual Significance of Landscape Effect
KK- LCA-B	Castlecomer Plateau	Medium	Slight	Not Significant
KK-LCA-B2	Castlecomer Western Transition Area	Medium	Slight	Not Significant
KK-LCA-F1	Kilkenny Northern Basin (contains 1 no. Proposed turbine and part of the Proposed Grid Connection Route)	Low	Moderate	Not Significant
KK-LCA-H	Nore Valley (South) (contains part of the Proposed Grid Connection Route)	High	Slight	Slight
L-LCA-1	Mountain, Hills and Uplands (contains 2 no. Proposed turbines)	Medium	Moderate	Slight
L-LCA-2	Lowland Agricultural Areas	Low	Slight	Not Significant
LLCA-5	Urban Fringe Areas	Low	Slight	Not Significant

The highest residual landscape effect of 'Slight' will occur for Co. Kilkenny's KK-LCA-A Slieveardagh Hills, KK-LCA-A3 Slieveardagh Eastern Transitional Area, KK-LCA-H Nore Valley (South) and Co. Laois L-LCA-1 Mountain Hills and Uplands. Cumulative effects with the Existing Lisdowney Wind Farm (4 no. turbines) will occur in KK-LCA-A, Lisdowney is located 4km south-west of the Site. There will be potential to impact the KK-LCA-H Nore Valley (South), as it's the highest sensitivity LCA in the LVIA Study Area and one of the landscape's key characteristics defined as 'extensive open mountain views'. The LCA is of linear shape and thin width, orientated N-S and following the Nore River corridor through the LCA Study Area; at its closest point KK-LCA-H is located within 1km directly east of the Proposed turbines. It is emphasised that the magnitude of change in the LCA is 'Slight' as the Proposed turbines are not located in this LCA and will not impact many of the key characteristics and sensitivities which are primarily derived from the River Nore itself and its river corridor. The Proposed turbines will only be visible at the very northern extent of the LCA and there is a large degree of intermittent visual screening for low-lying areas with views towards the Proposed turbines. Further discussion on landscape effects of both the River Nore and River Nore Valley is included in Section 14.7.3.1.5.

Residual landscape effects on the remaining LCAs are deemed to be **Not Significant** primarily owing to there being no significant impact on the key landscape characteristics of the LCAs due to set back and limited visibility. Where visibility may occur, the Proposed turbines will be seen only as very small, distant background features from these LCAs.

Due to construction works relating to the underground Proposed Grid Connection Route, the Proposed Development will temporarily materially alter small portions of two LCAs in Co. Kilkenny: KK-LCA-F1 and KK-LCA-H. Any impacts on landscape character owing to construction will be highly localised and Temporary within the LCA due to the underground nature of the route and landscape restoration measures.



14.7.3.1.2 Landscape Sensitivity vs. Landscape Character in CDPs and WES

The 8 no. Proposed turbines are located within two linear landscape units adjacent and parallel to each other across the Kilkenny-Laois border. These lands are separate LCAs and comprise separate zoning for wind energy development. Although the policy zoning and designations with respect to landscape and wind differ across the county boundary, both areas of land within the Proposed Wind Farm site are characterised by gently undulating landform comprising agricultural fields; this is typical of a rural, modified working landscape suitable for wind energy development.

A primary focus of this LVIA was to assess the impacts on landscape character of the Proposed Development in mind of the Proposed Wind Farm site spanning across two county borders with differing sensitivity ratings to wind energy development for the same general landscape type.

Site assessments, including production of photomontages and capture of drone imagery has determined that the Laois and Kilkenny County boundary is an arbitrary line with respect to landscape character and landscape transition within the confines of the Proposed Wind Farm. A full comprehensive analysis of 'landscape value', 'susceptibility to change' and the overall landscape sensitivity of the Proposed Wind Farm is reported previously in Section 14.4.3. This LVIA has determined that the entire Proposed Wind Farm site is considered to have **Low** landscape sensitivity, regardless of differing WES designations; the rationale is given as follows.

To summarise from Section 14.4 Landscape Baseline and *Appendix 14-2*, 2 no. Proposed turbines (T1-T2) are located in Co. Laois within land area designated in the Laois WES as "Not Open to Consideration" for wind energy development, corresponding to one LCA rated as "Medium" landscape sensitivity in the LCDP 2021-2027 and determined to have "Low" landscape sensitivity in this LVIA. The medium rating in the LCDP is primarily due to the landform feature of Cullahill Mountain within the LCA—this is discussed further in the following paragraphs.

The remaining 6 no. Proposed turbines (T3-T8) are located in Co. Kilkenny within land area designated in the Kilkenny WES as "Open to Consideration" for wind energy development, corresponding to two LCAs, both rated as "Normal" landscape sensitivity in the KKCDP 2021-2017 (i.e. LACK) and determined to have "Low" landscape sensitivity in this LVIA.

The general landscape character type for the two land areas of the Proposed Wind Farm on either side of the Laois-Kilkenny border is the same—low-elevation hills comprising a modified working landscape of agricultural land use and landcover featuring patchwork fields and mature boundary vegetation which can be seen below in Figure 14-14, aligning with the "Hilly and Flat Farmland" character type in the DoEHLG 2006 Guidelines and Draft 2019 Guidelines which is considered a landscape type which can effectively accommodate wind energy development. Moreover, the physical shielding of the Slieveardagh Hills and adjacent elevated features nearly fully enclose the Proposed turbines within the Nore Valley, thereby largely reducing landscape and visual effects outside the enclosing vistas and providing a strong degree of visual containment, especially in areas to the west of the Proposed turbines.

Regarding the proximity of Cullahill Mountain to the Proposed Development, as reported in *Appendix 14-2*, the 2 no. Proposed turbines in Co. Laois are located 6km north-east of Cullahill Mountain on a separate landform within the Co. Laois Mountains, Hills and Uplands LCA, which is a sufficient distance to avoid significant landscape effects to arise as a result of the Proposed Development. An assessment of the Proposed Development on the integrity, character and setting of Cullahill Mountain as an independent landscape receptor itself is assessed later in Section 14.7.3.1.6.

Further, the general landscape type where the turbines are sited is a modified working landscape with agricultural land use and land cover and does not include features of scenic or tourism potential (such as walking trails), thereby it aligns more in terms of character type with the lower sensitivity LCA across the county border of Kilkenny. This is demonstrated by drone imagery captured on Site (see plates below) showing the landscape of the Proposed Wind Farm where the county boundary is located.



Plate 14-28 shows a view of the Site from the east, with the fields in Co. Kilkenny at the left of the image and fields in Co. Laois at the right of the image. From the perspective of landscape capacity to wind energy development, there is no discernible difference which would make the land area in Co. Laois more sensitive than the land area in Co. Kilkenny. The differing wind energy policies across the arbitrary county boundary line are not resultant from localised landscape receptors within the Site or its immediate setting.



Plate 14-28 Drone imagery showing the continuous landscape type of the Wind Farmsite in Co. Kilkenny (to the right) and Co. Laois (to the left)

In relation to landscape sensitivity in Co. Kilkenny, the LACK outlines that "areas where enclosing topography, screening vegetation and/or existing development are present should have a high potential to absorb new development" and notes that the "Slieveardagh Hills were generally perceived as being most suitable" for various developments including wind energy. This aligns with the Proposed Development being partly visually enclosed within the topographical features of Ballynalacken Hill and Knockmannon Hill as described previously in Section 14.3.2. The enclosing hill features of the landscape can be seen in the backgrounds of the plate images below.



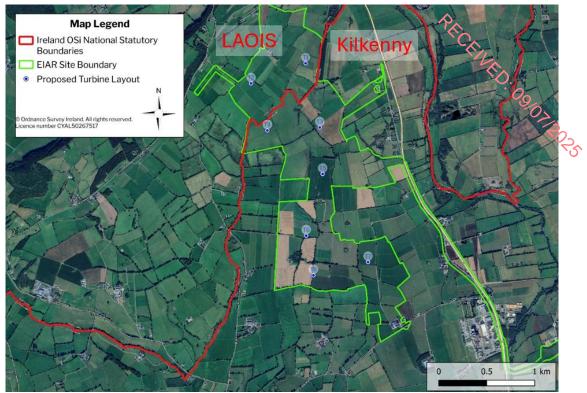


Figure 14-14 Aerial view of the landcover between the Site in Co. Kilkenny and Co. Laois.



Plate 14-29 Drone imagery from Co. Kilkenny within the EIAR Site Boundary facing north to Co. Laois showing no discernible difference in landscape types

14.7.3.1.3 The Proposed Wind Farm Itself: Landscape Effects

The Site itself and its immediate setting do not comprise any unique landscape receptors of county, regional or national interest. Given the above rationale for the sensitivity of the landscape of the Proposed Wind Farm and given the previous determination landscape value, and sensitivity of the Site in Section 14.4.3 of the Landscape Baseline, the overall landscape sensitivity is deemed to be 'Low'.

In terms of localised magnitude of change, the landscape character of the Proposed Wind Farm will undergo a substantial change in character from its current condition by the introduction of vertical manmade structures into the landscape. The footprint of the Proposed turbines and ancillary infrastructure of the Proposed Wind Farm comprises a total of 7.6ha. This is 2.5% of the total 302Ha within the EIAR Site Boundary. The greatest change will be localised to areas where the landscape is materially altered



(infrastructure footprint) by the introduction of tall structures. The overall magnitude of change to landscape character of the Proposed Wind Farm is considered 'Substantial'.

'Low' sensitivity with a 'Substantial' magnitude of change amounts to long-term landscape effects of **Moderate** significance upon the fabric of the landscape of the Site (refer to Section 1.7 Assessing Landscape Effects in *Appendix 14.1: LVIA Methodology*). Effects on the perceptual and aesthetic character of the Proposed Wind Farm are also deemed to be of **Moderate** significance.

A Biodiversity Management and Enhancement Plan (BMEP) has been prepared as part of this EIAR and is included with Chapter 6 Biodiversity. Mitigation measures relating to the enhancement and maintenance of the Site have been incorporated into the final design of the Proposed Development layout with the aim of mitigating landscape effects of the Proposed Wind Farm; see Appendix 6-4 BMEP for further details.

Key factors to mitigate landscape effects on the Site during the operational phase include the following:

- The internal site road layout makes use of the existing informal agricultural tracks wherever possible, to minimise the requirement for new tracks within the Site and, where possible, retain the integrity of existent field boundary walls, native hedgerows and trees.
- Existing vegetation around the proposed substation will be retained and left to grow with the aim becoming tall enough to fully reduce visual impacts.
- In all circumstances, excavation depths and volumes will be minimised, and excavated material will be re-used where possible.
- The Proposed turbines are strategically sited on landcover that has been highly modified from its natural state. The landcover in these areas lack unique or sensitive features and primarily consists of agricultural grassland.
- The Proposed Grid Connection Route to the national electricity grid is underground, thereby eliminating potential landscape and visual effects during the operational phase.

