GDG
GAVIN & DOHERTY
GEOSOLUTIONS

Illaunbaun Wind Farm - Environmental Impact Assessment Report

Chapter 21: Interactive and Cumulative Effects

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ACRONYMS

CEMP	Construction & Environmental Management Plan
CTMP	Construction &Traffic Management Plan
dB(A)	Decibels, A-weighted
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EPA	Environmental Protection Agency
GIS	Geographic Information System
IEF	Important Ecological Feature
SNH	Scottish Natural Heritage (now NatureScot)

GLOSSARY OF TERMS

Additive cumulative effects	Cumulative effects where individual effects add up in a simple linear manner, i.e. the combined effect equals the sum of individual effects.
Antagonistic cumulative effects	Cumulative effects where the combined effect is less than the sum of the individual effects.
Cumulative effects	Changes in the environment that result from the incremental or combined effects of the Proposed Development when considered together with other existing, permitted, or proposed projects and activities. Required under Annex IV of the EIA Directive.
Interactive effects	Interactions or interdependencies between environmental factors within the same project, where impacts may combine to produce a greater or different type of effect. Required under Article 3 of the EIA Directive.
Residual effects	The remaining environmental effects after the implementation of mitigation measures.
SEVESO / COMAH establishments	Sites subject to the Seveso III Directive (2012/18/EU) or the Control of Major Accident Hazards (COMAH) Regulations due to the presence of dangerous substances; considered in assessing risks of major accidents and disasters.
Synergistic cumulative effects	Cumulative effects where the combined effect is greater than the sum of the individual effects.
Zone of Theoretical Visibility (ZTV)	A computer-generated map showing areas from which a development, such as wind turbines, may be visible, based on topography and turbine height.

21 INTERACTIVE AND CUMULATIVE EFFECTS

21.1 INTRODUCTION

The EU Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions (1999) acknowledge that the assessment of cumulative impacts and impact interactions should not be considered as a separate stage in the EIA process. Instead, these are an integral part of all stages of the process. This chapter summarises the potential for interactions between impacts on different environmental factors arising from the Project on the receiving environment as identified in the EIAR. It also includes a summary of the assessment of potential cumulative effects in combination with other projects that was carried out for each environmental factor in the respective chapters in Volume II of this EIAR.

21.1.1 IMPACT INTERACTIONS

Impact interactions are reactions between impacts, whether it is between the impacts of just one project i.e., the Proposed Development or between the impacts of multiple projects. For each environmental factor there could be interactions or interdependencies with other environmental factors, whereby impacts may interact to create a greater effect or different type of effect.

Article 3 of the EIA Directive requires that:

"The environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of a project on the following factors:

a) Population and human health;

b) Biodiversity, with particular attention to species and habitats under Directive 92/42/EEC and Directive 2009/147/EC;

c) Land, soil, water, air and climate;

d) Material assets, cultural heritage and the landscape;

e) The interaction between the factors referred to in points (a) to (d)."

Where relevant, environmental factor chapters in this EIAR already address potential environmental interactions. These are considered in this chapter and addressed collectively here.

21.1.2 CUMULATIVE EFFECTS

The EIA Directive makes specific reference to the consideration of cumulation of effects. Annex IV of the EIA Directive (2011/92/EU as amended by 2014/52/EU) requires that an EIAR provides a

> "description of the likely significant effects of the project on the environment resulting from…the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources."

Noting that the Directive requires consideration of cumulative effects with existing and/or approved projects, this chapter also considers (i) projects that are currently going through the planning application system; and (ii) projects that may be envisaged through a plan/programme although there has not been any application submitted yet (i.e., consideration of future development). It should be noted that the level of detail available per project will reflect the stage within which it sits in the planning application process. Crucially, therefore, it follows that the level of detail of cumulative assessment is reflective of the level of detail of information available at time of assessment.

Also, as per the Landscape Institute's guidance (GLVIA3, 2013), an assessment of cumulative effects should focus on whether there are any potential cumulative impacts which are reasonably foreseeable and which are likely to influence the decision making of the proposed development, rather than an assessment of every potential cumulative effect.

21.2 STATEMENT OF AUTHORITY

This chapter was prepared by Harrison Bishop, Engineer and GIS Analyst with GDG, with 3 years of experience in the field of Environmental Impact Assessment (EIA). Harrison holds a Bachelor of Science in Geological Science from the University of Leeds and has contributed to the preparation of EIA Scoping Reports and EIA Reports for a range of infrastructure projects, including offshore wind farms and port developments. He has over 7 years of experience working on projects across Ireland and the wider EU, with a focus on spatial data analysis and technical support for environmental assessments.

21.3 SUMMARY OF INTERACTIVE EFFECTS

This section considers the potential for interactions and interdependencies between environmental factors. In accordance with Article 3(d) of the EIA Directive, the EIAR has reviewed whether effects identified for each topic could combine or interact to create outcomes that are different from, or more significant than, those assessed individually. These interactive effects are intra-project in nature and are distinct from cumulative effects, which relate to the interaction of the Proposed Development with other plans or projects. No additional interactive effects of significance were identified beyond those already addressed in the individual topic chapters. The matrix provided in Table 21-1 therefore serves to demonstrate that potential interactions have been considered; however, no additional significant interactive effects requiring further assessment were identified.

Table 21-1: Interactive effects summary matrix

Interaction with	Population and Human Health	Biodiversity and Ornithology	Land, Soils, Geology and Hydrogeology	Hydrology, Water Quality and Flood Risk	Air Quality	Climate	Noise and Vibration	Shadow Flicker	Landscape and Visual Impact	Archaeological and Cultural Heritage	Material Assets	Major Accidents and Disasters	Traffic and Transport	Forestry
Population and Human Health			√	√	√	√	√	√	√		√	√	√	
Biodiversity and Ornithology			√	√			√						√	√
Land, Soils, Geology and Hydrogeology		√		√						√		√	√	√
Hydrology, Water Quality and Flood Risk	√	√	√									√	√	√
Air Quality	√												√	
Climate	√										√		√	
Noise and Vibration	√	√											√	
Shadow Flicker	√													
Landscape and Visual Impact	√									√			√	√

Interaction with	Population and Human Health	Biodiversity and Ornithology	Land, Soils, Geology and Hydrogeology	Hydrology, Water Quality and Flood Risk	Air Quality	Climate	Noise and Vibration	Shadow Flicker	Landscape and Visual Impact	Archaeological and Cultural Heritage	Material Assets	Major Accidents and Disasters	Traffic and Transport	Forestry
Archaeological and Cultural Heritage			√						√				√	
Material Assets	√					√						√	√	
Major Accidents and Disasters													√	
Traffic and Transport	√	√	√	√	√	√				√		√		
Forestry		√	√	√					√				√	

21.4 SUMMARY OF CUMULATIVE EFFECTS

Cumulative effects were assessed for each environmental factor as relevant. The findings are summarised here.

21.4.1 POPULATION AND HUMAN HEALTH

The nearest operational wind farm is Boolinrudda Wind Farm, whose nearest turbine is located 3.9 km from the nearest proposed turbine (T6). There are currently no consented nor constructed wind farms within a 2 km range of the Proposed Development.

21.4.2 BIODIVERSITY AND ORNITHOLOGY

A planning search was carried out to identify proposed, permitted and constructed projects in the wider receiving environment which could potentially contribute to cumulative effects with the Proposed Development. Cumulative effects are defined by CIEEM (2024) as: "Additional changes caused by a proposed development in conjunction with other developments or the combined effect of a set of developments taken together".

Wind farm projects within 20 km of the Proposed Development and other projects within 10 km considered for cumulative effects were identified using various online plans and resources. These distances were based on the typical distances at which impacts on biodiversity features from projects can occur, and on the IEFs relevant to the Proposed Development, with a greater distance considered for wind farm projects due movement patterns of birds when on migration and moving between nesting, foraging and roosting areas (e.g., based on SNH (2016) guidance).

Many consented applications pertain to one-off residential dwellings or farm buildings/structures along the regional roads. Considering their scale, these applications are highly unlikely to have cumulative effects upon the IEFs identified in relation to the Proposed Development. Therefore, only developments of a certain size and nature have been considered further for cumulative assessment.

As per SNH (2018) guidance on Assessing the Cumulative Impacts of Onshore Wind Energy Developments, cumulative effects arising from projects may be:

- Additive (i.e., multiple independent additive model);
- Antagonistic (i.e., the sum of impacts is less than in a multiple independent additive model); or
- Synergistic (i.e., the cumulative impact is greater than the sum of the multiple individual effects).

21.4.2.1 WIND FARM PROJECTS WITH POTENTIAL CUMULATIVE EFFECTS

Other proposed, permitted and constructed wind farms within 20 km of the Proposed Development were considered for their potential to give rise to cumulative effects. The proximity and status (i.e., operational, permitted or pending) of these wind farm projects has been taken into consideration within this assessment.

Seven wind farm developments were identified as requiring assessment of cumulative effects in relation to the Proposed Development, as summarised in Table 21-2.

Table 21-2: Wind Farm developments considered for cumulative effects

Wind farm project	Status	Distance from Proposed Development (km)	No. of turbines	Blade tip height (m)	Max. rotor diameter (m)
Boolinrudda	Pending Application for 10-year extension	5.6	7	126	102
Bootliagh	Approved application for 10-year extension	12.0	12	90	Unknown
Cahermurphy	Appealed	9.4	10	170	Unknown
Slieveacurry	Refused	0.4	8	175	150
Slieveacurry	Refused	0.4	8	175	Unknown
Lissycasey	Refused	15.3	11	131	Unknown
Boolynagleragh	Extension Refused	16.5	7	126	102
Crossmore	Conditional. Change to existing Consented Proposals	20.8	7	125	115
Kiltumper	Refused	13.2	10	170	Unknown
Sorrell Island (Glenmore)	Approved	12.7	11	131	Unknown
Gortaheera CM2	Refused	10.9	4	131	Unknown
Gortbofarna	Extend period of Planning Permission	9.7	1	44.15	Unknown

Each additional turbine erected in the landscape can potentially increase the scope for cumulative effects on habitats and species. Effects are likely to be more pronounced for highly mobile species which rely on larger continuous areas in which they forage and commute (e.g., birds, bats).

21.4.2.2 OTHER PROJECTS WITH POTENTIAL CUMULATIVE EFFECTS

Existing or proposed projects in the vicinity of the Proposed Development have the potential to cumulatively impact on ecological features, particularly through increased habitat fragmentation, disturbance, barrier effects, and intensification of collision or displacement effects. In this case such developments include solar farms, quarries and residential developments. Developments considered for cumulative effects are detailed in Table 21-3.

