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20 IMPACT INTERACTIONS AND RESIDUAL CUMULATIVE EFFECTS

20.1 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 Part II of this EIAR.

20.1.1 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.

20.1.2 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, 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 effect¹.

20.2 Statement of authority

This chapter was prepared by Krista Farrugia, Principal Environmental Consultant with Nicholas O'Dwyer, with 20 years of experience in the field of EIA. Krista holds a Master of Science in Integrated Environmental Management from the University of Bath, a Post Graduate Diploma in Wildlife Biology and Conservation from Edinburgh Napier University, and a Bachelor of Science (Hons) in Chemistry and Biology from the University of Malta. She is a Practitioner with the Institute of Environmental Management with extensive experience in EIA coordination, environmental auditing, Strategic Environmental Assessment (SEA), ecological studies and Appropriate Assessment, and landscape and visual assessment. Projects have included the assessment of a wide range of developments, including residential and commercial, waste management facilities, roads, port development, coastal infrastructure, and aquaculture. Krista has worked extensively in Malta and more recently in Ireland.

20.3 Assessment methodology

20.3.1 Guidance

The following guidance documents were referred to when selecting the appropriate approach for assessment of interactions effects and cumulative effects.

- Environmental Protection Agency. 2022. *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*.
- European Commission. 1999. *Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions*. Office for Official Publications of the European Communities.

¹ GLVIA3 page 121 paragraph 7.5.

- European Commission. 2017. Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (Directive 2011/92/EU as amended by 2014/52/EU).
- Government of Ireland. 2018. Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment.
- Landscape Institute & Institute for Environmental Management and Assessment (IEMA). 2013. 3rd edition. *Guidelines for Landscape and Visual Impact Assessment*.
- Scottish Natural Heritage guidance on *Assessing the Cumulative Impacts of onshore Wind Energy Developments* (2012, and subsequent updates).

20.3.2 Interactive effects

The consideration of interactive effects was an integrated part of the assessment process. The EIA coordinator and environmental specialists working on the various environmental factors consulted each other as needed during the design process. The impact interactions are assessed as relevant within the specific environmental factor chapters and therefore, no additional assessment is included in this chapter. However, in accordance with EPA Guidance (2022), the assessment of impact interactions is summarised in this chapter in the form of a matrix.

20.3.3 Cumulative effects

SNH guidance on *Assessing the Cumulative Impacts of onshore Wind Energy Developments* (2018) describes cumulative effects as arising from two or more developments, which may be:

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

For this EIAR, assessment of cumulative effects was carried out using the following approach:

1. Identification of a list of other projects that could result in environmental effects that could result in significant cumulative effects with effects arising from the Project;
2. Identification of a shortlist of other projects;
3. Desk study for the shortlisted projects; and
4. Assessment.

Section 2.4.3 of EIAR **Chapter 2 EIA Methodology** describes the method employed in compiling the list of projects for consideration in the cumulative assessment. Planning research was conducted in relation to all relevant projects within the surrounding 10km as well as all wind farms within 20km of the project site. It should also be noted that a 350m corridor was identified either side of the proposed TDR options and GCR via a

Geographic Information Systems (GIS) desktop exercise to see if any relevant projects could be identified.

Throughout the compilation and preparation of this submission, in-depth planning history searches were conducted².

The list of projects (excluding wind farm projects, which are considered separately) considered for cumulative assessment are set out in EIAR **Chapter 2, Table 2.2**. The final column in **Table 2.2** provides a reasoning for inclusion of the project for cumulative assessment.

In identifying whether a project from the list should be scoped in for further assessment of potential cumulative effects, the following approach was taken:

- If a planning application was refused, withdrawn, or expired, it was not included for assessment;
- If the project was completed at the assessment stage for the Proposed Development, it was considered as part of the baseline;
- Consideration of the likelihood of temporal overlap between projects; and
- Consideration of whether the scale and nature of the project had the potential to significantly contribute to the effects of the Proposed Development as assessed in each of the environmental factor chapters.