14.7.3.1.4 Proposed Grid Connection Route: Landscape Effects

Once vegetation has re-established along the roadway following earthworks during the construction phase, the landscape and visual effects of the Proposed Grid Connection Route during the operational phase will be 'Imperceptible' owing to the route being underground.

14.7.3.1.5 Landscape Effects: River Nore and Nore River Valley

The River Nore is an important landscape feature for Co. Kilkenny and is 140km in length from its source in Co. Tipperary. Its recreational and heritage values are noted in the KKCDP (see previous Section 14.4.1 Landscape Designations and Policy Context).

The river is located directly east of the Proposed Wind Farm, the nearest proposed turbine is approximately 1.2km west of the river at its nearest point. While not directly impacting the landscape of the river corridor itself, there will be a **Moderate** residual landscape effect on the character and setting of the River Nore and Nore River Valley where it is located in close proximity to the Proposed turbines (approximately within 3km). The greatest impact is on the Nore Valley itself where the Proposed turbines will change landscape character. However, the Proposed Development will not impact the integrity of views of the river as a local landmark itself due to the low-lying nature and dense vegetation along the river corridor. Site investigations determined that there are very limited access and recreational amenities around the river corridor and in the Nore Valley as whole where it comes in close proximity (3km) to the Proposed Wind Farm. Discussion of visual effects of receptors visiting the Nore River and Valley for recreational purposes is included in Section 14.7.3.2.6.



14.7.3.1.6 Landscape Effects: Cullahill Mountain

As stated previously in Section 14.4.1.4 Wind Energy Strategies, a key objective of this LVIA was to determine to what extent does the location of the Proposed turbines in this area potentially impact upon the scenic and landscape amenity provided by Cullahill Mountain in Co. Laois and its tourism potential as according to the Laois WES designation.

According to the Landscape Baseline exercise, onsite visibility appraisals and photomontage and photowire visualisations, this LVIA determines that the Proposed turbines are not likely to have a significant impact on the setting of Cullahill Mountain, particularly when perceived from within Co. Laois itself. This is supported by the following discussions.

The Cullahill Mountain area is located approximately 6km southwest of the Proposed Development. The ZTV indicates mixed theoretical visibility around the mountain area which features the network of Cullahill walking trails that was scoped in for assessment in this LVIA. The walking trails are representative of visual receptors and are therefore discussed later in Section 14.7.3.2.6.

Two photowires represent views from the walking trail network: PWVP-F Cullahill Mountain East and PWVP-G Cullahill Mountain West; see *Appendix 14-5*. Both images indicate no visibility of the Proposed turbines due to visual screening by dense vegetation.

The map enlargement below shows a section of the ZTV Map at Cullahill Mountain, with the non-coloured areas representing 'No Turbines Theoretically Visible'. It is clear from this figure that there is no visibility of the Proposed turbines along the majority of the walking and driving routes around the mountain (depicted as thick, dark grey lines in the basemap). This was also supported by on-site visibility appraisals. The full ZTV Map was previously presented in Figure 14-1.

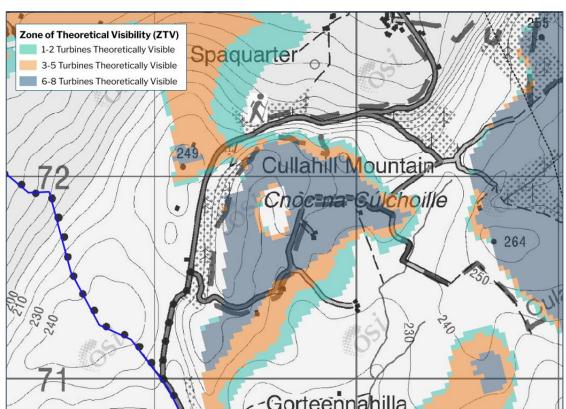


Figure 14-15 Enlargement of ZTV Map at Cullahill Mountain

As well as addressing effects on views from the mountain, the impact assessment also considers potential effects of the Proposed Development on Cullahill Mountain as a local landmark.



Photowire PWVP-A Ballykieran provides a long-ranging landscape overview perspective of the setting of Cullahill Mountain, being captured from a location several kilometres to the south and directed towards the Proposed Development with Cullahill Mountain in the middle-left background of the image. PWVP-A is representative of Co. Kilkenny protected view KK-SV-14 and OSi Viewing Area no.165. In the image, Cullahill Mountain appears as a relatively small, slightly elevated feature and is not necessarily unique or distinguishable within the wider landscape from this vantagepoint. Only 1 no. Proposed turbine is visible from this viewpoint angle and as seen in PWVP-F and PWVP-G, there is no visibility from those vantage points on the mountain itself. The turbines visible in the photowire are the Existing Lisdowney turbines, to the far right of Cullahill Mountain. The photowires and site investigations show the Proposed turbines have no significant effect on the landscape character of Cullahill Mountain when experienced from the north, south and west, including all areas of the landscape in Co. Laois.

The greatest potential for effects on the landscape character of Cullahill Mountain with respect to its appearance as a landmark and landscape receptor will occur at great distance from the east. This occurs in very small area of the landscape in occasional instances where the Proposed turbines are located and seen between receptors and Cullahill Mountain. This occurs from Viewpoint 01 which is a photomontage captured from a very elevated vantage point on the eastern side of the Nore Valley which permits very open and long ranging views to the west. This represents a worst-case scenario where the Proposed turbines are seen directly in combination with Cullahill Mountain in the same field of view. Cullahill Mountain is seen beyond turbine T5 in VP01. From this area of the landscape, Cullahill mountain is set back at a substantial distance (e.g. 12km from VP01) and is not a distinctive or unique feature from this perspective, particularly compared to all other landforms visible within the landscape. From distant elevated vantage points to the east, the Proposed turbines will have a Negligible change to the character of Cullahill Mountain, and overall, a residual effect of **Not Significant**.

Overall, considering the limited views and effects on the walking trails and receptors in close proximity (within 200m) of the mountain itself, effects on recreational attributes and the 'tourism value' will be minimal.

14.7.3.2 Visual Effects during Operational Phase

14.7.3.2.1 Viewpoint Assessment Outcomes

Visual effects arising as a result of the Proposed Development during its operational phase are reported and discussed in detail in the sections below, including effects on visual receptors and residential visual amenity, as well as visual effects arising from ancillary elements of the project.

The determination of visual effects was informed by the photomontage viewpoint impact assessment of the 15 no. selected viewpoints (VP01-VP15) as reported in *Appendix 14-3*. Following this, Table 14-15 gives a detailed breakdown of visual impact assessment for each viewpoint.

The assessment criteria and grading scales which aided the assessment of visual impact are detailed in Section 1.8 Assessing Visual Effects of *Appendix 14-1: LVIA Methodology*. Visual effects are determined by balancing the magnitude of change with the sensitivity of receptors represented by the viewpoint. Residual visual effects are then determined accounting for mitigating factors.

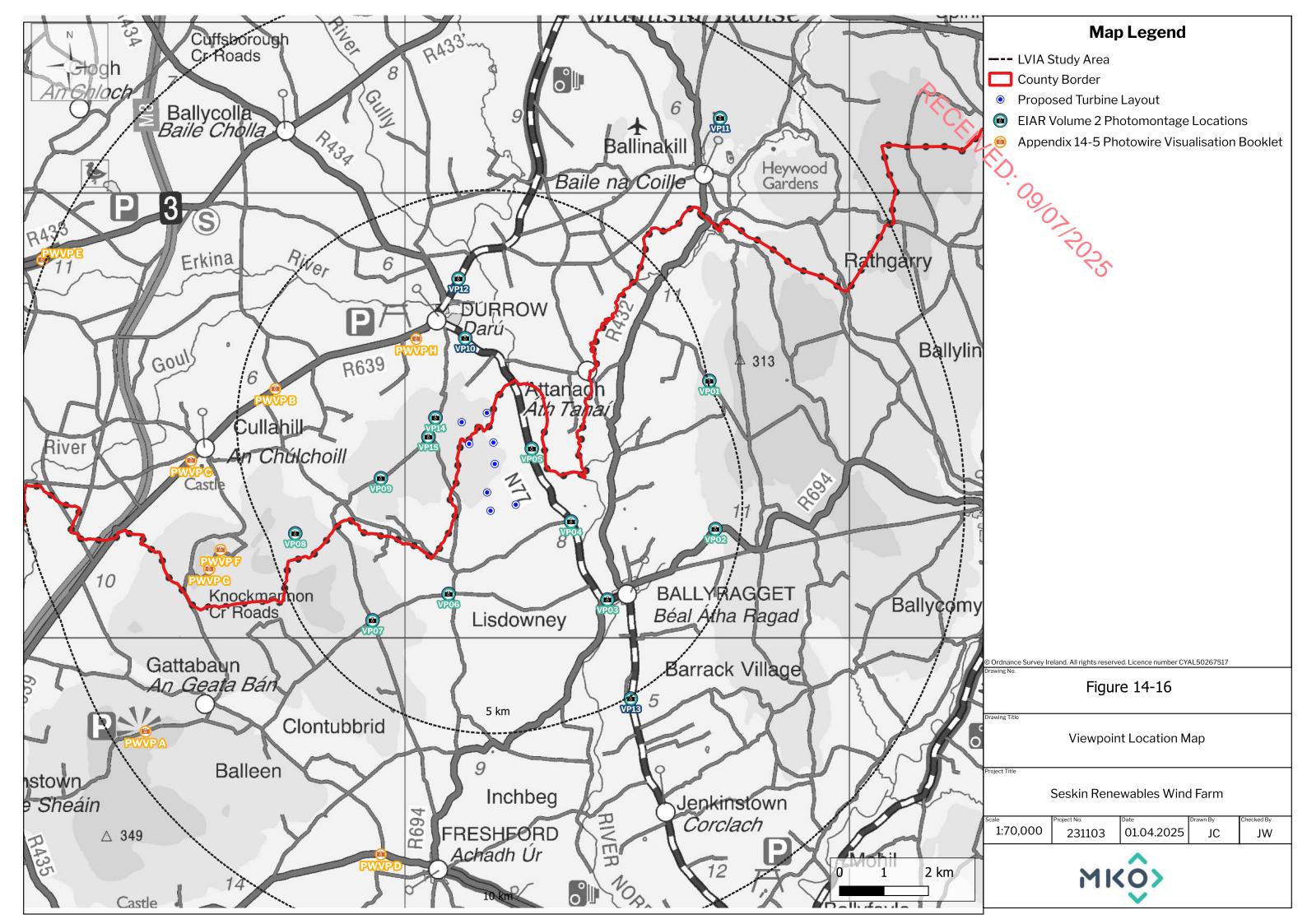
Regarding the below discussions of visual effects of the Proposed turbines, whether an effect is deemed to be positive, negative or neutral involves a degree of subjectivity. What appears to be a positive effect to one viewer could be deemed to be a negative effect by another viewer. In addition, all predicted visual effects of the viewpoints below are Long-Term and Direct effects.