Table 21-3: Non wind farm developments considered for cumulative effects

Project	Planning/Project Reference	Nearest Distance to the Proposed Development Site (km)	Description	Scoped in/out for cumulative assessment
Solar Farm	18717 Clare County Council	7.88	5 MW solar farm comprising approximately 22,200 photo-voltaic panels on ground mounted frames within a site area of c. 11.8 hectares, 2 no. single storey delivery station, security fencing, CCTV, new road access on the Ballingaddy East Road (L5124) and all associated ancillary development works.	Application was refused 21/01/2020. This development is therefore scoped out.
Construction of Dairy	21672 Clare County Council	2.72	Construction of a dairy with a wastewater treatment system, slatted cubicle unit and associated site works.	Due to the lack of potential impacts on Aquatic receptors, associated with the Illaunbaun Proposed Development, this development is scoped out.
Domestic wastewater system	2360508 Clare County Council	5.89	Domestic wastewater treatment system consisting of packaged wastewater treatment system, pump sump, rising main and polishing filter including all associated works above and below ground.	Due to the lack of potential impacts on Aquatic receptors, associated with the Illaunbaun Proposed Development, this development is scoped out.
Glamping Site, Lahinch	16855 Clare County Council	4.13	Glamping site comprising to refurbish and re-roof existing outbuilding as reception office, and to construct a glamping services building with Services, M+F Showers / Toilets, Kitchen / Wash Up / Dining / Reception areas, 10 no. individual glamps, 3 no. camper van pitches, pond and landscaping, public road entrance and access road with parking, a wastewater treatment system and associated site works.	Due to the lack of potential impacts on Aquatic receptors, associated with the Illaunbaun Proposed Development, this development is scoped out.

Project	Planning/Project Reference	Nearest Distance to the Proposed Development Site (km)	Description	Scoped in/out for cumulative assessment
Battery Storage Facility adjacent to existing 38KV electricity substation	18223 Clare County Council	5.58	To construct a battery storage compound adjacent to an existing 38KV electricity substation. The proposed works will involve the construction of new palisade fencing, bunded concrete plinths, up to 21 no. battery storage units and associated equipment, transformers and all ancillary site works.	Conditional approval with 4 conditions. The development is scoped out due to its distance from the Proposed Development, lack of connectivity and nature of the proposals.
Residential	188004 Clare County Council	9.13	To carry out the following development which will consist of: (i) Provision of 18 no. residential units; (ii) hard landscaping including the provision of shared surface area, adjustments to existing footpaths and installation of street lighting and street furniture; (iii) soft landscaping including planting and trees; (iv) new boundary treatments to adjacent lands: (v) upgrading and re-routing of foul sewers and surface water drainage; and (vi) all associated site works.	Conditional Approval 2018. The development is Scoped out due to its distance from the Proposed Development, lack of connectivity and nature of the proposals.
Residential	198012 Clare County Council	3.51	The construction of a new housing estate development consisting of 27 no. residential units. The construction of vehicular and pedestrian access points to the site. On-site sewage treatment with connection to main sewer. Alterations to ground levels to accommodate the development. Varied boundary treatments and landscaping works. Surface water management	Conditional Approval 2019. The development is Scoped out due to its distance from the Proposed Development, lack of connectivity, nature of the proposals and results of lack of impacts assessed.

Project	Planning/Project Reference	Nearest Distance to the Proposed Development Site (km)	Description	Scoped in/out for cumulative assessment
			will include attenuation and overflow. All ancillary site works. In accordance with the Habitats Directive, Appropriate Assessment Screening has been carried out on the project. An Environment Impact Assessment (EIA) screening determination has been made and concludes that there is no real likelihood of significant effects on the environment arising from the Proposed Development.	
Residential	20175 Clare County Council	5.07	Construct 16 No. semi-detached 3-bedroom houses, 10 No. semi-detached 4-bedroom houses and 1 No. detached 4-bedroom house together with all associated site development works and connections to public services.	Conditional Approval 2021. The development is Scoped out due to its distance from the Proposed Development, lack of connectivity and nature of the proposals.
Residential	22796 Clare County Council	6.58	Housing development at land (0.93 hectares) Liscannor, Co Clare. The construction of 15 No residential dwellings. All associated infrastructure and services including 1 No vehicular access point onto Holland Drive, 2 No pedestrian access points onto Lower Quay, parking, lighting, amenity open space, boundary wall, drainage and all ancillary works.	Conditional Approval 2023. The development is Scoped out due to its distance from the Proposed Development, lack of connectivity and nature of the proposals.
Residential	21146 Clare County Council	5.53	Construction of the following 28 houses, all ancillary site works and connection to public services. A Natura Impact Statement (NIS) has been prepared and accompanies this application.	From examination of the online planning file, it appears that this Application was refused 10/03/2022.

Project	Planning/Project Reference	Nearest Distance to the Proposed Development Site (km)	Description	Scoped in/out for cumulative assessment
				This development is therefore scoped out.
Residential	2460474 Clare County Council	9.55	Alter house types approved under P23-60560 to 20 No. Semi-detached two storey dwellinghouses and 1 No. detached bungalow together with all associated site development works and connections to public services.	Conditional Approval 2025. The development is Scoped out due to its distance from the Proposed Development, lack of connectivity and nature of the proposals.
Utilities. Milltown Malbay Urban Wastewater Treatment Plant	N/A	4.3	N/A	Due to the lack of potential impacts on Aquatic receptors, associated with the Illaunbaun Proposed Development and the location of these works downstream, this development is scoped out.
Utilities. Liscannor Urban Wastewater Treatment Plant	191001 Clare County Council	7	Construction of a new wastewater treatment plant to a greenfield site in the townland of Corcomroe, comprising of inlet screening works, 2 no. primary settlement tanks, stormwater and sludge holding tanks, site lighting, 2.4 m high boundary fencing and a scheme identification sign with access provided via an existing junction onto the public road network. All associated site development and site excavation works above and below ground for the wastewater treatment plant; and (2) the construction an underground wastewater terminal pump station in greenfield lands adjacent to John	Due to the lack of potential impacts on Aquatic receptors, associated with the Illaunbaun Proposed Development and the location of these works downstream, this development is scoped out.

Project	Planning/Project Reference	Nearest Distance to the Proposed Development Site (km)	Description	Scoped in/out for cumulative assessment
			P Holland Park, Liscannor, comprising of an underground concrete pump sump, valve chamber and storage tank, above ground control and wet kiosks, landscaping, site lighting, 1.2 m high boundary fencing with access provided via a new entrance onto the R478. All associated site development and site excavation works above and below ground for the pump station.	
Utilities. Lahinch. Urban Wastewater Treatment Plant	N/A	5.8	N/A	Due to the lack of potential impacts on Aquatic receptors, associated with the Illaunbaun Proposed Development and the location of these works downstream, this development is scoped out.
Utilities. Ennistymon Urban Wastewater Treatment Plant	N/A	6.5	N/A	Due to the lack of potential impacts on Aquatic receptors, associated with the Illaunbaun Proposed Development and the location of these works downstream, this development is scoped out.
Utilities. Inagh Urban Wastewater Treatment Plant	88024 Clare County Council	9.5	Development which will provide for the upgrade of the Inagh wastewater treatment plant and will generally comprise the following: construction of a new by-pass channel at the inlet works, construction of a new stormwater holding tank,	Due to the lack of potential impacts on Aquatic receptors, associated with the Illaunbaun Proposed Development and the location of these works downstream, this development is scoped out.

Project	Planning/Project Reference	Nearest Distance to the Proposed Development Site (km)	Description	Scoped in/out for cumulative assessment
			construction of new sludge drying reed beds, construction of a new return pumping station and all ancillary site development works including hard and soft landscaping.	
Utilities. Kilmurry Ibrickane Urban Wastewater Treatment Plant	N/A	11.3	N/A	Due to the lack of potential impacts on Aquatic receptors, associated with the Illaunbaun Proposed Development and the location of these works downstream, this development is scoped out.
Commercial	18864 Clare County Council	-	Construction of a Ballroom/Function Room building; Leisure Facility building including restaurant; 53 no dwellings to be used for short term tourist accommodation; minor alterations to Doughmore house; a gatehouse; additional car parking and cycle parking. The development will also provide for the dismantling and removal of the existing Marquee Structure, all associated ground works, ancillary works and enabling works and connection to existing services and facilities. The proposal will be developed on undeveloped lands previously part of planning permission P03/937 and associated permissions which have been part implemented, which provided for the	Incomplete Application therefore scoped out.

Project	Planning/Project Reference	Nearest Distance to the Proposed Development Site (km)	Description	Scoped in/out for cumulative assessment
			construction of the existing Trump International Golf Links and Hotel and associated facilities. The development will be on a site of approx. 9.76 ha (c.10 ha). This application is accompanied by Natura Impact Statement (NIS) and an Environmental Impact Assessment Report (EIAR).	
Solar	22591 Clare County Council	-	10-year planning permission for a solar array at Ballyglass, Coolderry, Dromintobin North, Reanabrone, and Oakfield (townlands) Ardnacrusha, Co Clare. The development will consist of c265,000 m2 of solar panels on ground mounted frames, 8 no. single storey control cabins with associated electrical transformer units and hardstand areas, 2 no. ring main units, underground cabling within the solar array site and within the L70382 public road to connect solar array field parcels, security fencing, CCTV, access tracks (upgrade of existing and new), upgrades to four existing agricultural field entrances on the R463, l3046 and L70382 and creation of new entrance on L70382, temporary construction compound, landscaping and all associated ancillary apparatus and development works. The solar array will connect to the national grid and will have an operational lifespan of 35 years. A Natura Impact Statement (NIS) has been prepared in respect of	Conditional approval with 13 conditions. The development is scoped out due to its distance from the Proposed Development, lack of connectivity and nature of the proposals.

Project	Planning/Project Reference	Nearest Distance to the Proposed Development Site (km)	Description	Scoped in/out for cumulative assessment
			the Proposed Development and will be submitted to the planning authority with the application.	

21.4.2.3 ASSESSMENT OF CUMULATIVE EFFECTS ON HABITATS

The constraints-led design approach for the Proposed Development has minimised the requirement for habitat removal, with habitat removal typically involving habitats of relatively low ecological value and/or which are widespread regionally and in the local area (as detailed in Table1-15 and Table 1-16). Whilst embedded mitigation will be adopted to minimise loss and fragmentation of important habitats, as detailed in Section 8.4, Chapter 8 of the EIAR. Whilst the Proposed Development will involve the permanent loss of habitats of greater ecological value including heath and mosaics with other habitats, bog, scrub, hedgerow, tree lines and drainage ditches, the majority of these habitats are being retained within the Proposed Development, and these habitats are relatively widespread in the wider landscape. Considering the extent of this habitat removal, even in the context of other projects identified above within the potential ZoI of the Proposed Development, cumulative impacts effects associated with habitat loss are considered **not significant**.