Each environmental factor chapter includes a cumulative assessment of the Proposed Development with other proposed projects as may be relevant to that factor depending on the interaction and likelihood of cumulative effects. This chapter summarises the findings from the cumulative assessment carried out for each environmental factor.

Table 2.3 in **Chapter 2** lists the existing and proposed wind farms within a 20km radius of the Proposed Development which were identified as having the potential to give rise to cumulative LVIA effects and thus were scoped in for assessment. **Table 2.4** in **Chapter 2** provides details on the three wind farm projects that are currently at pre-planning stage which were scoped in for cumulative assessment.

20.4 Summary of interactive effects

This section summarises interaction and interdependencies between one factor and another. The matrix provided in **Table 20.1** provides a snapshot summary of the findings from the assessment of interacting effects, where relevant, as addressed within each of the environmental factor chapters of the EIAR.

² Planning searches were conducted until 16/10/23 after which the EIAR was being closed out.

Table 20.1: Interactive effects summary matrix

Interaction With	Pop & Human Health	Biodiversity	Birds	Hydrology/Hydrogeology	Land, Soils & Geology	Material Assets	Shadow Flicker	Noise & Vibration	Landscape & Visual	Archaeology & Cultural Heritage	Traffic & Transport	Air Quality	Climate
Population & Human Health				✓	✓	✓	✓	✓	✓		✓	✓	✓
Biodiversity			✓	✓	✓			✓			✓		
Birds		✓			✓			✓			✓		
Hydrology & Hydrogeology	✓	✓			✓						✓		
Land, Soils & Geology		✓	✓	✓						✓	✓		
Material Assets	✓										✓		✓
Shadow Flicker	✓												
Noise & Vibration	✓	✓	✓								✓		
Landscape & Visual	✓									✓	✓		
Archaeology & Cultural Heritage					✓				✓		✓		
Traffic & Transport	✓	✓	✓	✓	✓					✓		✓	✓
Air Quality	✓										✓		
Climate	✓					✓					✓		

Key: ✓ = Interactive Effect

As described and assessed in the environmental factor chapters of the EIAR, during the construction phase, the Proposed Development is likely to impact on the local environment (i.e., noise, traffic disruption, dust). However, implementation of mitigation measures specified in the relevant EIAR factor chapters and summarised in EIAR **Chapter 21 Summary of Mitigation Measures**, including good site management and best construction practices as identified in the CEMP and CTMP (referenced in EIAR **Chapter 5 Description of the Proposed Development**) will mitigate and reduce identified impacts so as not to be significant.

The interactions between Traffic & Transport and other aspects such as Population & Human Health and Biodiversity are expected to be greatest during construction stage (refer to EIAR **Chapter 6 Population and Human Health** and **Chapter 7 Biodiversity**, respectively). Interactions between Land, Soils & Geology, Hydrology & Hydrogeology, and Traffic & Transport are also key during construction. The mitigation measures specified in the EIAR The mitigation measures specified in the EIAR **Chapter 9 Hydrology and Hydrogeology**, **Chapter 10 Land, Soils and Geology** and **Chapter 16 Traffic and Transport**, and identified in the CEMP and CTMP (referenced in EIAR **Chapter 5 Description of the Proposed Development**) are required to ensure effects are not significant.

During operation, potential interactions are considered likely in terms of Population & Human Health mainly in terms of the consideration of sensitive receptors (**Chapter 6 Population and Human Health**). A combined effect of noise (**Chapter 13 Noise and Vibration**), shadow flicker (**Chapter 12 Shadow Flicker**), disruption and change of current land use practices (**Chapter 10 Land, Soils and Geology**), and changes to visual amenity and landscape (**Chapter 14 Landscape and Visual**), can adversely affect the population in terms of current use of the area. With mitigation in place, residual effects in relation to landscape and visual amenity range from imperceptible to substantial moderate.

On the other hand, as highlighted in EIAR **Chapter 6 Population and Human Health**, research has shown that there is increasing acceptance and more positive views of wind energy in Ireland by people living, working, and visiting areas where there are wind turbines.