Table 14-15:	Details of Photomontage Viewpoint Impact Assessment Outcomes for VP01-VP15				
VP No.	Description	Grid Ref.	Visual Sensitivity of Receptor(s) (at viewpoint)	Magnitude of Change	Residual Significance of Visual Effect
VP01	Ballyoskill . View from the LS5839 Local Road in the townland of Ballyoskill, representing Co. Kilkenny designated Protected View 19. Located approximately 5.1km east of the nearest proposed turbine (T1).	E 646798 N 675814	High	Moderate	Moderate
VP02	Finnan . Open view from the south-east across the Nore Valley in the townland of Finnan, representing Co. Kilkenny designated Protected View 12. Located approximately 4.5km south-east of the nearest Proposed turbine (T7).	E 646934 N 672479	Medium	Moderate	Moderate
VP03	Ballyragget . Open view from the south-east in the town of Ballyragget along the N77 National Road. Located approximately 3km south-east of the nearest Proposed turbine (T7).	E 644505 N 670892	Medium	Slight	Slight
VP04	Ballyconra . Open views from the townland of Ballyconra along the N77 National Road. Located approximately 1.3km south-east of the nearest Proposed turbine (T7).	E 643686 N 672648	High	Moderate	Moderate
VP05	Ballynaslee . Residential receptor in the townland of Ballynaslee along the N77 National Road. Located approximately 900m east of the nearest Proposed turbine (T3).	E 642802 N 674289	High	Substantial	Significant
VP06	Lisdowney. View from the L1810 Local Road in the townland of Lisdowney. Located approximately 2km south-west of the nearest Proposed turbine (T8).	E 640930 N 671019	Medium	Slight	Not Significant
VP07	Knockmannon Cross-Roads. View from the Knockmannon cross-roads to the west of the townland of Lisdowney. Located approximately 3.6km southwest of the nearest Proposed turbine (T8).	E 639217 N 670424	Medium	Moderate	Slight



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VP08	Ballykealy . View from a local unnamed road in the townland of Ballykealy. Located approximately 4.4km south-west of the nearest Proposed turbine (T6).	E 637479 N 672380	Medium	Moderate	Slight
VP09	Aharney . View from the L5753 Local Road in the townland of Aharney, representing Co. Laois designated Scenic View and Prospect 4. Located approximately 2.1km south-west of the nearest Proposed turbine (T4).	E 639406 N 673621	Medium	Moderate	Slight
VP10	Durrow Townparks. View from the N77 National Road in the townland of Durrow Townparks. Located approximately 1.7km north of the nearest Proposed turbine (T1).	E 641305 N 676771	Medium	Slight	Not Significant
VP11	Heywood Gardens. View from Heywood Gardens in the townland of Heywood Demesne, representing Co. Laois designated Scenic View and Prospect 23. Located approximately 8.5km north-east of the nearest Proposed turbine (T1).	E 647045 N 681726	High	Slight	Slight
VP12	Course . View from the N77 National Road outside of the town of Durrow in the townland of Course. Located approximately 3.1km north of the nearest Proposed turbine (T1).	E 641152 N 678113	Medium	Moderate	Slight
VP13	Oldtown. View from the N77 National Road in the townland of Oldtown. Located approximately 5.2km south of the nearest Proposed turbine (T8).	E 645047 N 668533	Low	Slight	Not Significant
VP14	Archerstown North-East. View from an elevated vantage point along the L5753 Local Road in the townland of Archerstown. Located approximately 600m north of the nearest Proposed turbine (T2).	E 640636 N 674983	High	Substantial	Significant
VP15	Archerstown South-West. View from an elevated vantage point along the L5752 Local Road in the townland of Archerstown. Located approximately 800m west of the nearest Proposed turbine (T2).	E 640475 N 674553	High	Substantial	Significant





14.7.3.2.2 Supplementary Photowire Viewpoint Locations

8 no. supplementary photowire viewpoint locations (PWVP-A to PWVP-H) are presented in this LVIA to aid discussions of residual visual effects in the subsequent sections; these images constitute early-stage draft photomontage imagery which are not assessed in the LVIA. The images are compiled in *Appendix 14-5: Photowire Visualisation Booklet*.

Photowires comprise panoramic photos with overlaid wirelines and are classified as Type 3 Visualisations in the LI TGN 06/18. Photowires PWVP-A to PWVP-H do not form part of the assessment of visual effects in *Appendix 14-3*; however, they do illustrate certain points relating to visual effects on specific receptors. The location of photowire viewpoints in *Appendix 14-5* are marked as orange icons in the map below. The images are draft and do not include modelling of cumulative Permitted and Proposed developments in the LVIA Study Area; however, the Existing Lisdowney Wind Farm (4 turbines) is visible in one image (PWVP-A).

Table 14-16 Supplementary Photowire Viewpoints

Table 14-16 Supplementary Photowire Viewpoints		
Photowire No.	Description	Grid Ref.
		E 634109
PWVP-A	Ballykieran . Viewpoint representative of Co. Kilkenny Protected View 14.	N 667933
		E 637033
PWVP-B	Newtown . Viewpoint representative of Co. Laois Scenic View 14.	N 675643
		E 635137
PWVP-C	Parknhown . Viewpoint representative of Co. Laois Scenic View 21.	N 674030
		E 639404
PWVP-D	Tobar na Péiste. Viewpoint representative of Freshford.	N 665168
		E 631784
PWVP-E	Middlemount . Viewpoint representative of residents in Ballacolla.	N 678543
		E 635801
PWVP-F	Cullahill Mountain East. Viewpoint from the east of Cullahill	N 671934
	Mountain.	
		E 635626
PWVP-G	Cullahill Mountain West. Viewpoint from the west of Cullahill Mountain.	N 671745
		E 640201
PWVP-H	Durrow Townparks Seandoire . Viewpoint representative of the Seandoire Residential Estate, Durrow Townparks Co. Laois.	N 676768

14.7.3.2.3 Visual Effects on Designated Scenic Views, Prospects and OSi Viewing Areas

Overall, no significant residual visual effects are deemed to arise from the protected scenic amenity designations of Co. Laois or Co. Kilkenny identified within the LVIA Study Area; discussion for each receptor is provided below. Whilst the Proposed turbines may be visible from some areas of the designated scenic views, they will not fundamentally impact the key scenic and landscape sensitivities as reported in the LCDP and KKCDP. This LVIA has determined that by means of strategic design and locational siting of the Proposed Development, it will not significantly impact on the integrity of protected scenic views or any unique and distinctive upland vistas.

KK-SV-12 is within 4.5km of the Proposed turbines, with its views looking southwest overlooking Castlecomer Plateau and Ballyragget having potential for visibility of the Proposed turbines. VP02 was



captured from Finnan at a point with open views over the Nore Valley, overall, residual visual effects are **Moderate**; see VP02 in *Photomontage Booklet* and *Appendix 14-3*.

KK-SV-14 is within 7.5km of the Proposed turbines, comprising views north and east from Johnstwon/Gattabaun road. SV-14 corresponds with OSi Viewing Area no.165 in Ballykeiran. Photowire PWVP-A shows that clear views in the direction of the Proposed Development are evident; however, the Proposed turbines will not be seen from this location with the exception of T2 showing one blade; see *Appendix 14-5*. The residual visual effects are **Imperceptible**.

KK-SV-19 is within 5km of the Site, comprising views towards the Slieve Bloom Mountains beyond the LVIA Study Area to the north-west. From this view there are clear and prominent views looking towards the Nore Valley towards the Proposed Development. VP01 Ballyoskill was captured from an elevated vantage point to the east of the Proposed Development. The KKCDP describes the Slieve Bloom mountains as the focus of Protected View 19. From VP01, the Slieve Bloom Mountains are visible in the far distance across the flat plains to the north-west, to the far-right side of the 90-degree photomontage. The Proposed turbines do not significantly impact views of the Slieve Bloom Mountains from Protected View 19. Overall, residual visual effects are **Moderate**; see VP01 in *Photomontage Booklet* and *Appendix 14-3*.

L-SV-4 is within 2.5km of the Proposed turbines, comprising views south towards Knockmannon Hill, directed away from the Proposed Development. This has been included for further assessment due to its close proximity to the Proposed Development at 2.1km to the south-west. While VP09 Aharney was captured immediately adjacent to L-SV-4, the represented views in the photomontage are looking east to the Proposed turbines and the protected view is not shown in the photomontage as it is directed south, away from the Proposed turbines (see plate below). Therefore, the Proposed turbines will have no effect on the scenic amenity of L-SV-4. Further discussion in relation to L-SV-4 is included in the impact assessment of VP09 in *Appendix 14-3*.

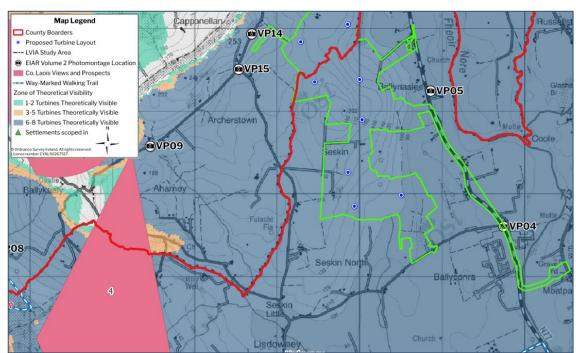


Figure 14-17 Extracted screenshot of Visual Baseline map showing Co. Laois protected view L-SV-4 directed away from the Proposed turbines with no visual impact

L-SV-14 is within 4.2km of the Proposed turbines, comprising views towards Caponellan Hill directed to the south-east and will have some views in the direction of the Proposed Development. Photowire PWVP-B shows that the blades of 3 no. Proposed turbines will be seen above the undulating topography and vegetation on the elevated hill in the background of the image; see *Appendix 14-5*. The residual visual effects are **Not Significant**.



L-SV-21 is within 6km of the Proposed turbines, comprising views to the east of Cullahill Castle and Knockmannon Hill and will have some views in the direction of the Proposed Development. Photowire PWVP-C shows that the hub and full blades of 1 no. Proposed turbine will be visible as well as the blade-tips of 3 no. turbines above the undulating topography and vegetation on the elevated hill in the left background of the image; see *Appendix 14-5*. The Proposed turbines do not obstruct the designated scenic view. The sensitivity is High; the magnitude of change is Negligible. Overall, the residual visual effects are **Slight**.

L-SV-23 is within 8.5km of the Proposed turbines comprising views south over farmland and towards Ballymartin Hill and will have some views in the direction of the Proposed Development. Photomontage VP11 Heywood Gardens shows that 6 no. Proposed turbines are partially visible as very small features in the background of the image between vegetation. Overall residual visual effects are **Slight**; see VP11 in *Photomontage Booklet* and *Appendix 14-3*.

14.7.3.2.4 Visual Effects on Settlements

Kilkenny City. This settlement is located approximately 16.3km south-east of the Proposed turbines. While ZTV mapping initially indicated theoretical visibility from approximately half of Kilkenny City, on-site visibility appraisals determined there will be no views of the Proposed Development due to visual screening by mature vegetation atop the undulating topography surrounding the area. This is supported by plate imagery below, captured along the N77 National Road at the most northerly point of Kilkenny City representing the area with theoretical visibility yet which indicates limited views beyond the ridge in the background of the image. No visual effects will occur for Kilkenny City.