21.4.2.4 ASSESSMENT OF CUMULATIVE EFFECTS ON BIRDS

The likelihood of cumulative effects on bird species depends on factors including their known susceptibilities to wind farm impacts (as discussed in Section 8.5, Chapter 8 of the EIAR), and their typical patterns of movement and dispersal. For relatively sedentary species which are generally considered less susceptible to wind farm impacts (e.g., collision fatalities and displacement due to turbine operation), the potential for an incremental increase in impact magnitude associated with each turbine erected in the wider landscape is much reduced. For species with larger home ranges and/or which migrate longer distances (e.g., raptors, waders, waterfowl), there is greater potential for turbines to act cumulatively in resulting in effects through collision mortality, displacement and barrier effects. Considering the nearest wind farm development (excluding those for which permission was refused) included in this cumulative assessment is c.5.6 km from the Proposed Development (Table 21-2), potential cumulative effects with other wind farm developments are only anticipated for highly mobile species which are likely to range far from the Proposed Development boundary as part of their territories, dispersal or migrations.

Raptors

Hen harrier was identified as an IEF of *up to* International Importance on a precautionary basis due to the presence of foraging adults within and adjacent to the Proposed Development during the breeding and wintering seasons, which could potentially belong to the qualifying population for West Clare Uplands IBA. Regarding cumulative effects associated with collision mortality, due to the very low levels of flight activity recorded within the wind farm airspace at collision risk height recorded during field surveys to inform the Proposed Development, hen harrier was not included within detailed CRM. Furthermore, hen harrier is known to typically fly below the height of operational turbines (Whitfield & Madders, 2006; Ruddock & Whitfield, 2007; Wilson *et al.*, 2015)), reducing its potential susceptibility to collision impacts with the Proposed Development and other projects. Considering the lack of potential for collision mortality effects from the Proposed Development, the relatively low susceptibility of this species to turbine collisions, and the distance from other wind farm developments (Table 21-2) in the context of known hen harrier movement

patterns (Hardey *et al.*, 2013; SNH, 2016), potential cumulative collision mortality effects on hen harrier are considered **not significant**.

Potentially significant effects from the Proposed Development alone were identified on hen harrier arising from habitat loss and fragmentation during construction, and through disturbance and displacement during construction and operation. As described in Table 21-2, the nearest wind farm project (excluding those for which permission was refused) is located c.5.6 km from the Proposed Development. Whilst this lies within the maximum hen harrier foraging range during the breeding season (10 km), it lies outside the typical core foraging range during the breeding season (2 km) and the typical distance between alternative nest sites (1 km) (SNH, 2016). This wind farm project and others within 10 km (i.e., two projects >9 km from the Proposed Development, as stated in Table 21-2) could therefore potentially interact with the Proposed Development to affect hen harriers identified using the Proposed Development and adjacent land, as they travel across their maximum foraging ranges during the breeding season. However, these wind farm projects do not have the potential to affect habitat within the core foraging ranges of hen harriers for which the Proposed Development and surrounds also comprises core foraging habitat (given the separation distance far exceeds 2 km), nor are they sufficiently near to contain alternative nest sites for hen harriers using the Proposed Development and surrounds (given the separation distance far exceeds 1 km). The potential for these other wind farm projects to significantly affect the hen harrier population on which the Proposed Development has, in isolation, been identified as potentially having significant effects is therefore limited. Non-wind farm projects identified in Table 21-3 are also outside of the core foraging range of any hen harriers using the Proposed Development and surrounds, with those nearest the Proposed Development appearing to involve limited removal of hen harrier habitat or potential for other effects (e.g., disturbance, displacement).

Whilst, as described above, the potential for the Proposed Development to interact with other projects in affecting the hen harriers identified as using the Proposed Development and surrounds is limited, consideration must also be given to how these projects cumulatively affect hen harrier populations across the wider landscape; notably through habitat loss and fragmentation, and through disturbance and displacement. When considered together, these projects have the potential to reduce the availability of suitable hen harrier habitat in the wider landscape, and to displace hen harriers from a greater area of otherwise suitable habitat (i.e., due to disturbance during construction and (especially) operational avoidance of wind farm areas) than that attributable to the Proposed Development alone. Considering this, on a precautionary basis, cumulative effects on hen harrier through habitat loss and fragmentation during construction, through disturbance and displacement during construction, and through operational displacement, are considered potentially **significant negative effects**.

Kestrel was also identified as potentially being subject to significant negative effects from the Proposed Development alone. On a precautionary basis, potentially significant negative effects on breeding and wintering kestrel were identified due to operational collision mortality, and operational disturbance and displacement. Regarding operational collision mortality, kestrel is a relatively sedentary species with home range sizes varying from <1 km^2 to >10 km^2 (Hardey *et al.*,

2013). In the context of nearby wind farm developments (c.5.6 km from the Proposed Development; see description for hen harrier above), there is considered to be limited potential for kestrels using the Proposed Development and surrounds to also be affected by other wind farm developments given this separation distance. The significant collision mortality effect on kestrel from the Proposed Development alone was identified on a precautionary basis, with collision fatalities likely to be low in the context of baseline mortality for this species (BTO, 2025a). Considering these factors, and that kestrel is a relatively common and widespread species in the local area, there is not considered to be potential for significant cumulative effects on kestrel through operational collision mortality.

Regarding potential cumulative effects on kestrel through operational disturbance and displacement, due to the sedentary nature of this species (as described above), there is limited potential for kestrels using the Proposed Development and surrounds to also be subject to disturbance and displacement effects from the projects identified in Table 21-2 and Table 21-3. Similarly, non-wind farm projects identified in Table 21-3 are at a distance from the Proposed Development such that, given the sedentary nature of this species, their potential to affect kestrels also using the Proposed Development and surrounds is limited. As described for hen harrier above, consideration must also be given to how these projects cumulatively affect kestrel populations across the wider landscape through disturbance and displacement. When considered together, these projects have the potential to displace kestrels from a greater area of otherwise suitable habitat (i.e., due to operational avoidance of wind farm areas) than that attributable to the Proposed Development alone. However, kestrel is a relatively common and widespread species locally, with large areas of suitable retained habitat in the wider landscape; especially when viewed in the context of typical kestrel home ranges. Considering this, and the limited scope for impacts from the identified projects within the potential ZoI of the Proposed Development, cumulative effects on kestrel through disturbance and displacement are considered **not significant**.

Regarding other raptor species (e.g., merlin, peregrine), very low levels of flight activity were recorded during field surveys to inform the Proposed Development, with no other raptor species identified requiring detailed CRM due to the lack of potential for significant effects. Considering this, and the distance from other wind farm projects (with the nearest wind farm development being located c.5.6 km from the Proposed Development), potential cumulative effects on other raptor species due to collisions with operational turbines are considered **not significant**.

Similarly, effects on other raptor species (e.g., merlin, peregrine) from the Proposed Development alone through habitat loss and fragmentation during construction, and operational displacement from the vicinity of turbines, were assessed as being not significant. Considering this, the relatively low levels of activity recorded by these species during field surveys to inform the Proposed Development, and the distance and type of other projects identified in Table 21-2 and Table 21-3 (with the nearest wind farm development located c.5.6 km from the Proposed Development), potential cumulative effects on other raptor species through habitat loss and fragmentation during construction, and operational displacement from the vicinity of turbines, are assessed as being **not significant**.

Other bird species

Other bird species identified as IEFs include waders (notably golden plover and snipe), waterfowl, and gulls (notably herring gull and lesser black-backed gull). Activity by these species in the context of their local population statuses was typically low, with embedded mitigation within the Proposed Development (Section 8.4, Chapter 8 of the EIAR) considered sufficient to avoid potential significant effects on these species. Many bird species recorded within the ecological baseline of the Proposed Development are relatively sedentary and considered less susceptible to wind farm impacts from collision mortality, disturbance and displacement. More vulnerable species (e.g., due to their flight characteristics and movement patterns) such as waterfowl were typically recorded in very low numbers or were absent from the Proposed Development and immediate surrounds.

Of the other bird species identified as IEFs, golden plover, snipe, herring gull and lesser black-backed gull required more detailed consideration due to their level of flight activity through the wind farm airspace; notably for golden plover, herring gull and lesser black-backed gull. Detailed CRM for those species identified a Low magnitude non-significant effect due to operational collisions, which equated to 2.34, 1.97 and 8.77 birds during the operational lifespan of the Proposed Development for golden plover, herring gull and lesser black-backed gull respectively. The nearest wind farm development considered during the cumulative effect assessment is c.5.6 km from the Proposed Development, with a further two wind farm developments within 10 km of the Proposed Development. Considering the local population statuses of these species, the modelled collision fatalities and baseline mortality rates for these species (as discussed in Section 8.5.4, Chapter 8 of the EIAR), and the distance and the proximity and scale of wind farm developments in the wider landscape (with a potential 20 turbines within 10 km of the Proposed Development), potential cumulative effects on golden plover, snipe, herring gull and lesser blacked gull, as well as other bird species (except raptor species described above) through operational collision mortality are assessed as being **not significant**. Considering the limited use of habitats on site by these species (e.g., for foraging, roosting), and the proximity and scale of developments considered for cumulative effects, potential cumulative effects on these species are assessed as being **not significant**.

21.4.2.5 ASSESSMENT OF CUMULATIVE EFFECTS ON OTHER SPECIES

The constraints-led design approach for the Proposed Development has minimised the potential for effects on protected and notable species through habitat loss and fragmentation, disturbance and displacement, and direct mortality. Embedded mitigation detailed in Section 8.4, Chapter 8 of the EIAR, also includes measures to avoid and/or minimise potential effects on these species.

Certain species requiring detailed assessment (e.g., plant species, marsh fritillary, reptiles and amphibians) are relatively sedentary and are therefore less likely to be subject to significant cumulative effects. In addition, these species were included as IEFs for further consideration on a precautionary basis (e.g., based on the presence of suitable habitat and desk study records), with significant populations not identified within or in close proximity to the Proposed Development site. Whilst terrestrial mammals (namely otter, badger, pine marten, red squirrel, and Irish hare) were also included as IEFs on a precautionary basis, these species were either not recorded or recorded at low activity levels in areas to potentially be affected by the Proposed Development. Large areas of suitable habitat for these species will be retained within and adjacent to the Proposed Development

and in the wider landscape. Considering the embedded mitigation described in Section 8.4, Chapter 8 of the EIAR, the scope for effects on these species and the availability of suitable habitat in the surrounding landscape, cumulative effects on plant species, marsh fritillary, reptiles and amphibians, terrestrial mammals and aquatic species are considered **not significant**.

Regarding potential cumulative effects on bats, the constraints-led design approach has minimised the risk of disturbance, displacement and reduced habitat extent/connectivity. This is based on the extent of habitat removed as part of the embedded mitigation, leaving the majority of suitable habitat intact to support habitat connectivity. Significant cumulative effects through these impact pathways are considered **not significant**.