20.5 Summary of cumulative effects

As described in **Section 20.3.3**, the final column in **Chapter 2 EIA Methodology, Table 2.2** includes an evaluation of projects that were scoped in for cumulative assessment and assessed in each environmental factor chapter as relevant. **Chapter 2 EIA Methodology, Table 2.3** specifically lists wind farms within 20km of the Proposed Development.

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

20.5.1 Biodiversity

Wind farm developments were identified as requiring assessment of cumulative effects in relation to the Proposed Development, as listed in **Chapter 7 Table 7.27 EIAR Chapter**

7 Biodiversity notes that each additional turbine has the potential to add to potential effects on habitats and species. The following cumulative effects were identified and assessed:

- Cumulative effects on habitats:
 - Loss and fragmentation of habitats – cumulative effects are considered as not significant.
 - Habitat disturbance and pollution: with embedded mitigation, the assessment considered that there is no potential for significant cumulative effects.
- Cumulative effects on species:
 - Effects on species through habitat loss and fragmentation – with embedded mitigation, cumulative effects on plant species, Marsh Fritillary, reptiles and amphibians, terrestrial mammals (excluding bats) and aquatic species are considered not significant. Regarding potential cumulative effects on bats, the assessment considers that the constraints-led design approach has minimised the risk of disturbance, displacement and reduced habitat extent/connectivity. Significant cumulative effects through these impact pathways are not anticipated.

20.5.2 Ornithology

Cumulative effects on the River Shannon and River Fergus Estuaries SPA affecting ornithological features were assessed. EIAR **Chapter 8 Ornithology** considers that even in the context of nearby plans and projects, the Proposed Development does not have the potential to give rise to significant adverse effects on ornithological features in this SPA. In addition, cumulative effects on any Important Bird Areas (IBAs³) from the Proposed Development are considered not significant.

Bird species vary in their typical sensitivity to windfarm projects depending on the extent of habitat loss, changes in agricultural activities within the surrounding environment, and specific elements (e.g., underground/overhead cables, substation location, road/vegetation changes, turbine operation). Most bird species have additional pressures that are not affiliated with windfarm projects as a source but are considered to result in cumulative impacts where potential overlap of impact sources is possible, in accordance with the precautionary principle.

EIAR **Chapter 8 Ornithology** identified that for species with relatively larger home ranges and/or that commute long distances (e.g., raptors and waders), there is a cumulative collision risk. Results obtained from surveys carried out indicate that the Proposed Development is not situated along any regular commuting routes for birds. Kestrel was identified as being at risk of potentially significant effects with other wind farm developments. This species is relatively sedentary within the Proposed Development and adjacent land, reducing the likelihood of cumulative effects with other projects. Wider areas of suitable habitat for Kestrel and the other Key Ornithological Features will be retained within and adjacent to the Proposed Development, and the avoidance of any

³ Important Bird Areas are identified by Birdlife International using internationally agreed criteria as being globally important for the conservation of bird populations.

cumulative effects will be further assisted by adoption of the Species and Habitats Management Plan. Thus, significant cumulative displacement/barrier and collision risk effects are not anticipated.

20.5.3 Hydrology and Hydrogeology

Given the neutral residual effects identified, EIAR **Chapter 9 Hydrology and Hydrogeology** considers that the Proposed Development will not significantly contribute to the associated hydrological network in terms of water quality of the associated hydrological network.

In the event of a pollution incident (e.g., as a result of an accidental spill), the incident will likely be minor and temporary and therefore will unlikely contribute significantly to cumulative effects in the associated surface water network.

Given that potential effects of the Proposed Development on hydrogeology are likely to be localised due to the overlying peat, slow recharge rates, high run-off rates and poor yielding underlying groundwater aquifer except for local zones, the Development is not considered likely to potentially significantly contribute to cumulative effects.

20.5.4 Land, Soils and Geology

Potential effects of the Proposed Development on land, soils and geology will be localised. Therefore, the cumulative effects of the Proposed Development are not considered to vary significantly or act synergistically with other projects.