Plate 14-30 View from northern Kilkenny City showing visual screening by mature vegetation and undulating topography in the direction of the Proposed Development

Durrow. This settlement is located approximately 2.3km north of the nearest Proposed turbine (T2). No visibility will occur within the town of Durrow itself. Views of the Proposed Development will occur from occasional vantage points along N77 National Road to the south and north of the town, as seen in photomontages VP10 Durrow Townparks and VP12 Course showing the Proposed turbines visible above an area of woodland on an elevated landform. The receptors of Durrow are given 'Medium' sensitivity in the assessment of these viewpoints, which found residual visual effects of **Not Significant** for VP10 and **Slight** for VP12; see *Photomontage Booklet* and *Appendix 14-3*.

Other Settlements with Full Theoretical Visibility within 5-15km. According to ZTV mapping, the settlements of Abbeyleix, Rathdowney, Freshford and Ballacolla were shown to have full theoretical visibility. On-site visibility appraisals determined there will be very limited or no views of the Proposed turbines from these settlements primarily due to visual screening by dense, mature vegetation throughout the surrounding landscapes and along roadways. Freshford (8.2km from the site) is represented by photowire PWVP-D showing no visibility of the Proposed turbines and Rathdowney (13.6km from the Site) is represented by photowire PWVP-E showing the Proposed turbines as very small objects on the distant horizon; see *Appendix 14-5*. Views that are best representative of Ballacolla



(7.8km) and Abbeyleix (8.6km) are shown in the plate imagery below. **No visual effects** will occur for any of the above settlements.

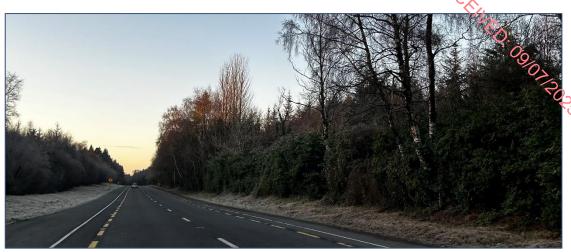


Plate 14-31 View representative of Abbeyleix facing towards the Proposed development



Plate 14-32 View representative of Ballacolla facing towards the Proposed development

14.7.3.2.5 Visual Effects on Major Transport Routes

N77 National Road. The N77 is a key transport route from Kilkenny City to Portlaoise and approximately three-quarters of this route within the LVIA Study Area has theoretical visibility. At its closest point the N77 passes approximately 800m from the nearest proposed turbine (T1) and the views are represented by VP03, VP04, VP05, VP10, VP12 and VP13. The N77 is a transport route and in most instances, it represents receptors of 'Low' sensitivity. The sensitivity ratings for viewpoints on the N77 in Appendix 14-3 may have a higher sensitivity rating on account of other receptors represented by a particular viewpoint e.g. Residences or Settlements, as well as the quality of the views from the road, for instance where it passes through and LCA of higher sensitivity.

VP03 Ballyragget represents medium-range views with a residual visual effect of Slight, while VP04 Ballyconra and VP05 Ballynaslee represent short-range views from the N77 closest to the site with residual visual effects of Moderate and Significant, respectively. VP10 Durrow Townparks represents short-range views from the N77 with residual visual effects of Not Significant, while VP12 Course and VP13 Oldtown represent medium-range views with residual visual effects of Slight. From these viewpoints, the Proposed turbines are primarily visible with little vegetation preventing views from the south, but more vegetation will visually screen views when coming down from north to south, which can be supported by the results of the route screening analysis. The total length of the N77 through the LVIA Study Area is greater than 35km, with the likelihood of **no visual effects beyond a 3-5km radius**



from the Proposed Wind Farm. **Moderate** to **Significant** residual visual will occur as road users pass by the immediate vicinity of the Proposed turbines.

M7 Motorway. This transport route is located approximately 12.6km from the nearest Proposed turbine (T2) but has little theoretical visibility throughout the LVIA Study Area and visibility appraisals showed that there was even less actual visibility. There are no photomontage viewpoints or photowire viewpoints from the M7 as visibility appraisal determined very little visibility of the Proposed Development is likely to occur. It is likely that **no visual effects** will occur for the M7 Motorway.

M8 Motorway. This transport route is located approximately 7.1km from the nearest Proposed turbine (T2) but has little visibility from visibility appraisals throughout the LVIA Study Area. There are no viewpoints or Photowire viewpoints from the M8 as visibility appraisal determined very little visibility of the Proposed Development is likely to occur. It is likely that **no visual effects** will occur for the M8 Motorway.

N76 National Road. The N76 is a key transport route from Kilkenny City to Athy and passes through Castlecomer. There will be no visibility from the N76 due to the undulating nature of topography in the direction of the Proposed Development. It is likely that **no visual effects** will occur for the N76 National Road.

14.7.3.2.6 Visual Effects on Recreational Amenity

River Nore Amenities: The River Nore is located east of the Proposed Wind Farm. This is designated as a high sensitivity landscape receptor and LCA. There are many recreational amenities related to the River Nore along its full course and in the LVIA Study Area. However, baseline assessments and site investigations in this LVIA did not identify any walking trails, or riverside amenities with any potential to be significantly impacted by the Proposed turbines. Most locations representative of recreational receptors associated with the River Nore either had no ZTV, no potential for actual visibility of Proposed turbines, or were set back at such a distance that they were scoped out of the assessment. The River Nore was still considered and scoped in for assessment of visual effects in mind of its proximity to the Proposed Wind Farm.

VP03 in the town of Ballyragget, was identified as one of the only publicly accessible locations adjacent to River Nore where there are clear unobstructed views of the Proposed turbines. Overall, **Slight** residual visual effects occur for receptors of Ballyragget, and the N77 National Road adjacent to the River Nore; see VP03 in the *Photomontage Booklet* and *Appendix 14-3*.

Cullahill Walking Trail: Ultimately site visits determined no visibility of the Proposed turbines is likely to occur from Cullahill Mountain itself or the surrounding walking trails (also See ZTV previously – Figure 14-15 & Section 14.7.3.1.6). The Proposed turbines will be screened from view from the trail by topography and dense mature vegetation. Photomontage VP08 Ballykealy was captured from a location slightly to the east of the mountain at a lower elevation, representing sparsely populated rural lands on the mountain; for example, there is only one residential receptor in close proximity to the viewpoint. VP08 indicates full visibility of the Proposed turbines with a residual visual effect of Slight; see VP08 in Photomontage Booklet and Appendix 14-3.

North Kilkenny Cycle Route:

The North Kilkenny Cycling Route is an 80km route which transverses across the southern part of the LVIA Study Area. The route passes many of Kilkenny's settlements within 10km of the Proposed Wind Farm such as Castlecomer, Ballyragget, Lisdowney and Freshford. Viewpoints 03, 06, 07 and PWVP D were all captured along this route and these viewpoints with residual visual effects of 'Slight' occurring on this recreational route.



14.7.3.2.7 Residential Visual Amenity

It is to be anticipated that wind farms inevitably cause some 'Significant' visual effects on proximate sensitive visual receptors due to the prominence of turbines within landscape views and the 'Substantial' magnitude of change which will arise in close proximity to a wind farm development. A key focus in this LVIA is identifying the scenarios where the greatest likelihood of significant effects occurs. Significant residual visual impacts have been determined from three photomontage viewpoints representing residential visual amenity in closest proximity to the Proposed turbines (see Appendix 13-2). It is key to note that the residual significant impacts only occur for a small number of receptors and is not representative of effects on receptors in a vast proportion of the LVIA Study Area.

8 no. photomontage viewpoints (VP03-VP06, VP09, VP10, VP14, VP15) and 1 no. supplementary photowire viewpoint (PWVP-H) are located within 3km of the Proposed turbines and represent views from residential receptors. It is noted that the photomontage locations of this LVIA represent views for all relevant areas of residential receptors. It is not proportionate nor is it required for a thorough and robust assessment of landscape and visual effects to collect individual photomontages from all dwellings. In line with the GLVIA3 (LI & IEMA, 2013) guidance, the viewpoints selected for the LVIA were informed by "ZTV analysis, fieldwork, and desk research" (para 6.18, GLVIA3). Furthermore, the selected viewpoints "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 GLVIA3). It is submitted that the number of viewpoints collected for the LVIA is sufficient to represent the residential receptors within the LVIA Study Area, including the "distribution of population" (para 6.18, GLVIA3).

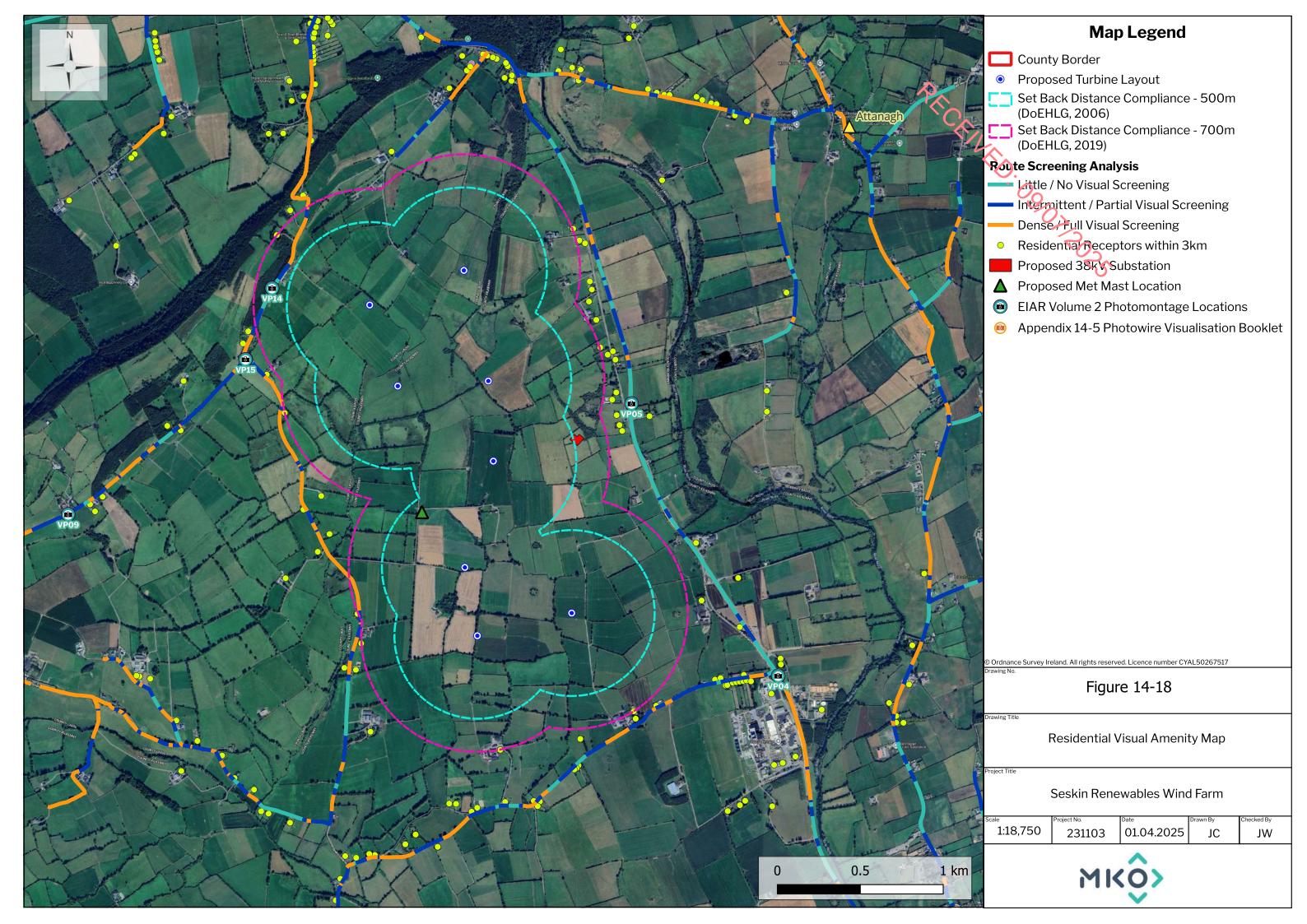
The Proposed Development design process has implemented appropriate setback distance with regard to the siting of Proposed turbines in proximity to residential dwellings as seen in Figure 14-18 below. The Proposed Development exceeds the recommended 500m setback distance in the DoEHLG 2006 Guidelines and adheres to the 4-times-tip-height setback distance set out for residential visual amenity prescribed by the Draft 2019 Guidelines with the closest Proposed turbine (T4) being located 700m from the nearest residential receptor.