21.4.3 LAND, SOILS, GEOLOGY AND HYDROGEOLOGY

21.4.3.1 OTHER RENEWABLE ENERGY PROJECTS

Cumulative effects refer to changes in the environment that result from a proposed development when considered in combination with other past, present, or reasonably foreseeable future activities. Potential cumulative effects may arise from the Proposed Development when considered in combination with other existing, permitted, or proposed projects in the wider area, particularly where their respective zones of influence overlap. In line with the EPA Guidelines (2022), a review of such projects has been undertaken, and developments with potential for cumulative interaction, based on location, scale, and environmental sensitivity, have been identified.

A detailed assessment outlining the scale, type, and proximity of these projects is provided in this chapter.

This assessment specifically considers potential cumulative effects in combination with the nearby Slievecallan Wind Farm, located approximately 3.5 km to the southeast. While the Proposed Development does not directly share any infrastructure components with neighbouring developments, proximity and similar construction practices have been taken into account. In addition, several other wind farms are located within a 10 -15 km radius to the south-southeast of the Proposed Development, including Booltiagh, Glenmore, Boolynagleragh, Sorrell Island, Lissycasey, Kiltumper, and Cahermurphy Wind Farms.

Each of these developments has been considered within the cumulative effects assessment. Notably, respective EIARs for these developments report no significant residual impacts following mitigation, and it is expected that any negative impacts associated with these schemes would be localised and minor in nature. As such, these projects are considered to be at a sufficient distance from the Proposed Development to avoid meaningful cumulative interactions on soils, geology, hydrogeology and contamination receptors.

21.4.3.2 CUMULATIVE EFFECTS

Considering the generally low sensitivity of the superficial soils and underlying solid geology across the site, no significant construction or operational cumulative effects are anticipated in relation to these receptors from the Proposed Development and other identified developments in the surrounding area.

Geology as a receptor is not considered sensitive in the context of the Proposed Development, and no significant cumulative effects on the geological environment are predicted during either the construction or operational phases.

Given the low sensitivity and limited presence of contamination within the site, no notable cumulative effects related to contamination are expected to arise from the Proposed Development in combination with other nearby projects.

Potential adverse effects on groundwater and PWSs are possible through the accidental releases, leakages or spillages of hydrocarbons, fuels or oils from storage tanks/plant during operation, along with other potential impacts such as alteration of groundwater flowpaths. These effects are considered to be localised short-term construction issues which are unlikely to have a measurable cumulative adverse effect following implementation of appropriate mitigation measures.

Potential adverse effects on on-site peat through loss of peat soils due to temporary excavations for windfarm infrastructure, and potential landslide risk of peat caused by risk factors such as cutting, loading, vibration, alterations to surface water drainage, vegetation removal, or inappropriate storage of peat, leading to potential effects on surface water, infrastructure and people. As above, these effects are considered to be localised issues which will be managed through mitigation and are unlikely to have a measurable adverse cumulative effect.

21.4.4 HYDROLOGY, WATER QUALITY AND FLOOD RISK

Several wind farm developments are located near the proposed development, predominantly clustered 10–15 km to the south-southeast. These include Booltiagh Wind Farm, Glenmore Wind Farm, Boolynagleragh Wind Farm, Lissycasey Wind Farm, Kiltumper Wind Farm, and Cahermurphy Wind Farm. The distance between these wind farms and the proposed development is considered sufficient to avoid any cumulative effects on the receiving environment.

21.4.5 AIR QUALITY

The most significant potential cumulative impact relates to dust during the construction phase of the proposed development. According to the IAQM guidance (2024), if the construction phase of the proposed development coincides with the construction phase of any other permitted large-scale projects within 500 m of the site, there is a possibility of cumulative dust impacts occurring at any nearby sensitive receptors. Should simultaneous construction phases occur, it would lead to cumulative dust soiling and dust-related impacts on human health, specifically localised to the works area associated with the proposed works.

However, should the construction phases of the development and any localised permitted developments coincide, it is predicted that once the mitigation measures outlined in Section 11.6 in Chapter 11 of the EIAR are put in place impacts will not be significant. Effects will be ***s****hort-term, direct, localised, negative and not significant.*

No significant cumulative effects on air quality are predicted for the construction or operational phases.

21.4.6 CLIMATE

With respect to the requirement for a cumulative assessment the IEMA (2022) and TII (2022a) guidance on which the assessment is based states that:

> "the identified receptor for the Greenhouse Gas (GHG) Assessment is the global climate and impacts on the receptor from a project are not geographically constrained, the normal approach for cumulative assessment in EIA is not considered applicable. By presenting the GHG impact of a project in the context of its alignment to Ireland's trajectory of net zero and any sectoral carbon budgets, this assessment will demonstrate the potential for the project to affect Ireland's ability to meet its national carbon reduction target. This assessment approach is considered to be inherently cumulative"

As a result, the cumulative impact of the Proposed Development in relation to GHG emissions is considered direct, long-term, beneficial and slight, which is overall not significant in EIA terms.

21.4.7 NOISE AND VIBRATION

21.4.7.1 CONSTRUCTION AND DECOMMISSIONING PHASE

It is not expected that cumulative effects will be present during the construction and decommissioning phase of the Proposed Development.

21.4.7.2 OPERATIONAL PHASE

The only other wind farm either constructed, permitted or proposed, located within 2 km of the Proposed Development (and hence be of potential material influence) is Slieveacurry Wind Farm – 9no. turbines - Vestas V150 4.2 MW, 100 m hub height. The sound power level data as relied upon for this assessment is presented in Table 21-4 and Table 21-5 as derived from manufacturer's data.

Table 21-4: Noise Emission Data, Vestas V150 – 4.2 MW, STE, 100 m hub height

Standardised 10 m Height Wind Speed m/s	Sound Power Level dB(A) (without uncertainty)
4	96.4
5	100.6
6	103.4
7	104.7
8	104.9
9	104.9
10	104.9
11	104.9
12	104.9

The octave band values are given in Table 21-5 for the V150 – 4.2 MW as input to the prediction model.

Table 21-5: Octave Band Spectrum of Vestas V150 – 4.2 MW, STE, 100 m – Rated power

Standardised 10 m Height Wind Speed m/s	Sound Power Level dB(A) (without uncertainty)
63	84.9
125	92.1
250	96.9
500	99.2
1000	99.0
2000	96.3
4000	95.3
8000	83.4
L_{WA}	104.9

Table 21-6 presents the cumulative predicted noise levels at the nearest receptors to the Proposed Development at varying wind speeds for each receptor location. A noise contour map of the cumulative noise impact at maximum sound power output at a wind speed of 12 m/s at 10 m height is presented in Figure 21-1. The contour map in Figure 21-1 assumes that all turbines are simultaneously upwind to each receptor location all of the time (continuously) which results in an overprediction of the noise levels.

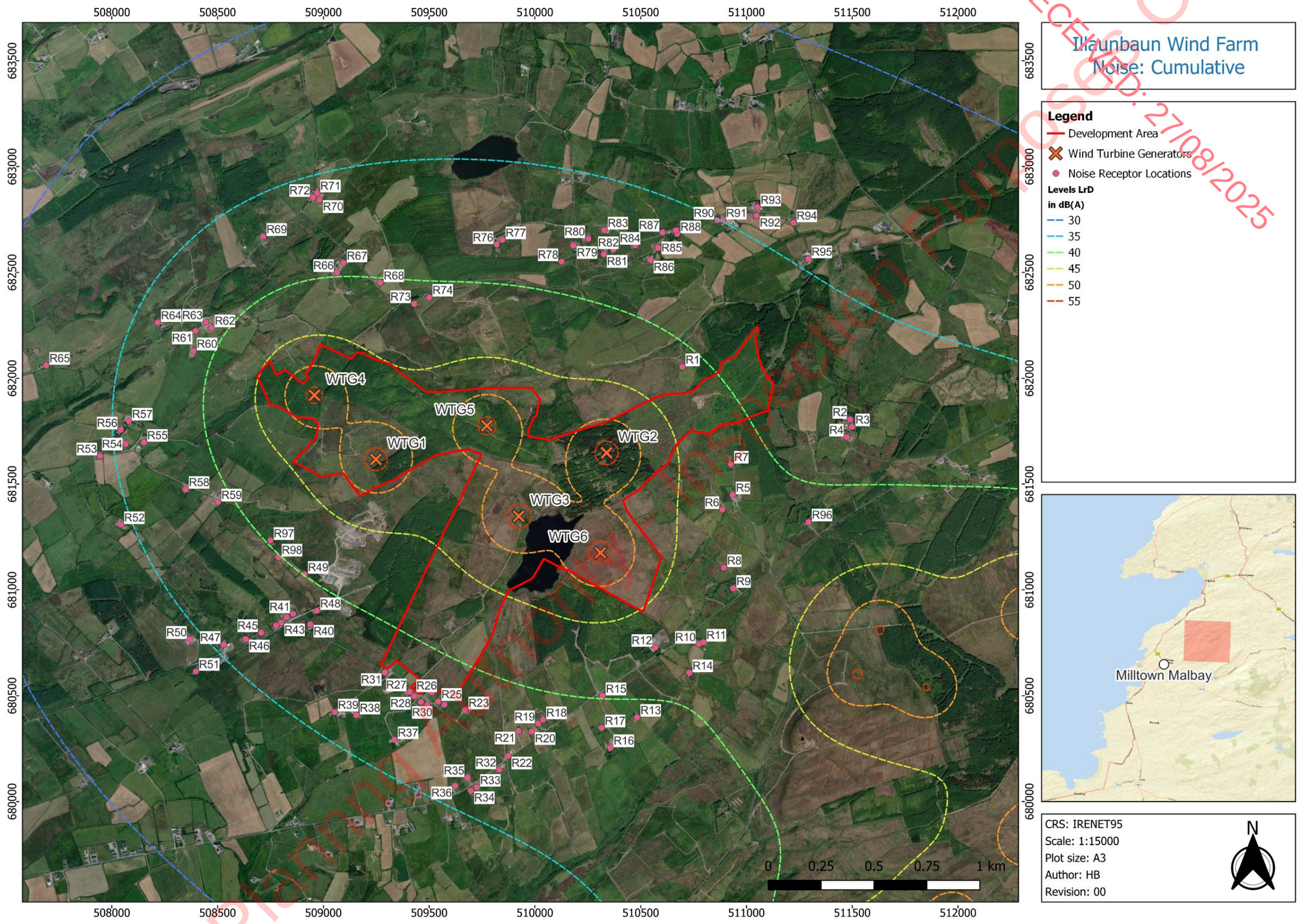

Figure 21-1: Predicted noise levels (cumulative)