Residual cumulative effects from other nearby Wind Farms in terms of land take which is generally localised can be determined to have a slight residual effect provided mitigation measures are implemented and monitored in line with the relevant guidelines and legislation.

20.5.5 Material Assets

No significant cumulative effects were identified in relation to Material Assets.

20.5.6 Shadow Flicker

Potential cumulative effects were identified with the adjacent pre planning Knockshanvo wind farm. The proposed Knockshanvo wind farm is adjacent to the Proposed Development and comprises nine turbines with a maximum rotor diameter of 163m. The 10-rotor diameter study area overlaps with that of the Proposed Development.

A cumulative shadow flicker assessment was therefore carried out, whereby the turbines of both the Proposed Development and the Knockshanvo proposal were considered.

Given that final details of combinations of hub height and rotor diameter are not currently available, two scenarios were assessed in order to consider a potential range of shadow flicker effects:

- Cumulative scenario 1: Assumes the hub height (110.5m) and rotor diameter (163m) of the Knockshanvo turbines are the largest of the ranges provided. This results in a tip height of 192m, slightly larger than the provided turbine envelope.

Candidate turbine 1 (largest rotor diameter and tip height) is assumed for the Oatfield turbines;

- Cumulative scenario 2: Assumes the hub height (102.5m) and rotor diameter (149m) of the Knockshanvo turbines are the smallest of the ranges provided. This results in a tip height of 177m, slightly smaller than the provided turbine envelope. Candidate turbine 3 (smallest rotor diameter and tip height) is assumed for the Oatfield turbines.

In cumulative scenario 1, 16 sensitive receptors may potentially exceed the Wind Energy Development Guidelines (2006) thresholds of 30 hours per year or 30 minutes per day. Of these, 2 would experience effects from Oatfield turbines only, 1 from Knockshanvo turbines only, and 13 from both Oatfield and Knockshanvo turbines. With the incorporation of average annual sunshine data in the cumulative assessment to identify the more 'likely' hours per year, 6 receptors are predicted to exceed the guideline of 30 hours per year. Of these, 5 would experience effects from both Oatfield turbines and Knockshanvo turbines, and 1 from Knockshanvo turbines only. Refer to EIAR **Chapter 12 Shadow Flicker, Figure 12.8** for further information and discussion. Please see below for discussion on mitigation measures.

In cumulative scenario 2, 13 sensitive receptors may potentially exceed the Wind Energy Development Guidelines (2006) thresholds of 30 hours per year or 30 minutes per day. Of these, 1 would experience effects from Oatfield turbines only, 2 from Knockshanvo turbines only, and 10 from both Oatfield and Knockshanvo turbines. With the incorporation of average annual sunshine data in the cumulative assessment to identify the more 'likely' hours per year, 3 receptors are predicted to exceed the guideline of 30 hours per year. Of these, all would experience effects from both Oatfield turbines and Knockshanvo turbines. See EIAR **Chapter 12 Shadow Flicker, Figure 12.10**. Please see below for discussion on mitigation measures.

In the absence of mitigation measures, it is considered that the cumulative shadow flicker that would be experienced at the identified receptors is significant and adverse.

Mitigation measures to address cumulative shadow flicker will include the adoption of a shadow flicker control system to be operated to curtail Oatfield turbines should they, in combination with Knockshanvo turbines, result in exceedances of adopted Wind Energy Development Guidelines (2006) thresholds of 30 minutes per day, or 30 hours per year. The control system can be used to detect and mitigate instances of shadow flicker at any sensitive receptor if required.

No significant residual cumulative effects will remain as predicted in EIAR **Chapter 12 Shadow Flicker**.

20.5.7 Noise and Vibration

Given the localised nature of the noise effects from other construction activities, cumulative construction effects are considered to be negligible to minor, short-term, temporary, reversible adverse and not significant.

During the operational phase, the analysis determined the separation distances from other existing, proposed or consented wind farms in the area are such that cumulative effects from these wind farms would be negligible.