In general, the wider upland area surrounding the Proposed Wind Farm is a sparsely settled landscape with a relatively low population density. The Proposed Development Site lies solely within the Durrow, Aghmacart, Ballyragget and Ballyconra DEDs as recorded in Chapter 5 Human Beings of this EIAR which found that the Population Study Area for the Proposed Development has a low population density relative to other areas in Co. Kilkenny and Co. Laois and elsewhere in Ireland; refer to Chapter 5 for detailed analysis of population density around the Proposed Development Site.

For this LVIA, visibility appraisals and evidence gathered during the RSA determined that there will be a very limited visual impact upon most of the residential receptors in the areas surrounding the Site, due to screening from localised landform and mature vegetation as seen in the map below. A low number of residential receptors are likely to experience greater impact.

As shown in the Residential Visual Amenity Map, photomontage viewpoints VP03, VP04, VP05 VP06, VP09, VP10, VP14 and VP15 and one photowire viewpoint PWVP-H are located within 3km of the proposed turbines. These viewpoint locations were strategically selected to show vantagepoints with relatively open views in very close proximity to residences with limited visual screening elements within the landscape; thereby representing the worst-case scenario to aid discussion and assessment.

The following discussion of effects on residential visual amenity follows the geography of the Site as shown on the Residential Visual Amenity Map in a clockwise orientation. All visual effects on residential receptors discussed below will be **Long-Term** and **Negative**.





Residential Receptors - East

VP05 Ballynaslee: This viewpoint is located beside a cluster of houses east of the Site in the townland of Ballynaslee. 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 large features substantially altering the character and composition of views and comprise a large horizontal extent of the view. The greatest visual effects to residential dwellings from the Proposed turbines will occur to residential receptors in close proximity to VP05. The Proposed turbines are of large scale from this view, located beyond the brow of a nearby hill behind the residential receptors within the photomontage. The following mitigation factors were of consideration in the determination of residual visual effects:

- Siting of the Proposed turbines exceeds the recommended 500m set-back distance in the DoEHLG 2006 Guidelines and also adheres to the 4-times-tip-height set-back distance (in this case, 700m) prescribed for residential visual amenity by the Draft 2019 Guidelines.
- Visual effects arising as shown in the photomontage will only occur for a small number of residential receptors.
- The Proposed turbines are set back beyond the small hill visible in the foreground and views from the back windows of residents are located adjacent to this steeper landform. Consequently, greater visual screening of the Proposed turbines occurs for the residential receptors seen in the foreground of the view compared with the extent of turbines visible in the photomontage view due to the landform characteristics and nature of mature vegetation.
- This is a short-range view of a working landscape comprising agricultural fields and mature boundary vegetation and does not include any distinctive or unique landscape features of county, regional or national renown.
- The Proposed turbine components are primarily viewed above the horizon and do not obstruct any long-ranging views.
- From this location, the Proposed turbines are viewed as being spaced appropriately in two staggered linear arrays in response to the underlying field pattern, such that they read coherently within the landscape and the layout and arrangement of turbines is in alignment with the recommended siting and design guidance for turbines in Hilly and Flat Farmland Landscape Types in the DoEHLG 2006 and Draft 2019 Guidelines.



Plate 14-33 Extract taken from the EIAR Volume 2 Photomontage Booklet - VP05

Four residential receptors further east of VP05 within a 3km buffer will have relatively open views towards the Proposed turbines, similar to what is shown in the photomontage from VP05 and will be subject to these visual effects. Many of the residential dwellings along the N77 National Road to the north and south of VP05 will also have open views of the Proposed turbines from their properties. **Significant** residual visual effects were recorded from VP05.





Figure 14-19 Aerial view of residential receptors at viewpoint at viewpoint 5.

Figure 14-19 above is an annotated drone image showing the indicative location of the Proposed turbines relative to local residential receptors located adjacent to the N77 National Road. Figure 14-19 shows the multitude of field cells and mature boundary vegetation located between these residences and the Proposed turbines. The figure provides landscape context and a sense of scale with regards to setback distance and the physical landscape buffer between the Proposed turbines and the residential receptors. It is again highlighted that the Proposed turbines are setback from residential receptors in alignment with the 4-times-tip-height set-back distance prescribed for residential visual amenity by the Draft 2019 Guidelines.

Residential Receptors - South-East

VP04 Ballyconra: This viewpoint is located beside a cluster of houses south-east of the Proposed Wind Farm in the townland of Ballyconra. A 'High' sensitivity rating was given to this viewpoint on account of the residential receptors in close proximity with views towards the Proposed turbines. A 'Moderate' magnitude of change was determined as the Proposed turbines are large features altering the character of the view. The Proposed turbines are located across a large horizontal extent of the view. T6, T7 and T8 are partially obscured by the vegetation lining the N77. The Proposed turbines do not obstruct or intrude upon any long ranging views. **Moderate** residual visual effects were recorded from VP04.





Plate 14-34 Extract taken from the EIAR Volume 2 Photomontage Booklet - VP04

VP03 Ballyragget: This viewpoint shows a view from a different perspective further south-east of the previous VP04. This viewpoint was captured from the outskirts of Ballyragget, along the N77. A 'Medium' sensitivity rating was given to this viewpoint on account of the residential receptors in medium proximity with views towards the Proposed turbines. A 'Slight' magnitude of change was determined. This viewpoint is one of very few locations within Ballyragget with views of the Proposed Development. **Slight** residual visual effects were recorded from VP03.



Plate 14-35 Extract taken from the EIAR Volume 2 Photomontage Booklet - VP03

Residential Receptors - South-West

VP06 Lisdowney: This viewpoint is located beside a cluster of houses south-west of the Proposed Wind Farm in the townland of Lisdowney. A 'Medium' sensitivity rating was given to this viewpoint on account of the residential receptors with views towards the Proposed turbines. A 'Slight' magnitude of change was determined as the Proposed Development is partially visible from this location. The Proposed turbines are viewed beyond the vegetation lining the agricultural fields. Only the hubs and blades are visible for the majority of turbines from this view. On balance, **Not Significant** residual visual effects were recorded from VP06.





Plate 14-36 Extract taken from the EIAR Volume 2 Photomontage Booklet - VP06

Residential Receptors - West and North

VP09 Aharney: This viewpoint is located beside a cluster of houses west of the Site in the townland of Aharney. A 'Medium' sensitivity rating was given to this viewpoint on account of the residential receptors in close proximity with views towards the Proposed turbines. The residential receptors are located approximately 2.1km from the nearest proposed turbine (T4). A 'Moderate' magnitude of change was determined as the Proposed Development are primary visually screened by the vegetation lining the local road and agricultural fields. Only T6, T7 and T8 are visible from this view. On balance, Slight residual visual effects were deemed to arise from VP09.



Plate 14-37 Extract taken from the EIAR Volume 2 Photomontage Booklet - VP09

VP15 Archerstown South-West: This viewpoint is located beside four residential receptors west of the Site in the townland of Archerstown. A 'High' sensitivity rating was given to this viewpoint on account of the residential receptors in close proximity with views towards the Proposed turbines. A 'Substantial' magnitude of change was determined as the Proposed turbines are large features in front of a ridgeline to the left of 90-degree photomontage. The Proposed turbines will be large prominent features within the landscape from this view and residential receptors close to the viewpoint. There will be views from this location of the proposed new roads, proposed hardstands and the proposed borrow pit. The proposed Ballynalacken and White Hill Wind Farms, if permitted and constructed, would be visible in the background of the view. On balance, Significant residual visual effects are deemed likely to arise at VP15.



Plate 14-38 Extract taken from the EIAR Volume 2 Photomontage Booklet - VP15

VP14 Archerstown North-East: This viewpoint represents three residential receptors located to the north of the Proposed Development approximately 400m to the east of the VP14. A 'High' sensitivity rating was given to this viewpoint on account of the residential receptors located in close proximity to the Proposed Wind Farm with open views towards the Proposed turbines. A 'Substantial' magnitude of change was determined considering the Proposed turbines would be a large and prominent addition to the receiving landscape from this view. There will be views from this location of the proposed new



roads, proposed hardstands and the proposed borrow pit. The Proposed turbines will be fully visible across a wide horizontal extent from this location. On balance, **Significant** residual visual effects were recorded from VP14. The following mitigation factors were of consideration in the determination of residual visual effects:

- Siting of the Proposed turbines exceeds the recommended 500m set-back distance in the DoEHLG 2006 Guidelines and also adheres to the 4-times-tip-height set-back distance (in this case, 700m) prescribed for residential visual amenity by the Draft 2019 Guidelines.
- This is a sparsely settled area and this viewpoint only represents a very small number of residential receptors.
- Whilst this is a view of high scenic quality, the Proposed turbines are seen in a working rural landscape, and they are not significantly impacting a protected scenic view of regional or national renown.
- The Proposed turbines are spaced in individual field cells and are following the natural contours of the landscape which is in line with the siting and design guidance of wind farms in this landscape type as set out in the DoEHLG 2006 Guidelines and Draft 2019 Guidelines.
- The Proposed turbines are spaced appropriately in two staggered lines in response to the underlying field pattern, appropriate for Hilly and Flat Farmland landscape types adhering to the DoEHLG 2006 Guidelines and Draft 2019 Guidelines.