Table 21-6: Predicted cumulative noise levels as L_{A90} at Varying Wind Speeds

Receptor ID	Predicted noise levels $L_{90,10min}$ dB(A)										
	Standardised Mean 10 m height wind speed (m/s)										
	Easting	Northing	4	5	6	7	8	9	10	11	12
R1	510696	682054	33.0	37.2	40.5	42.3	42.6	42.6	42.6	42.6	42.6
R2	511490	681806	30.5	34.7	37.7	39.3	39.5	39.5	39.5	39.5	39.5
R3	511499	681771	30.7	34.9	37.9	39.4	39.7	39.7	39.7	39.7	39.7
R4	511474	681722	31.1	35.3	38.3	39.8	40.0	40.0	40.0	40.0	40.0
R5	510934	681449	33.8	38.1	41.2	43.0	43.3	43.3	43.3	43.3	43.3
R6	510886	681380	34.3	38.6	41.7	43.5	43.7	43.7	43.7	43.7	43.7
R7	510926	681594	33.5	37.8	41.0	42.7	43.0	43.0	43.0	43.0	43.0
R8	510893	681105	34.4	38.7	41.8	43.4	43.7	43.7	43.7	43.7	43.7
R9	510937	681007	34.4	38.6	41.7	43.3	43.5	43.5	43.5	43.5	43.5
R10	510775	680744	33.8	38.1	41.1	42.8	43.0	43.0	43.0	43.0	43.0
R11	510795	680753	33.9	38.1	41.2	42.8	43.1	43.1	43.1	43.1	43.1
R12	510569	680728	34.0	38.3	41.5	43.2	43.5	43.5	43.5	43.5	43.5
R13	510483	680398	31.7	35.9	39.0	40.7	40.9	40.9	40.9	40.9	40.9
R14	510729	680609	33.2	37.4	40.5	42.1	42.4	42.4	42.4	42.4	42.4
R15	510319	680500	32.2	36.4	39.6	41.3	41.6	41.6	41.6	41.6	41.6
R16	510356	680255	30.6	34.8	37.9	39.6	39.8	39.8	39.8	39.8	39.8
R17	510315	680348	31.1	35.3	38.4	40.1	40.4	40.4	40.4	40.4	40.4
R18	510038	680387	30.8	35.1	38.2	40.0	40.3	40.3	40.3	40.3	40.3
R19	510015	680368	30.6	34.9	38.1	39.8	40.1	40.1	40.1	40.1	40.1
R20	509984	680331	30.3	34.5	37.7	39.5	39.8	39.8	39.8	39.8	39.8
R21	509922	680334	30.1	34.4	37.6	39.4	39.6	39.6	39.6	39.6	39.6
R22	509874	680216	29.2	33.5	36.7	38.4	38.7	38.7	38.7	38.7	38.7
R23	509670	680433	30.1	34.4	37.6	39.4	39.7	39.7	39.7	39.7	39.7
R24	509572	680458	30.0	34.2	37.5	39.3	39.6	39.6	39.6	39.6	39.6
R25	509542	680473	30.0	34.2	37.5	39.3	39.6	39.6	39.6	39.6	39.6
R26	509512	680515	30.1	34.4	37.7	39.5	39.8	39.8	39.8	39.8	39.8
R27	509408	680519	29.8	34.1	37.3	39.1	39.4	39.4	39.4	39.4	39.4
R28	509429	680498	29.7	34.0	37.2	39.0	39.3	39.3	39.3	39.3	39.3
R29	509461	680471	29.7	33.9	37.2	39.0	39.3	39.3	39.3	39.3	39.3
R30	509491	680455	29.7	33.9	37.2	39.0	39.3	39.3	39.3	39.3	39.3

Receptor ID	Predicted noise levels $L_{90,10min}$ dB(A) Standardised Mean 10 m height wind speed (m/s)										
	Easting	Northing	4	5	6	7	8	9	10	11	12
R31	509290	680610	29.9	34.2	37.5	39.3	39.6	39.6	39.6	39.6	39.6
R32	509831	680151	28.8	33.0	36.2	37.9	38.2	38.2	38.2	38.2	38.2
R33	509725	680068	28.0	32.3	35.5	37.2	37.5	37.5	37.5	37.5	37.5
R34	509697	680052	27.9	32.1	35.3	37.0	37.3	37.3	37.3	37.3	37.3
R35	509681	680113	28.1	32.4	35.6	37.3	37.6	37.6	37.6	37.6	37.6
R36	509623	680075	27.8	32.0	35.2	36.9	37.2	37.2	37.2	37.2	37.2
R37	509336	680292	28.1	32.4	35.6	37.4	37.7	37.7	37.7	37.7	37.7
R38	509156	680409	28.2	32.4	35.7	37.5	37.8	37.8	37.8	37.8	37.8
R39	509053	680423	27.8	32.1	35.3	37.2	37.5	37.5	37.5	37.5	37.5
R40	508938	680838	30.0	34.3	37.5	39.4	39.7	39.7	39.7	39.7	39.7
R41	508857	680887	29.9	34.2	37.5	39.3	39.6	39.6	39.6	39.6	39.6
R42	508826	680872	29.6	33.9	37.2	39.0	39.3	39.3	39.3	39.3	39.3
R43	508800	680845	29.3	33.6	36.9	38.7	39.0	39.0	39.0	39.0	39.0
R44	508776	680832	29.1	33.4	36.6	38.5	38.8	38.8	38.8	38.8	38.8
R45	508706	680798	28.5	32.8	36.0	37.9	38.2	38.2	38.2	38.2	38.2
R46	508633	680768	27.9	32.2	35.5	37.3	37.6	37.6	37.6	37.6	37.6
R47	508529	680742	27.2	31.5	34.8	36.6	36.9	36.9	36.9	36.9	36.9
R48	508969	680902	30.6	34.9	38.2	40.1	40.4	40.4	40.4	40.4	40.4
R49	508911	681074	31.8	36.1	39.4	41.2	41.5	41.5	41.5	41.5	41.5
R50	508369	680766	26.5	30.8	34.0	35.9	36.2	36.2	36.2	36.2	36.2
R51	508397	680615	26.0	30.2	33.5	35.3	35.6	35.6	35.6	35.6	35.6
R52	508043	681308	26.4	30.7	34.0	35.8	36.1	36.1	36.1	36.1	36.1
R53	507945	681633	26.3	30.5	33.8	35.7	36.0	36.0	36.0	36.0	36.0
R54	508066	681689	27.3	31.6	34.9	36.7	37.0	37.0	37.0	37.0	37.0
R55	508152	681697	28.1	32.4	35.7	37.6	37.9	37.9	37.9	37.9	37.9
R56	508042	681756	27.1	31.4	34.7	36.6	36.9	36.9	36.9	36.9	36.9
R57	508080	681798	27.5	31.8	35.1	36.9	37.2	37.2	37.2	37.2	37.2
R58	508349	681475	29.5	33.8	37.1	39.0	39.3	39.3	39.3	39.3	39.3
R59	508502	681415	30.8	35.1	38.4	40.2	40.5	40.5	40.5	40.5	40.5
R60	508386	682129	30.2	34.5	37.8	39.7	40.0	40.0	40.0	40.0	40.0
R61	508396	682224	29.8	34.1	37.4	39.3	39.6	39.6	39.6	39.6	39.6

Receptor ID	Predicted noise levels $L_{90,10min}$ dB(A) Standardised Mean 10 m height wind speed (m/s)										
	Easting	Northing	4	5	6	7	8	9	10	11	12
R62	508471	682238	30.6	34.9	38.2	40.0	40.3	40.3	40.3	40.3	40.3
R63	508444	682265	30.1	34.4	37.7	39.5	39.8	39.8	39.8	39.8	39.8
R64	508217	682264	27.8	32.1	35.4	37.3	37.6	37.6	37.6	37.6	37.6
R65	507690	682061	24.1	28.4	31.6	33.5	33.8	33.8	33.8	33.8	33.8
R66	509064	682500	31.4	35.7	39.0	40.8	41.1	41.1	41.1	41.1	41.1
R67	509095	682545	30.9	35.2	38.4	40.3	40.6	40.6	40.6	40.6	40.6
R68	509269	682452	31.9	36.2	39.5	41.4	41.7	41.7	41.7	41.7	41.7
R69	508715	682670	28.5	32.8	36.1	37.9	38.2	38.2	38.2	38.2	38.2
R70	508982	682844	27.8	32.1	35.4	37.2	37.5	37.5	37.5	37.5	37.5
R71	508970	682876	27.5	31.8	35.1	36.9	37.2	37.2	37.2	37.2	37.2
R72	508951	682854	27.7	32.0	35.2	37.1	37.4	37.4	37.4	37.4	37.4
R73	509429	682352	32.9	37.2	40.4	42.3	42.6	42.6	42.6	42.6	42.6
R74	509500	682383	32.5	36.8	40.1	41.9	42.2	42.2	42.2	42.2	42.2
R76	509819	682632	32.4	36.7	40.0	41.8	42.1	42.1	42.1	42.1	42.1
R77	509846	682654	30.0	34.3	37.5	39.4	39.7	39.7	39.7	39.7	39.7
R78	510126	682551	29.8	34.0	37.3	39.2	39.5	39.5	39.5	39.5	39.5
R79	510182	682627	30.3	34.6	37.9	39.7	40.0	40.0	40.0	40.0	40.0
R80	510252	682660	29.6	33.9	37.1	39.0	39.2	39.2	39.2	39.2	39.2
R81	510325	682586	29.2	33.5	36.7	38.5	38.8	38.8	38.8	38.8	38.8
R82	510371	682608	29.6	33.9	37.1	39.0	39.3	39.3	39.3	39.3	39.3
R83	510328	682700	29.3	33.6	36.9	38.7	39.0	39.0	39.0	39.0	39.0
R84	510474	682628	28.7	33.0	36.2	38.1	38.4	38.4	38.4	38.4	38.4
R85	510582	682616	28.9	33.2	36.5	38.3	38.6	38.6	38.6	38.6	38.6
R86	510546	682559	28.7	33.0	36.2	38.0	38.3	38.3	38.3	38.3	38.3
R87	510603	682690	29.3	33.6	36.8	38.6	38.9	38.9	38.9	38.9	38.9
R88	510672	682682	28.2	32.5	35.7	37.5	37.8	37.8	37.8	37.8	37.8
R89	510666	682699	28.1	32.3	35.5	37.3	37.6	37.6	37.6	37.6	37.6
R90	510862	682747	28.0	32.2	35.4	37.2	37.5	37.5	37.5	37.5	37.5
R91	510888	682747	27.1	31.4	34.6	36.4	36.6	36.6	36.6	36.6	36.6
R92	511047	682768	27.1	31.4	34.5	36.3	36.6	36.6	36.6	36.6	36.6
R93	511051	682809	26.6	30.8	34.0	35.7	36.0	36.0	36.0	36.0	36.0

Receptor ID	Predicted noise levels $L_{90,10min}$ dB(A)										
	Standardised Mean 10 m height wind speed (m/s)										
	Easting	Northing	4	5	6	7	8	9	10	11	12
R94	511221	682735	26.3	30.6	33.8	35.5	35.8	35.8	35.8	35.8	35.8
R95	511292	682564	26.3	30.6	33.7	35.4	35.7	35.7	35.7	35.7	35.7
R96	511293	681321	27.0	31.3	34.4	36.1	36.3	36.3	36.3	36.3	36.3
R97	508750	681234	33.8	38.1	41.0	42.5	42.7	42.7	42.7	42.7	42.7
R98	508788	681155	31.9	36.2	39.5	41.4	41.7	41.7	41.7	41.7	41.7

Technical Appendix 13.4 presents a graphical representation of the above predictions for the loudest 5 receptors for each of the noise monitoring locations.