Plate 14-39 Extract taken from the EIAR Volume 2 Photomontage Booklet - VP14

PWVP-H Durrow Townparks Seandoire: This photowire viewpoint is located approximately 2.1km north of the nearest Proposed turbine (T2) and is representative of residential receptors in the townland of Durrow Townparks. The viewpoint was captured within Seandoire Residential Estate. There will be visual screening from this viewpoint by the residential buildings and vegetation. The blades of T1, T2, T3 and T5 are likely to be visible from residential receptors within the estate. The vegetation and topography will visually screen most of the turbines, as can be seen in the image. The sensitivity of this viewpoint is deemed to be 'Medium' on account of the residential receptors in the town of Durrow and a 'Slight' magnitude of change. On balance, '**Not Significant** residual visual effects are deemed to arise from this location.





Plate 14-40 Extract taken from Appendix 14-5 Photowire Visualisation Booklet - PWVP-H

VP10 Durrow Townparks: This viewpoint is located beside a cluster of houses north of the Proposed Wind Farm on the southeastern outskirts of Durrow town. A 'Medium' sensitivity rating was given to this viewpoint on account of the residential receptors with views towards the Proposed turbines. A 'Slight' magnitude of change was determined as the blades and hub of T1 and blades or blade tips of T2, T3, and T4 are visible above the local landform and vegetation. On balance, **Not Significant** residual effects were recorded from VP10.



Plate 14-41 Extract taken from the EIAR Volume 2 Photomontage Booklet - VP10

Overall Residual Effects on Residential Visual Amenity

Significant residual visual effects are anticipated at VP05, located east of the site at Ballynaslea and VP14 and VP15 to the north and west of the Site. These locations represent high sensitivity receptors with open, short-range views of the Proposed turbines. The Proposed turbines appear large in scale, and of a wide horizontal extent, resulting in substantial visual change.

Moderate residual effects are deemed to arise at VP01, VP02 and VP04 to the east and south-east of the Proposed Wind Farm. The Proposed turbines are prominent new features within open or partially open views with a wide horizontal extent. The number of affected receptors is relatively small within a sparsely populated landscape.

Slight residual effects are deemed to arise at the viewpoints—VP03, VP07, VP08, VP09, VP11 and VP12 where views are either more distant or heavily filtered by vegetation and local landform. In these cases, only partial turbine components (such as blade-tips) are visible, and overall change to the visual environment is limited.



No significant effects are likely to occur from VP06, VP10 and VP13 and also from residential receptors located within the Seandoire Residential Estate.

Overall, while Significant visual effects will occur for 6.3% of residential receptors within 3km of the Proposed turbines, the design has incorporated appropriate best practice siting and set-back distances.

14.7.3.2.8 Visual Effects of Ancillary Project Elements (non-turbine components)

For the purposes of this LVIA, a number of individual elements of the Proposed Development ancillary to the Proposed turbines, have been grouped together for discussion of visual effects. These operational project elements that are part of the Proposed Development, include the access roads, turbine hardstand areas, met mast components, and onsite 38kV substation. The Proposed Grid Connection Route may give rise to potentially similar visual effects. Details of these components of the Proposed Development and the required works to construct them are contained in Chapter 4 Description of this EIAR. Visual effects arising from these ancillary elements have been factored into the assessment of specific receptors discussed previously and the impact assessments from specific viewpoints as reported in Appendix 14-3.

Due to the visual screening by hedgerows, treelines and undulating landform surrounding the Proposed Wind Farm, most visibility of the lower (shorter/surface level), less visually prominent Proposed Development components will occur only in their immediate surroundings; hence, the visual effects will be localised and are predominantly confined to within the Proposed Wind Farm 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. These will also be seen from VP14 and VP15 as these viewpoints were captured at higher elevations and will look down onto the Proposed Development. This will only occur from a local road and a very small number of residential receptors located immediately west of the Proposed Wind Farm in the townlands of Archerstown South-West and Archerstown North-East, where residual Significant effects will occur from this infrastructure, as well as the Proposed Turbines. Every use will be made of the existing tracks within the Site. Some tracks will be upgraded, and the construction of new roads will also be required to connect all components of the Proposed Development. In time, following the establishment and maturity of planting proposed as part of Appendix 6.4 Biodiversity Enhancement and Management Plan (BEMP) of Chapter 6 Biodiversity of this EIAR.

Meteorological (Met) Mast. One met mast is proposed as a part of the Proposed Development. This will be a slender structure that is 100m 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 more than a few kilometres (approx. 2km) where it will have little to no impact.

Proposed Grid Connection Route. As the Proposed Grid Connection Route is located underground, landscape and visual effects during the operational phase will be Imperceptible once vegetation has reestablished along the roadway following earthworks during the construction phase. The landscape and visual effects occurring during the construction phase of the Proposed Grid Connection Route are reported previously in Section 14.7.2.

14.7.3.2.9 Visual Effects of Proposed Onsite 38kV Substation

The proposed onsite 38kV substation is one of the larger and potentially more visually prominent elements of the ancillary infrastructure as it is situated on the mid-slopes of the Seskin hill landform behind a small number of residential receptors along the N77 National Road. Significant residual visual effects arise from these residential receptors (recall previous section, VP05 Balynaslee) due to the impact of the Proposed turbines as well as the proposed substation. The discussions below form part of



the same overall assessment of effects on these residences, with direct discussion on the visibility and nature of visual effects arising specifically from the proposed substation.

The footprint of the proposed onsite 38kV substation measures approximately 2,160 square metres (m²) in area. The proposed onsite 38kV substation is located in an agricultural field in the middle of the Proposed Wind Farm. Visibility appraisals determined that there may be potential for views of the onsite 38kV substation from the east along the N77 due to large amounts of cut and fill works required to produce an even surface on the sloping hill, causing the proposed onsite 38kV substation to be potentially visible above the hedgerows. Figure 14-20 shows an aerial view of the proposed onsite 38kV substation location to the east of Proposed turbines T3 and T5 and indicates the approximate area where the vegetation will be retained and let grow tall.

Due to its location on a hill, cut and fill will be required to facilitate construction of the proposed onsite 38kV substation. The eastern extent of the proposed onsite 38kV substation compound will be raised relative to existing ground level due to 'fill', and the western extent will be lowered relative to existing ground level due to 'cut' (excavation). The nature of the cut and fill and positioning of the proposed substation relative to the mature boundary vegetation minimises the visual exposure of the onsite 38kV substation as the vertical profile of the tallest features such as single storey buildings will not be viewed against the skyline from most receptors at lower elevation in Nore Valley to the east. There are small pockets of woodland as well as mature hedgerows located between the proposed substation and the three closest residential receptors located directly east adjacent to the N77. This mature boundary vegetation will not fully visually screen views of the proposed onsite 38kV substation. This vegetation will be allowed to grow over time with the aim of reducing the visual exposure of the substation from these residences.



Figure 14-20 Annotated Aerial Map of Proposed 38kV Substation and approximate area of Visual Screening





Plate 14-42 Digital twin screen capture of 3 no. residential receptors and proposed onsite 38kV substation is shown modelled in the digital twin

As part of baseline investigations for the Proposed Development, a drone survey was conducted to create a 'digital twin'—defined as a virtual representation of an object or system designed to reflect a physical object accurately. Using the interactive digital twin virtual environment, a 'viewshed' was then created to accurately visualise where visibility of the proposed onsite 38kV substation compound is expected to occur (highlighted in green in the images below) as well as areas where no visibility will occur (highlighted in red) from a given viewpoint. The viewpoint locations used to calculate viewsheds were set at a height of 2m to accurately assess the selected views from a worst-case scenario of a person's standing height. For the purposes of this assessment, viewpoints directly behind the 3 no. residential properties were chosen to calculate viewsheds and identify the impact of the proposed onsite 38kV substation on these receptors. This tool is a useful for showing visibility, however it is qualified that the density of the intervening vegetation may be lesser than is indicated in the viewshed analysis tool. The actual visibility may be slightly greater in winter months when vegetation has lost its foliage. However, the viewshed analysis tool is still a useful visual aid to inform the assessment.

The 3 no. residential receptors can be seen in the plate imagery above and are also represented by VP05 in the previous visual effects discussions and *Appendix 14-3* and the VP05 photomontage is shown in the *Photomontage Booklet*.

The following two plate images depict the location of the viewpoint for Viewshed 1 behind the first residential receptor (to the north of the three), it shows the view looking from the house as analysed in viewshed form. As shown in the plate imagery, there will be a slight view of the roof of the proposed onsite 38kV substation from the first residential receptor.





Plate 14-43 Location of Viewshed 1 viewpoint (orange dot) from the back of the north residential receptor and expansion direction of viewshed up the hill (orange lines underlain by green and red)

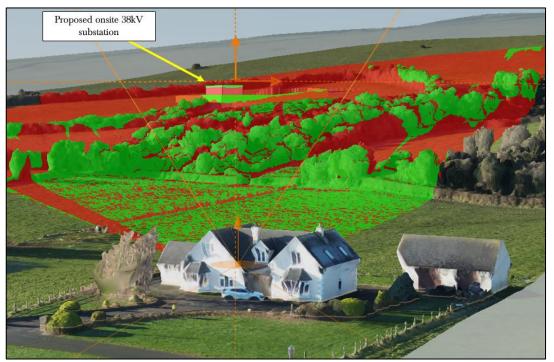


Plate 14-44 Viewshed 1 of the proposed onsite 38kV substation from the north residential receptor with the extent of visibility highlighted in green

The following two plate images depict the location of the viewpoint for Viewshed 2 behind the second residential receptor in the centre and the view looking from the house as analysed in viewshed form. As shown in the plate imagery, there will be a view of a corner of the roof of the proposed onsite 38kV substation from the centre receptor.



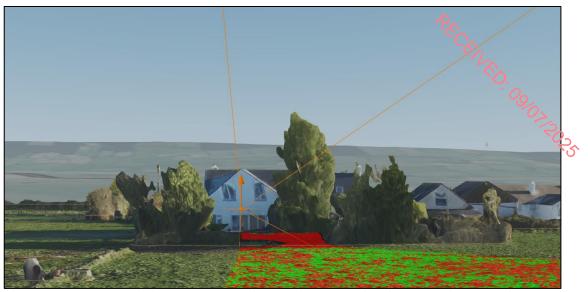
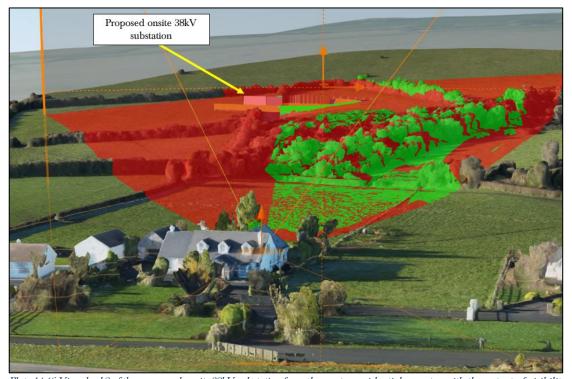


Plate 14-45 Location of Viewshed 2 viewpoint (orange dot) from the centre residential receptor and expansion direction of viewshed (orange lines underlain by green and red)



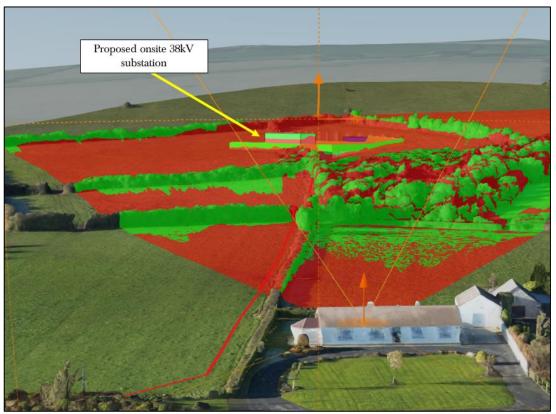
 ${\it Plate 14-46\ Viewshed\ 2 of\ the\ proposed\ onsite\ 38kV\ substation\ from\ the\ centre\ residential\ receptor\ with\ the\ extent\ of\ visibility\ highlighted\ in\ green}$

The following two plate images depict the location of the viewpoint for Viewshed 3 behind the third residential receptor in the south and the view looking from the house as analysed in viewshed form. As shown in the plate imagery, there will be an open view of the roof and wall of the proposed onsite 38kV substation from the south receptor. This residential receptor will have the greatest visibility of these three properties to the east of the Proposed Wind Farm site.