Table 21-7: Margin between Cumulative Predicted Noise Levels and 40/43 dB(A) Noise Limit

Receptor ID	Margin between cumulative predicted noise levels and 40/43 dB(A) noise limit dB(A)										
	Standardised Mean 10 m height wind speed (m/s)										
	Easting	Northing	4	5	6	7	8	9	10	11	12
R1	510696	682054	-7.0	-5.8	-2.5	-0.7	-0.4	-0.4	-0.4	-0.4	-0.4
R2	511490	681806	-9.5	-8.3	-5.3	-3.7	-3.5	-3.5	-3.5	-3.5	-3.5
R3	511499	681771	-9.3	-8.1	-5.1	-3.6	-3.3	-3.3	-3.3	-3.3	-3.3
R4	511474	681722	-8.9	-7.7	-4.7	-3.2	-3.0	-3.0	-3.0	-3.0	-3.0
R5	510934	681449	-6.2	-4.9	-1.8	0.0	0.3	0.3	0.3	0.3	0.3
R6	510886	681380	-5.7	-4.4	-1.3	0.5	0.7	0.7	0.7	0.7	0.7
R7	510926	681594	-6.5	-5.2	-2.0	-0.3	0.0	0.0	0.0	0.0	0.0
R8	510893	681105	-5.6	-4.3	-1.2	0.4	0.7	0.7	0.7	0.7	0.7
R9	510937	681007	-5.6	-4.4	-1.3	0.3	0.5	0.5	0.5	0.5	0.5
R10	510775	680744	-6.2	-4.9	-1.9	-0.2	0.0	0.0	0.0	0.0	0.0
R11	510795	680753	-6.1	-4.9	-1.8	-0.2	0.1	0.1	0.1	0.1	0.1
R12	510569	680728	-6.0	-4.7	-1.5	0.2	0.5	0.5	0.5	0.5	0.5
R13	510483	680398	-8.3	-7.1	-4.0	-2.3	-2.1	-2.1	-2.1	-2.1	-2.1
R14	510729	680609	-6.8	-5.6	-2.5	-0.9	-0.6	-0.6	-0.6	-0.6	-0.6
R15	510319	680500	-7.8	-6.6	-3.4	-1.7	-1.4	-1.4	-1.4	-1.4	-1.4
R16	510356	680255	-9.4	-8.2	-5.1	-3.4	-3.2	-3.2	-3.2	-3.2	-3.2
R17	510315	680348	-8.9	-7.7	-4.6	-2.9	-2.6	-2.6	-2.6	-2.6	-2.6
R18	510038	680387	-9.2	-7.9	-4.8	-3.0	-2.7	-2.7	-2.7	-2.7	-2.7
R19	510015	680368	-9.4	-8.1	-4.9	-3.2	-2.9	-2.9	-2.9	-2.9	-2.9
R20	509984	680331	-9.7	-8.5	-5.3	-3.5	-3.2	-3.2	-3.2	-3.2	-3.2

Receptor ID	Margin between cumulative predicted noise levels and 40/43 dB(A) noise limit dB(A)										
	Standardised Mean 10 m height wind speed (m/s)										
	Easting	Northing	4	5	6	7	8	9	10	11	12
R21	509922	680334	-9.9	-8.6	-5.4	-3.6	-3.4	-3.4	-3.4	-3.4	-3.4
R22	509874	680216	-10.8	-9.5	-6.3	-4.6	-4.3	-4.3	-4.3	-4.3	-4.3
R23	509670	680433	-9.9	-8.6	-5.4	-3.6	-3.3	-3.3	-3.3	-3.3	-3.3
R24	509572	680458	-10.0	-8.8	-5.5	-3.7	-3.4	-3.4	-3.4	-3.4	-3.4
R25	509542	680473	-10.0	-8.8	-5.5	-3.7	-3.4	-3.4	-3.4	-3.4	-3.4
R26	509512	680515	-9.9	-8.6	-5.3	-3.5	-3.2	-3.2	-3.2	-3.2	-3.2
R27	509408	680519	-10.2	-8.9	-5.7	-3.9	-3.6	-3.6	-3.6	-3.6	-3.6
R28	509429	680498	-10.3	-9.0	-5.8	-4.0	-3.7	-3.7	-3.7	-3.7	-3.7
R29	509461	680471	-10.3	-9.1	-5.8	-4.0	-3.7	-3.7	-3.7	-3.7	-3.7
R30	509491	680455	-10.3	-9.1	-5.8	-4.0	-3.7	-3.7	-3.7	-3.7	-3.7
R31	509290	680610	-10.1	-8.8	-5.5	-3.7	-3.4	-3.4	-3.4	-3.4	-3.4
R32	509831	680151	-11.2	-10.0	-6.8	-5.1	-4.8	-4.8	-4.8	-4.8	-4.8
R33	509725	680068	-12.0	-10.7	-7.5	-5.8	-5.5	-5.5	-5.5	-5.5	-5.5
R34	509697	680052	-12.1	-10.9	-7.7	-6.0	-5.7	-5.7	-5.7	-5.7	-5.7
R35	509681	680113	-11.9	-10.6	-7.4	-5.7	-5.4	-5.4	-5.4	-5.4	-5.4
R36	509623	680075	-12.2	-11.0	-7.8	-6.1	-5.8	-5.8	-5.8	-5.8	-5.8
R37	509336	680292	-11.9	-10.6	-7.4	-5.6	-5.3	-5.3	-5.3	-5.3	-5.3
R38	509156	680409	-11.8	-10.6	-7.3	-5.5	-5.2	-5.2	-5.2	-5.2	-5.2
R39	509053	680423	-12.2	-10.9	-7.7	-5.8	-5.5	-5.5	-5.5	-5.5	-5.5
R40	508938	680838	-10.0	-8.7	-5.5	-3.6	-3.3	-3.3	-3.3	-3.3	-3.3
R41	508857	680887	-10.1	-8.8	-5.5	-3.7	-3.4	-3.4	-3.4	-3.4	-3.4
R42	508826	680872	-10.4	-9.1	-5.8	-4.0	-3.7	-3.7	-3.7	-3.7	-3.7
R43	508800	680845	-10.7	-9.4	-6.1	-4.3	-4.0	-4.0	-4.0	-4.0	-4.0
R44	508776	680832	-10.9	-9.6	-6.4	-4.5	-4.2	-4.2	-4.2	-4.2	-4.2
R45	508706	680798	-11.5	-10.2	-7.0	-5.1	-4.8	-4.8	-4.8	-4.8	-4.8
R46	508633	680768	-12.1	-10.8	-7.5	-5.7	-5.4	-5.4	-5.4	-5.4	-5.4
R47	508529	680742	-12.8	-11.5	-8.2	-6.4	-6.1	-6.1	-6.1	-6.1	-6.1
R48	508969	680902	-9.4	-8.1	-4.8	-2.9	-2.6	-2.6	-2.6	-2.6	-2.6
R49	508911	681074	-8.2	-6.9	-3.6	-1.8	-1.5	-1.5	-1.5	-1.5	-1.5
R50	508369	680766	-13.5	-12.2	-9.0	-7.1	-6.8	-6.8	-6.8	-6.8	-6.8
R51	508397	680615	-14.0	-12.8	-9.5	-7.7	-7.4	-7.4	-7.4	-7.4	-7.4

Receptor ID	Margin between cumulative predicted noise levels and 40/43 dB(A) noise limit dB(A)										
	Standardised Mean 10 m height wind speed (m/s)										
	Easting	Northing	4	5	6	7	8	9	10	11	12
R52	508043	681308	-13.6	-12.3	-9.0	-7.2	-6.9	-6.9	-6.9	-6.9	-6.9
R53	507945	681633	-13.7	-12.5	-9.2	-7.3	-7.0	-7.0	-7.0	-7.0	-7.0
R54	508066	681689	-12.7	-11.4	-8.1	-6.3	-6.0	-6.0	-6.0	-6.0	-6.0
R55	508152	681697	-11.9	-10.6	-7.3	-5.4	-5.1	-5.1	-5.1	-5.1	-5.1
R56	508042	681756	-12.9	-11.6	-8.3	-6.4	-6.1	-6.1	-6.1	-6.1	-6.1
R57	508080	681798	-12.5	-11.2	-7.9	-6.1	-5.8	-5.8	-5.8	-5.8	-5.8
R58	508349	681475	-10.5	-9.2	-5.9	-4.0	-3.7	-3.7	-3.7	-3.7	-3.7
R59	508502	681415	-9.2	-7.9	-4.6	-2.8	-2.5	-2.5	-2.5	-2.5	-2.5
R60	508386	682129	-9.8	-8.5	-5.2	-3.3	-3.0	-3.0	-3.0	-3.0	-3.0
R61	508396	682224	-10.2	-8.9	-5.6	-3.7	-3.4	-3.4	-3.4	-3.4	-3.4
R62	508471	682238	-9.4	-8.1	-4.8	-3.0	-2.7	-2.7	-2.7	-2.7	-2.7
R63	508444	682265	-9.9	-8.6	-5.3	-3.5	-3.2	-3.2	-3.2	-3.2	-3.2
R64	508217	682264	-12.2	-10.9	-7.6	-5.7	-5.4	-5.4	-5.4	-5.4	-5.4
R65	507690	682061	-15.9	-14.6	-11.4	-9.5	-9.2	-9.2	-9.2	-9.2	-9.2
R66	509064	682500	-8.6	-7.3	-4.0	-2.2	-1.9	-1.9	-1.9	-1.9	-1.9
R67	509095	682545	-9.1	-7.8	-4.6	-2.7	-2.4	-2.4	-2.4	-2.4	-2.4
R68	509269	682452	-8.1	-6.8	-3.5	-1.6	-1.3	-1.3	-1.3	-1.3	-1.3
R69	508715	682670	-11.5	-10.2	-6.9	-5.1	-4.8	-4.8	-4.8	-4.8	-4.8
R70	508982	682844	-12.2	-10.9	-7.6	-5.8	-5.5	-5.5	-5.5	-5.5	-5.5
R71	508970	682876	-12.5	-11.2	-7.9	-6.1	-5.8	-5.8	-5.8	-5.8	-5.8
R72	508951	682854	-12.3	-11.0	-7.8	-5.9	-5.6	-5.6	-5.6	-5.6	-5.6
R73	509429	682352	-7.1	-5.8	-2.6	-0.7	-0.4	-0.4	-0.4	-0.4	-0.4
R74	509500	682383	-7.5	-6.2	-2.9	-1.1	-0.8	-0.8	-0.8	-0.8	-0.8
R76	509819	682632	-7.6	-6.3	-3.0	-1.2	-0.9	-0.9	-0.9	-0.9	-0.9
R77	509846	682654	-10.0	-8.7	-5.5	-3.6	-3.3	-3.3	-3.3	-3.3	-3.3
R78	510126	682551	-10.2	-9.0	-5.7	-3.8	-3.5	-3.5	-3.5	-3.5	-3.5
R79	510182	682627	-9.7	-8.4	-5.1	-3.3	-3.0	-3.0	-3.0	-3.0	-3.0
R80	510252	682660	-10.4	-9.1	-5.9	-4.0	-3.8	-3.8	-3.8	-3.8	-3.8
R81	510325	682586	-10.8	-9.5	-6.3	-4.5	-4.2	-4.2	-4.2	-4.2	-4.2
R82	510371	682608	-10.4	-9.1	-5.9	-4.0	-3.7	-3.7	-3.7	-3.7	-3.7
R83	510328	682700	-10.7	-9.4	-6.1	-4.3	-4.0	-4.0	-4.0	-4.0	-4.0