Plate 14-47 Location of Viewshed 3 viewpoint (orange dot) from the south residential receptor and expansion direction of viewshed (orange lines underlain by green and red)



 $Plate\ 14-48\ Viewshed\ 3\ of\ the\ proposed\ onsite\ 38kV\ substation\ from\ the\ south\ residential\ receptor\ with\ the\ extent\ of\ visibility\ highlighted\ in\ green$

In summary, the proposed onsite 38kV substation will be partially visible from the N77 and residential receptors immediately to the east and will slightly contribute to the overall visual effects from these receptors as well as the Proposed turbines.

14.7.3.3 Cumulative Landscape Effects during Operational Phase

The potential contribution of the Proposed Development to cumulative landscape effects on designated LCAs in combination with other Existing, Permitted and Proposed wind energy developments in the 15km LCA Study area are discussed in Appendix 14-2: LCA Assessment Tables and summarised in this section. The discussions of potential contribution were used to inform the residual landscape effect



ratings reported both in Appendix 14-2 and above in Section 14.7.3.1 Residual Landscape Effects during Operational Phase.

Overall, it was found that the Proposed Development is likely to have limited contribution to cumulative landscape effects on designated LCAs, explained as follows.

The closest cumulative wind farm to the Proposed Wind Farm is the Existing Lisdowney Wind Farm (4 turbines), 4.3km to the south-west. All turbines of the existing Lisdowney Wind Farm are located at the north-eastern part of Kilkenny LCA-A Slieveargh Hills (North), as well as the Proposed turbines. As shown by the photomontages, the Lisdowney turbines will be seen on the same upland ridge in the LCA as the Proposed turbines, thus some cumulative effects on the character of the landscape occurs in this LCA.

In a potential future receiving environment, within Kilkenny LCA-B Castlecomer Plateau, the Proposed Ballynalacken Wind Farm (12 turbines) will potentially be situated on the adjacent elevated hill across the Nore Valley from the Proposed Development within the LCA. Thus cumulative effects on the character of the LCA is likely in terms of intervisibility. The Proposed Development is not located in LCA-B, thus its contribution to cumulative effects of the landscape area is limited to those of a visual nature; these are described in the next section.

Laois LCA-1 Mountains, Hills and Uplands is divided into two separate geographical areas within the LCA Study Area—southern and northeastern (refer to previous Figure 14-9 LCA Map). The southern area contains 2 no. Proposed turbines (T1, T2) and the north-eastern area situated 5km away at its closest point and 15km away at it's furthest from the Site contains the Permitted Pinewoods Wind Farm (11 turbines). Both geographic areas of LCA-1 are self-contained and the distance between them is sufficient to render potential intervisibility and cumulative effects on landscape character to be very limited.

LCA-F1 Kilkenny Northern Basin and Kilkenny LCA-H Nore Valley (South) collectively contain 1 no. Proposed turbine and the entirety of the underground Proposed Grid Connection Route; however, no cumulative wind farm developments are located in these LCAs.

14.7.3.4 Cumulative Visual Effects during Operational Phase

The potential contribution of the Proposed Development to cumulative visual effects with existing, Permitted and proposed wind energy developments in the 20km LVIA Study area are discussed in Appendix 14-3: Photomontage Viewpoint Assessment Tables and summarised in this section. The discussions of potential contribution were used to inform the residual visual effect ratings reported both in Appendix 14-3 and above in Section 14.7.3.2 Residual Visual Effects during Operational Phase.

Guidance for the 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'.

Several other Existing, Permitted and Proposed wind energy developments were identified in the cumulative search within the LVIA Study Area. Many of them are located at a substantial distance from the Proposed Wind Farm. A grouping in the Slieveardagh Hills are located on distant ridgelines to the south typically all greater than 18km from the Proposed turbines (Existing Foyle; Existing Ballybay; and



Proposed Briskalagh). Also, another grouping is located on lands to the far north-east all greater than 10km from the Proposed turbines (Proposed Coolglass; Permitted Cullenagh; and Permitted Pinewoods). Considering the substantial set back distances, these two groups will not cause significant cumulative visual effects in combination with the Proposed turbines from the key receptors assessed in this LVIA and are not considered further in this discussion (These developments are addressed appropriately in the assessment of photomontage viewpoints in Appendix 13-3). The greatest potential for cumulative visual effects to occur in combination with the Proposed Development is the Existing Lisdowney Wind Farm, Proposed Ballynalacken Wind Farm, and they are therefore the focus of the discussion of cumulative visual effects.

Existing Lisdowney Wind Farm

The Existing Lisdowney Wind Farm, comprising four turbines, is located approximately 4.3km south west of the nearest Proposed turbine. Like the Proposed turbines, the Lisdowney turbines are located on slightly elevated lands within undulating farmland on the western side of the Nore Valley. In combination visual effects with the Proposed turbines occurs from receptors at vantage points on the eastern side of the Nore Valley, as shown in VP01 and VP02 where they are visible in the same field of view. In these scenarios there is typically clear visual separation between the two developments and they are seen in different areas and are of differing scale due to the differing set back distances. In combination visual effects will also occur from occasional locations in the low-lying areas of the Nore Valley where there are open views of both developments. For example, VP03 represents receptors leaving Ballyragget on the N77 northbound, they will briefly experience in combination effects where the Existing Lisdowney turbines are seen to the left of the road and the Proposed turbines to the right. The Existing Lisdowney turbines are typically not visible from receptors in the low-lying areas immediately east (e.g Residential receptors) or north (Durrow) of the Proposed Wind Farm due to visual screening from localised landform.

In combination successional effects occur where a receptor may experience cumulative visual effects from two developments in differing fields of view, but from the same viewpoint and where the receptor need to turn their head to experience views in an alternative direction. In combination successional cumulative effects have the potential to occur between the Proposed turbines and Existing Lisdowney turbines from elevated vantage points to the west of the Proposed Wind Farm and also within the intervening lands between the two developments. In combination successional effects only occurred for VP07 – Knockmannon Crossroads, VP09 - Aharney. In reality, on site visibility appraisals determined that the likelihood of these types of cumulative visual effects occurring is generally very limited and did not occur for most viewpoints in these areas (VP06, VP08, VP14 and VP15) due to the rolling nature of the local landform and dense hedgerows which are highly characteristic of these areas.

The Existing Lisdowney Wind Farm has greater visual exposure from the west compared with the Proposed Development. There are instances where the Proposed turbines are seen in combination with these Existing turbines from the west (e.g. Photowires: PWVP-F Cullahill Mountain East; PWVP-G Cullahill Mountain West). In these instances, the Proposed turbines have a very small contribution to cumulative effects as only blades are visible above the intervening ridgelines.

Proposed Ballynalacken Wind Farm

In a potential future receiving environment the Proposed Ballynalacken Wind Farm would be located along the elevated ridgeline forming the eastern side of the Nore Valley, on the opposing side of the valley from the Proposed Wind Farm. As shown in the photomontages, there will potentially be in combination visibility of the Proposed turbines and proposed Ballynalacken turbines from receptors such as residents and the local road users located directly west of the Proposed Wind Farm – See VP06, VP07, VP08, VP09, VP14, VP15. In these scenarios, the proposed Ballynalacken turbines are spread out as a linear array along the distant ridgeline beyond the Proposed turbines and the difference in setback is clearly evident.



In combination successional cumulative visual effects could potentially occur from receptors located in the lands between the Proposed Wind Farm and the Proposed Ballynalacken Wind Farm, for example VP01 – Ballyoskill. In these instances, the Proposed turbines are visible on the western side of the valley and the proposed Ballynalacken turbines will be seen in the other direction on the eastern side of the valley. Due to the nature of mature vegetation in the low-lying areas around the River Nore and the N77, in combination successional visibility of both developments is likely to be very limited from receptors immediately east, north-east and south-east of the Proposed Wind Farm (within 3km).

Cumulative visual effects with Ballynalacken will also potentially occur from elevated vantage points to the north-east of the LVIA Study Area. VP11 – Heywood Gardens represents receptors located to the north-east of the Proposed turbines. As shown in the photomontage, there is potential to see the Proposed Ballynalacken Wind Farm in combination with the Proposed turbines although there is clear visual separation between the two developments on distinctly separate landforms in the distant landscape.

Cumulative Visual Effects Overview

Overall, the Proposed Development has its greatest contribution to cumulative visual effects at the northern end of the Nore Valley where in combination effects occur with both Existing Lisdowney Wind Farm and also potentially the proposed Ballynalacken Wind Farm. These effects have been accounted for in the assessment of visual effects on specific receptors in Section 14.7.3.2 and viewpoints in Appendix 14-3. It is highlighted that the status of the Ballynalacken Wind Farm is 'proposed' and therefore any potential cumulative effects are reliant on the outcome of the consenting system, therefore this is an uncertain scenario.

14.7.4 **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 perspective is the dismantling and removal of the Proposed turbines. This will occur for a limited period of time and will predominately involve cranes adjacent to the Proposed turbines during the dismantling process. Upon decommissioning of the Proposed Development, the Proposed turbines will be disassembled in reverse order to how they were erected. The Proposed turbines will be disassembled with a similar model of crane that was used for their erection and will likely be removed from the Proposed Wind Farm using the same transport methodology adopted for delivery to the Proposed Wind Farm initially.

Proposed 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 the Proposed Wind Farm to a condition similar to the current landscape baseline.

Removal of the turbines and ancillary infrastructure (except the proposed substation) from the Wind Farm site during decommissioning will result in **Short-Term**, **Slight**, **Negative** visual effects. The operational phase visual effects of the proposed onsite 38kV substation as permanent fixtures in the landscape are described above in Sections 14.7.3.2.8 and 14.7.3.2.9. A '*Decommissioning Plan*' has been prepared (*Appendix 4-4* of this EIAR), the details of which will be agreed upon 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 upon with the competent authority at that time.