Receptor ID	Margin between cumulative predicted noise levels and 40/43 dB(A) noise limit dB(A)										
	Standardised Mean 10 m height wind speed (m/s)										
	Easting	Northing	4	5	6	7	8	9	10	11	12
R84	510474	682628	-11.3	-10.0	-6.8	-4.9	-4.6	-4.6	-4.6	-4.6	-4.6
R85	510582	682616	-11.1	-9.8	-6.5	-4.7	-4.4	-4.4	-4.4	-4.4	-4.4
R86	510546	682559	-11.3	-10.0	-6.8	-5.0	-4.7	-4.7	-4.7	-4.7	-4.7
R87	510603	682690	-10.7	-9.4	-6.2	-4.4	-4.1	-4.1	-4.1	-4.1	-4.1
R88	510672	682682	-11.8	-10.5	-7.3	-5.5	-5.2	-5.2	-5.2	-5.2	-5.2
R89	510666	682699	-11.9	-10.7	-7.5	-5.7	-5.4	-5.4	-5.4	-5.4	-5.4
R90	510862	682747	-12.0	-10.8	-7.6	-5.8	-5.5	-5.5	-5.5	-5.5	-5.5
R91	510888	682747	-12.9	-11.6	-8.4	-6.6	-6.4	-6.4	-6.4	-6.4	-6.4
R92	511047	682768	-12.9	-11.6	-8.5	-6.7	-6.4	-6.4	-6.4	-6.4	-6.4
R93	511051	682809	-13.4	-12.2	-9.0	-7.3	-7.0	-7.0	-7.0	-7.0	-7.0
R94	511221	682735	-13.7	-12.4	-9.2	-7.5	-7.2	-7.2	-7.2	-7.2	-7.2
R95	511292	682564	-13.7	-12.4	-9.3	-7.6	-7.3	-7.3	-7.3	-7.3	-7.3
R96	511293	681321	-13.0	-11.7	-8.6	-6.9	-6.7	-6.7	-6.7	-6.7	-6.7
R97	508750	681234	-6.2	-4.9	-2.0	-0.5	-0.3	-0.3	-0.3	-0.3	-0.3
R98	508788	681155	-8.1	-6.8	-3.5	-1.6	-1.3	-1.3	-1.3	-1.3	-1.3

As can be seen from Table 21-7, the cumulative predicted noise levels are marginally higher than the noise limit of 43 dB(A) at six receptors (R5, R6, R8, R9, R11 and R12) at wind speeds from 7 to 12 m/s. The predicted noise levels assume that all receptors are directly downwind of all turbines from both wind farms at all times (omin-directional), which is a physical impossibility, but serves to provide a worst-case assessment.

The cumulative predicted noise levels are lower than the noise limits at the remaining receptors, at all wind speeds, and are therefore compliant with the noise limits, thus not significant in terms of EIA. All non-assessed properties further from the proposed wind farm will experience worst-case noise levels lower than the residential properties assessed in this chapter and therefore will also comply with the 2006 Guidelines (DoEHLG, 2006).

21.4.8 SHADOW FLICKER

Cumulative shadow flicker impacts may arise in instances where dwellings are at risk from potential shadow flicker impacts as a result of more than one windfarm. While separate windfarms are not likely to cause effects simultaneously, they could increase the cumulative total hours where a receptor has the potential for impacts.

In this Instance, there are no consented nor constructed wind farms within a 2 km range of the Proposed Development. On the basis of shadow flicker being deemed unlikely at distances over 10 rotor diameters from a property, it is considered that there is no potential for cumulative shadow

flicker impacts resulting from the Proposed Development. The nearest operational wind farm is Boolinrudda Wind Farm, whose nearest turbine is located c. 3.9 km from the nearest proposed turbine (T6). Furthermore, should another windfarm be constructed within 2 km of the Proposed Development in the future, the installation of a shadow control system on the turbine will eliminate shadow flicker impacts from the Proposed Development, thus removing the potential for cumulative shadow flicker impacts.

21.4.9 LANDSCAPE AND VISUAL IMPACT

There are nine existing, permitted and in-planning wind farms contained within the Study Area. These are typically clustered toward the south-east of the Proposed Development, with one outlier located north-east. The cumulative developments are outlined in Table 15-9, Chapter 15 of the EIAR, which also indicates where they lie in relation to the Proposed Development.

A cumulative Zone of Theoretical Visibility (ZTV) map is also provided as Figure 21-2 and indicates parts of the Study Area with visibility of the Proposed Development in isolation, as well as existing, permitted and in-planning turbines only. Combined visibility between the Proposed Development and other developments is also indicated and this is the most relevant category to the cumulative impact assessment.

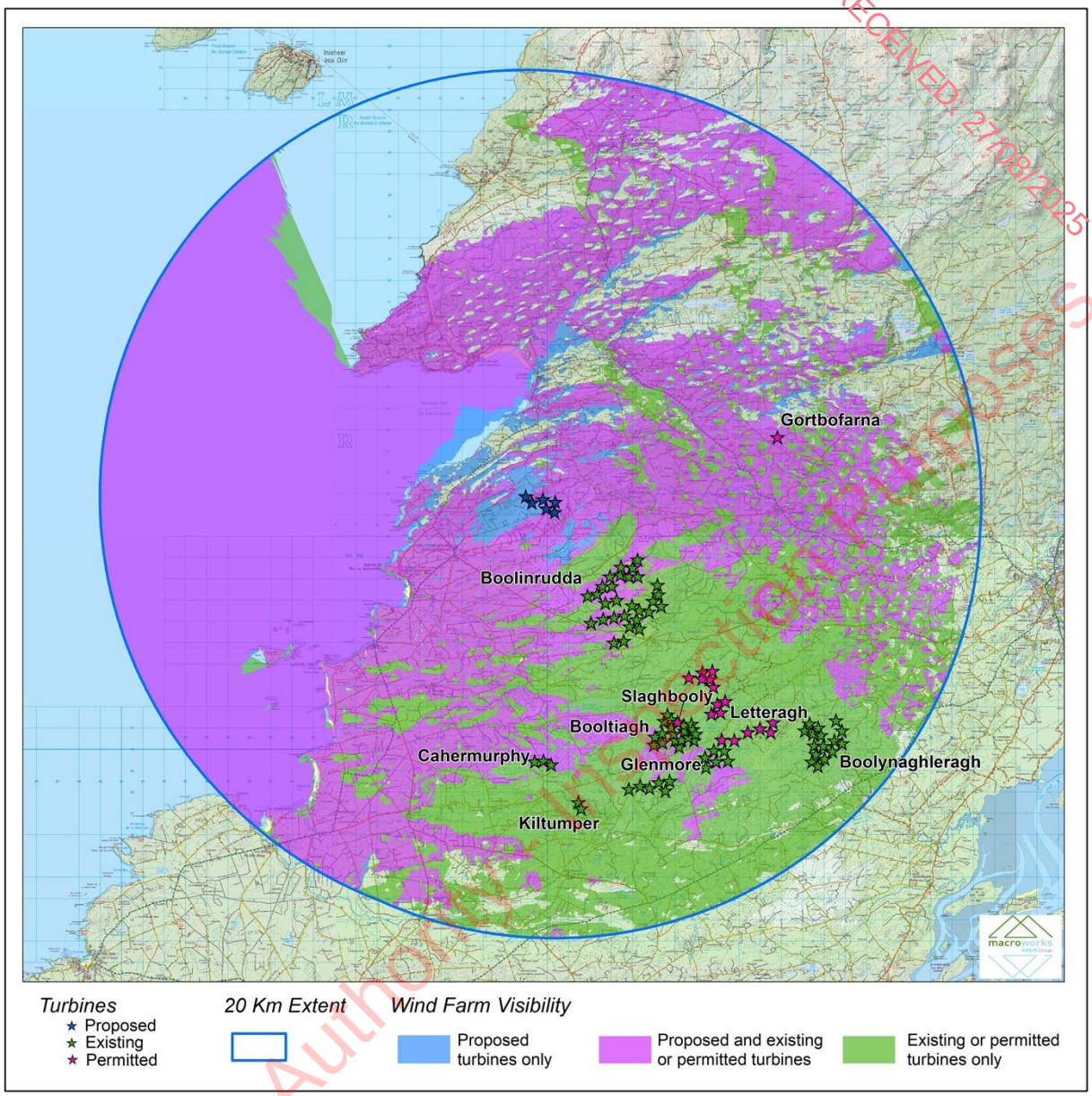

Figure 21-2 Cumulative bare-ground Zone of Theoretically Visibility (ZTV) Map

The cumulative ZTV map indicates that the majority of the central, north-western and south-western portions of the Study Area will have combined theoretical visibility of the Proposed Development in conjunction with other wind energy developments. This is partly due to the low-lying landform in these parts of the Study Area that incline gently towards the uphill areas that accommodate these wind energy developments. It is also due to the relatively near proximity and scale of other wind developments in the area. Despite the presence of eight wind energy developments within the south-eastern portion of the Study Area, combined visibility with the Proposed Development is generally sporadic toward the east and north and accounts for only about 50% of the overall Study Area, excluding those portions offshore. eastern Study Area. Based on the sporadic 'sand ripple' nature of the cumulative ZTV pattern toward the east and north of the Study Area, any combined

visibility is likely to relate only to partial visibility (partial blade sets) of either the proposed and/or cumulative developments.