14.8 **Conclusion**

The Proposed Development of Seskin Renewables Wind Farm located in Co. Laois and Co. Kilkenny is an appropriately designed development, sited in a modified working landscape deemed capable of accommodating wind energy development. No residual Significant effects are likely to occur on any designated landscape and visual receptors or landscape and scenic sensitivities of county, regional or national renown within the 20km LVIA Study Area. 8 No. Proposed turbines are sited within Co. Laois (2 no.) and Co. Kilkenny (6 no.) in hilly terrain that provides some visual containment and minimises or eliminates long-ranging visibility of the turbines from large areas of the LVIA Study Area.

This LVIA assessed the likely significant effects of the Proposed Wind Farm on key sensitive landscape and visual receptors, as well as effects on local residential visual amenity. In terms of residential visual amenity, the Proposed Development exceeds the 500m set-back distance from residences and adheres to the 4-times-tip-height set-back distance for residential visual amenity set out by the 2006 and 2019 Wind Energy Development Guidelines. 'Significant' residual visual effects are deemed to arise at 3 of 15 no. photomontage viewpoints, and the number of residential receptors experiencing these effects is low (6.3% of residences within 3km).

Landscape Sensitivity in Co. Laois vs. Co. Kilkenny

A primary focus of this LVIA was to address the different landscape sensitivity and wind energy zoning spanning the Laois and Kilkenny county boundaries within the confines of the Proposed Wind Farm Site. The assessments determined that there is no difference or transition in landscape type or landscape character in the two different LCAs within the bounds of the Proposed Wind Farm. This LVIA has determined that the entire Proposed Wind Farm can be considered to have Low landscape sensitivity, regardless of differing Wind Energy Strategy (WES) designations.

Proposed turbines T3-T8 in Co. Kilkenny are located within land area designated in the Kilkenny WES as "Open to Consideration" for wind energy development, corresponding to two LCAs, both rated as "Normal" landscape sensitivity in the KKCDP 2021-2017 and determined to have "Low" landscape sensitivity in this LVIA.

Proposed turbines T1 and T2 in Co. Laois are located within land area designated in the Laois WES as "Not Open to Consideration" for wind energy development, corresponding to one LCA rated as "Medium" landscape sensitivity in the LCDP 2021-2027 and determined to have "Low" landscape sensitivity in this LVIA. The medium rating in the LCDP is primarily due to the landform feature of Cullahill Mountain located at the farthest south-western corner of the LCA, approx. 6km from the Site.

As stated in Section 14.7.3.1.6, this LVIA concludes that the Proposed Development will not result in significant impacts on the landscape setting of Cullahill Mountain. Although the ZTV indicates theoretical visibility for some areas of the mountain, on-site visibility appraisal and photowire imagery demonstrate that the Proposed turbines will be visually screened from the Cullahill walking trails by dense vegetation. Overall, residual visual impacts on visual receptors at Cullahill Mountain are 'Not Significant'.

Mitigation Factors

The Proposed Wind Farm site has been strategically selected as a landscape highly suitable for accommodating wind energy development. The following landscape and visual design considerations for good wind farm design contribute to mitigating landscape and visual effects:

Appropriate Zoning and Sensitivity Ratings in Local Planning: Six turbines are in Co. Kilkenny land area zoned as 'Open to Consideration' for wind energy development in the



- Kilkenny WES; two turbines are in Co. Laois land area with a 'Medium' landscape sensitivity rating and capacity to accommodate new uses without significant adverse effects.
- Compliance with Wind Energy Development Guidelines Set-Back Distances: Siting of Proposed turbines well exceeds the minimum 500m set-back distance from residences set out in the DoEHLG 2006 Guidelines and adheres to the 4-times-tip-height set-back distance prescribed for residential visual amenity by the Draft 2019 Guidelines.
- Siting in a Working Landscape of Low Sensitivity: All Proposed turbines and infrastructure of the Proposed Wind Farm are sited in a rural working landscape, a Site that has been highly modified from its natural state and does not comprise any unique or sensitive features of county, regional or national significance and primarily consisting of agricultural farmland, thereby considered to have relatively low sensitivity to wind farm development.
- Appropriate Landscape Character Type: The landscape character type with active agriculture patchwork fields delineated by hedgerows matches 'Hilly and Flat Farmland' from the Draft 2019 Guidelines, which is considered an appropriate landscape type for accommodating wind energy development.
- Visual Containment by Topography: The siting of turbines within the Nore Valley, on the upland plateau between Ballynalacken Hill (east) and Knockmannon Hill (west) provides extensive visual containment, with Zone of Theoretical Visibility (ZTV) mapping showing no visibility across large areas of the LVIA Study Area, especially to the north-east, east, southeast, and south-west.
- Visual Balance and Scenic Integration: The Proposed turbines have been strategically sited to ensure visual balance within the landscape of the wider Nore River Valley landscape, as demonstrated by photomontages showing that turbines most often appear as a neatly arranged linear arrays upon an elevated ridgeline when viewed from prominent receptors in the valley.
- Long Ranging Views: The Proposed Development does not obstruct long-ranging views of general scenic value or does not obstruct views of a high scenic amenity within the high sensitivity Nore Valley LCA
- **Distance from Scenic Designations:** The Proposed Development is well set-back from designated Scenic Views and Prospects (closest = 4.5km) and therefore will not give rise to significant effects on designations with potential visibility.
- **Localised Visual Screening:** Mature vegetation and undulating terrain restrict wider landscape visibility within a 5km radius.
- Coherent Turbine Layout: The Proposed turbines are spaced appropriately in two staggered linear arrays in response to the underlying field pattern, such that they read coherently within the landscape and are of acceptable form and arrangement in alignment with the recommended siting and design of turbines for Hilly and Flat Farmland in the DoEHLG 2006 and Draft 2019 Guidelines.
- Minimal New Ancillary Infrastructure: The internal site road layout makes use of the existing tracks where possible (to be upgraded for construction and the delivery of wind turbine components), thereby minimising the requirement for new tracks within the Site.
- **Underground Grid Connection:** The Proposed Grid Connection Route to the national electricity grid is underground, thereby eliminating potential landscape and visual effects during the operational phase.
- Avoidance of Landscape Receptors on Site: The layout of the Proposed Wind Farm ensures minimal loss of valuable landscape receptors and biodiversity corridors such as mature hedgerows, the design ensures the integrity of existing field boundaries.

Overall Assessment

The Proposed Wind Farm is located on a hilly landform in the northern portion of the Slieveardagh Hills to the west of the Castlecomer Plateau with the Nore Valley in between. Consequently, these landforms restrict visual exposure to the east and west. Most visibility occurs either in close proximity to the Site (within 5km) or in the lowlands of the Nore Valley.



The Site is located in a modified working landscape of agricultural fields, grazing pastures and mature hedgerows. The immediate setting is a sparsely populated, working landscape, set-back from large settlements and population centres. Site investigations determined a 'Low' landscape value and 'Low' sensitivity, with landscape attributes and characteristics making it eminently suitable for wind energy development from an LVIA perspective. The Site and landscape setting best represents the 'Lilly and Flat Farmland' Landscape Character Type of the Wind Energy Development Guidelines (DoEPLG 2006 Guidelines and Draft 2019 Guidelines) and the Proposed Development generally adheres to the siting and design guidance set out for this landscape type.

The Proposed Development was assessed for effects on designated Landscape Character Areas (LCAs) in the 15km LCA Study Area from Proposed turbines. The highest residual landscape effect of 'Slight' rating will occur for Kilkenny KK-LCA-A Slieveardagh Hills (North), KK-LCA-A3 Slieveardagh Eastern Transitional Zone, KK-LCA-H Nore Valley (South) and Co. Loais L-LCA-1 Mountains, Hills and Uplands. The KK-LCA-H has a higher sensitivity LCA due to its scenic amenity and it is within close proximity (1.1km) of the Proposed Development at its northern-most point, thus there will be impact on one of the key characteristics of this LCA defined as 'extensive open mountain views'. Residual landscape effects on the LCAs where the Proposed turbines were located were classified 'Slight' including the LCAs containing the Proposed turbines and through which the underground grid connection will pass. While the remaining LCAs were 'Not Significant'.

The Proposed Development was assessed for visual effects on 34 No. identified visual receptors in the 20km LVIA Study Area surrounding the Proposed turbines. The greatest potential for significant visual effects is likely to occur for receptors in close proximity (3-5km) to the Proposed Wind Farm. 12 No. photomontage viewpoints and 3 No. photowire viewpoints were captured within 5km of the Proposed turbines to represent effects on residential receptors surrounding the Site, as well as designated scenic routes and protected views. The impact assessment of photomontages determined that the Proposed Development will not significantly impact on the key scenic or landscape sensitivities of designated Co. Kilkenny Protected Views 12 and 19 in the east of Nore Valley with Residual visual effects on these receptors, accounting for cumulative effects, were deemed to be 'Moderate'. County Laois designated Views and Prospects 4 and 14 west of the Proposed Wind Farm had a residual visual effect on these receptors, accounting for cumulative effects, were deemed to be 'Slight'.

The likely contribution of the Proposed Development to cumulative landscape and visual effects was determined for designated Landscape Character Areas (LCAs) in Co. Laois and Co. Kilkenny and all photomontage viewpoints presented in the *EIAR Volume 2 Photomontage Booklet*. The determined contribution to cumulative effects was used to inform the residual landscape and visual effects reported in the LVIA. Potential contribution to cumulative landscape effects are anticipated for two LCAs: Kilkenny LCA-A Slieveardagh Hills (North) which contains 5 out of 8 no. Proposed turbines as well as the Existing Lisdowney Wind Farm (4 turbines) at 4.3.km from the Site, and Kilkenny LCA-B Castlecomer Plateau containing the Proposed Ballynalacken Wind Farm (12 turbines) situated on the adjacent elevated hill across the Nore Valley from the Proposed Development.

The greatest cumulative visual effects occur at the northern end of the Nore Valley where in combination effects occur between the Proposed Wind Farm and both the Existing Lisdowney Wind Farm and also potentially the proposed Ballynalacken Wind Farm. The undulating and well-defined landform features and highly dense nature of vegetation of the area have the potential to reduce the extent of cumulative visual effects experienced from many locations by many visual receptors surrounding the Proposed Wind Farm. It is highlighted that the status of the Ballynalacken Wind Farm is 'proposed' and therefore any potential cumulative effects are reliant on the outcome of the consenting system, therefore this is an uncertain scenario.

It is to be anticipated that wind farms inevitably cause some 'Significant' residual visual effects on proximate sensitive visual receptors due to the prominence of turbines within landscape views. The presence of wind turbines in the rural landscape of Ireland is consistent with evolving national climate policy and the changing character of Ireland's working landscapes. The Proposed Development is therefore considered acceptable in this context and is in alignment with emerging baseline trends.



PECENED: OSIOTRORS 0> **CH.14** LANDSCAPE AND **VISUAL END OF** PART 3