The greatest potential for cumulative impacts to occur is in relation to the existing Boolinrudda turbines on Slieve Callan which are located just under 4 km from the Proposed Development at their nearest point, making this the nearest wind energy development to the site. The existing turbines can frequently be seen in the photomontage set, but never in a visually confusing manner, with clear separation and scale differences between the schemes removing any ambiguity about their proximity to one another, with significant distances between the two made clear. It can also be considered that the assessment provided in Section 13.4.3 is a cumulative one with respect to the surrounding existing developments, because their presence and visual interaction with the proposed turbines is accounted for. From VP2, VP3, VP4 and VP6, which are all located north-west of the Proposed Development and afford long distance views of the landscape to the south-east, the existing Boolinrudda Wind Farm can be seen in the distance. In these instances, the existing turbines are viewed beyond the proposed turbines, on the upland terrain in the background with a clear separation distance between them and the Proposed Development. From VP22, which is oriented north, the existing turbines are viewed at a closer distance with a greater degree of visibility of the existing scheme than of the Proposed Development. Again, there is a clear sense of perspective and separation between the existing wind farms and the Proposed Development from this location. Thus, there are no instances where the existing and Proposed Development present as a singular scheme, and there is no undue scale/distance confusion.

To the south-east of the Proposed Development, there is a cluster of developments located on or around the foothills of Slieve Callan and Ben Dash. This cluster of wind development comprises seven wind farms, five of which are operational and two are permitted. These wind farms include Slaghabooly, Lettergah, Boolynaghleragh, Glenmore, Booltiagh, Cahermurphy and Kiltumper. Cahermurphy and Kiltumper are slightly isolated from the other developments but are still part of the cluster given that they share a similar landscape context to the others. These developments are all well beyond 10 km away from the Proposed Development with the exception of Slaghabooly, which is located c. 9.9 km from the site. These developments are contained within a different landscape context to the Proposed Development, and this serves to reinforce the low level of visual and perceptual connection between them and the Proposed Development. Likewise, the permitted single turbine development Gortbofarna is also contextually and perceptually divided by the Inagh River valley estuary, undulating intervening topography, and just over 10 km of physical separation. Aside from the general cumulative effect of contributing to wind farm intensity and dispersal throughout the Study Area, these distant wind farms will not generate significant cumulative impacts in conjunction with the Proposed Development.

21.4.9.1 CUMULATIVE IMPACT CONCLUSION

Based on the reasons outlined above, it is considered that the Proposed Development will contribute to cumulative impacts in a very minor way at the scale of the Study Area where turbines are already a familiar feature and the Proposed Development represents marginal intensification. Within the Central Study Area, there is only potential for cumulative impacts with the existing

development at Boolinrudda wind farm on account of all other wind farms being located over 5 km away, and over 10 km in nearly all instances, with the exception of Slaghabooly located at a distance of c. 9.9 km. However, there is a reasonable degree of cohesion between the Proposed Development and others in the area, where the Proposed Development is a smaller scheme of only six turbines which are marginally larger than others in the area. Furthermore, the Proposed Development is itself well-spaced and noticeably distanced from other wind farms in the area. As such there is seldom a sense of clutter, scale confusion or any strong sense of being surrounded by turbines. Overall, the magnitude of cumulative impact is deemed to be consistent with a 'Medium-low' effect based on the criteria contained in Table 15-5, Chapter 15 of the EIAR.

21.4.10 ARCHAEOLOGICAL AND CULTURAL HERITAGE

21.4.10.1 CONSTRUCTION PHASE

No construction phase cumulative effects were identified in relation to cultural heritage.

21.4.10.2 OPERATIONAL PHASE

No other wind farms or intrusive development are visible from the ringfort in Drumbaun (RMP CL023-044) or from Kilfarboy Church, Graveyard and Holy Well (RMP CL031-008001 to -008003 & RPS 635), the only designated Cultural Heritage receptors for which an impact was identified. As such, no cumulative effects were identified.

21.4.11 MATERIAL ASSETS

During the construction phase, potential cumulative effects on material assets may arise where the Proposed Development coincides temporally or spatially with other infrastructure projects in the area. Such effects could include short-term increased demand on local road networks from construction traffic, overlapping requirements for utility connections, or concurrent works that interact with aviation safeguarding or telecommunications infrastructure. However, as described in Chapter 17, no major utilities are present within the development footprint, and the nearest sensitive infrastructure (e.g. aviation facilities, telecommunications links, water/wastewater networks) lies outside the immediate site boundary. Therefore, while the cumulative contribution of the Proposed Development must be acknowledged in combination with regional infrastructure activity, the magnitude of effect is expected to remain slight, temporary, and not significant in EIA terms.

21.4.12 MAJOR ACCIDENTS AND DISASTERS

In line with EIA best practice and the EPA (2022) Guidelines on the Information to be Contained in EIARs, the assessment of major accidents and disasters has considered not only the potential effects of the Proposed Development in isolation, but also in combination with other past, present and reasonably foreseeable developments in the surrounding area.

Cumulative effects may arise when individually minor or non-significant risks interact spatially or temporally with similar risks from other projects or activities, leading to a combined effect that is greater than the sum of its parts. These effects can occur across local or regional scales and at

different project phases (construction, operation and decommissioning). For the purposes of this assessment, particular attention was given to shared infrastructure, traffic impacts, utility corridors, and risks to shared environmental receptors such as water bodies and drainage catchments.

Where potential exists for cumulative interaction with other developments, particularly other wind energy or grid infrastructure projects within a 5 km radius, such interactions are primarily limited to the construction phase. These include temporary increases in traffic volumes on local and regional roads, overlapping demand on emergency services, and concurrent construction near sensitive environmental receptors such as watercourses or peatland areas. However, the implementation of project-specific Construction Traffic Management Plans (CTMPs), Emergency Response Procedures, and mitigation outlined in the CEMP and Chapter 19: Traffic and Transport ensures that risks from the Proposed Development are effectively contained.

No SEVESO or COMAH establishments are located within the consultation distance of the Proposed Development, and no cumulative industrial accident risk is identified. Similarly, the Peat Stability Risk Assessment (Chapter 9), the Flood Risk Assessment (Chapter 10) and the Climate Change Risk Assessment (Chapter 12) confirmed that the Proposed Development presents low vulnerability to climate-related hazards and that there is no potential for cumulative effects related to extreme weather, peat instability or fluvial/pluvial flooding when considered alongside other projects.

In summary, the cumulative risk of major accidents or disasters arising from the Proposed Development in combination with other relevant plans or projects is considered low, and no significant cumulative effects are anticipated.

21.4.13 TRAFFIC AND TRANSPORT

21.4.13.1 CONSTRUCTION PHASE

Cumulative effects have been assessed for other developments which may utilise sections of the road network required for accessing the Proposed Development. Operational wind farms have been discounted as they have negligible operational traffic and therefore have no cumulative traffic effect.

A review of the Clare County Council online planning portal and the An Bord Pleanála planning map were undertaken to determine if there were any developments which should be considered in a cumulative assessment. The review did not establish any consented or live planning applications for developments which would be likely to utilise the same construction traffic routes as the Proposed Development. We have identified that Slievacurry Windfarm Development is coming forward and an application is expected later this year for a nine turbine scheme located to the southeast of the Proposed Development. The application follows a previous application for 8 turbines on the same site which was refused planning consent by An Bord Pleanala in May 2024. There is no information available at this time in relation to expected traffic flows and the construction timeline for the proposed windfarm but it is likely that the Slieveacurry Windfarm will utilise the same routes to access their site as the Proposed Development. Whilst a detailed assessment of cumulative impacts is not possible at this time, it is acknowledged that there will be a need to co-ordinate construction activities at a later date should the two developments be consented and in the unlikely event that

the construction periods of the two developments coincide. This co-ordination would be undertaken through the construction stage traffic management process which would ensure that there is liaison between the two construction projects with an objective being that high traffic generating activities such as concrete pours do not coincide. The applicant is fully committed to engaging in such a process if or when required.

The only wind farm within a 5 km radius of the Proposed Development is Boolinrudda which is operational and therefore cumulative effects are considered to be negligible and Not Significant.

21.4.14 FORESTRY

The forestry assessment (Chapter 20) concluded that approximately 13.15 hectares of forestry will be removed to facilitate the Proposed Development, with compensatory afforestation committed to ensuring no net loss of forestry resource at regional level. When considered in combination with other existing or permitted projects, no significant cumulative effects were identified, as no large-scale forestry clearance projects are proposed in the vicinity.

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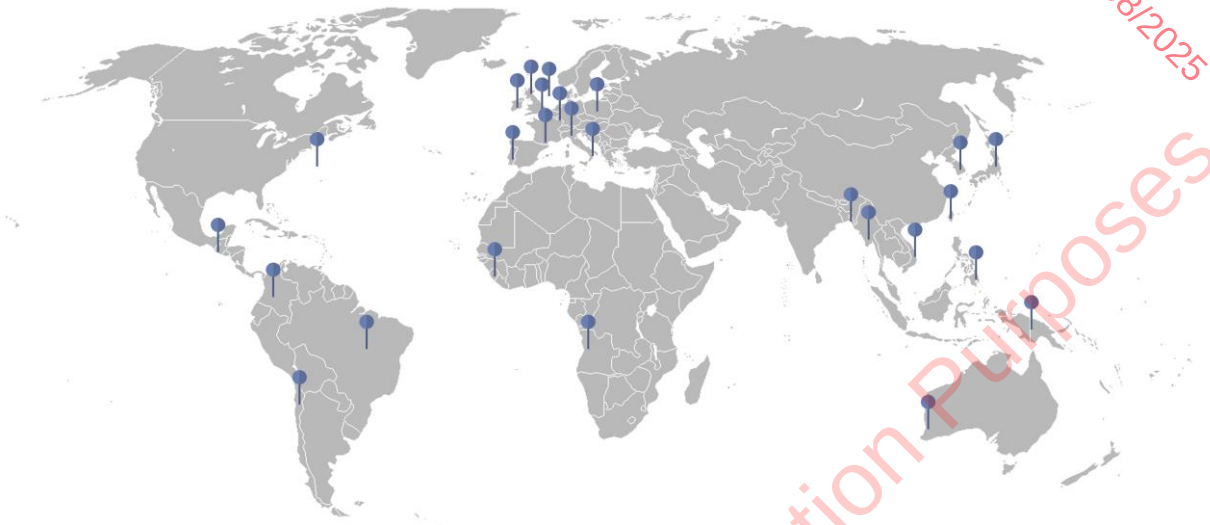

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