A cumulative operational assessment was carried out with the pre planning Knockshanvo wind farm. The assessment demonstrates that predicted cumulative operational levels do not exceed the derived noise limits, with some negligible exceptions (exceedances of derived noise limits of less than 1dB) which would be unlikely to arise in practice (as the receptors would not be downwind of all turbines). Hence the noise limits would be unlikely to be exceeded. Therefore, cumulative noise levels would still likely represent a long-term reversible adverse effect which is not significant.

Decommissioning would still be associated with minor short-term temporary reversible adverse effects at most which is not significant.

20.5.8 Landscape and Visual

In assessing cumulative effects, EIAR **Chapter 14** Landscape and Visual considers the existing baseline scenario and the potential future baseline scenario. The existing baseline scenario relates to all existing and consented developments within the study area. It does not include any developments that are proposed, under appeal or at the pre-planning stage. The potential future baseline scenario includes all existing, consented and proposed developments and developments at the pre-planning stage that have publicly accessible information.

There are two operational single turbines located in the wider southern half of the study area, whilst a consented 19 turbine development is located in the Slieve Bearnagh Mountains some c. 4km north of the site. Over 58% of the study area has the potential to afford views of the Proposed Development in combination with other existing and consented developments.

There is also some potential for sequential cumulative visual impacts to occur along the R465 regional road scenic route located north of Broadford.

In considering cumulative effects, the findings indicate that there will be a clear reduction in the potential for isolated views of the Proposed Development. As outlined in EIAR **Chapter 14 Landscape and Visual**, the Proposed Development and proposed Knockshanvo developments are likely to be perceived as one larger scale development situated across the underlying elevated hills west of the settlement of Broadford. Whilst the combined developments will result in a marked intensity of development in the local landscape and on the surrounding hillsides, the addition of the proposed Knockshanvo development will fill the existing gaps between the western and eastern aspects of the Proposed Development turbine array and will likely present as one consolidated wind farm development along the broad ridge. The turbines in both proposed developments will also be of a similar scale, which reduces the potential for any sense of scale conflict to occur and results in a more comprehensible combined view of the two developments. Nevertheless, the combination of both proposed developments will result in wind farm development becoming one of the more characteristic features in this elevated landscape context.

Other developments considered in EIAR **Chapter 14 Landscape and Visual** include:

- The proposed Ballycar development. This is located along sloping lands facing north towards the Proposed Development and will often be viewed

in combination with the Proposed Development, especially from receptors located within the valley between the proposed site and Woodcock Hill.

- The proposed Fahy Beg and Lackareagh Wind Farms are situated to the east of the site and are afforded a clear degree of separation from the Proposed Development. They are located along the Slieve Bearnagh foothills, some 5.5km east of the site. Nonetheless, there will still be some clear opportunities to afford combined views of the Proposed Development and the proposed Fahy Beg and Lackareagh developments. They will contribute to a notable increase in the intensity of wind farm development in this aspect of the study area, albeit they will present as distinctly separate developments to the Proposed Development turbines.
- Sequential cumulative effects: There will be a notable increase in the intensity of these effects in the potential future baseline scenario when compared to the existing baseline scenario.

Overall, should all of the proposed developments within the study area be permitted and constructed, it is considered that the Proposed Development will contribute to a cumulative effect in the order of High-medium in the potential future baseline scenario.

20.5.9 Archaeology and Cultural Heritage

EIAR **Chapter 15 Archaeology and Cultural Heritage** considers the cultural heritage landscape in its cumulative assessment and refers to the findings in EIAR **Chapter 14 Landscape and Visual**. The following summarises the findings when considering the existing baseline scenario:

- There will be no additional cumulative indirect effect on the setting of World Heritage Sites or National Monuments.
- The overall likely cumulative effect on the settings of all Architectural Conservation Areas, Protected Structures and National Inventory of Architectural Heritage Sites is likely to be moderate adverse (an effect that alters the character of the historic environment in a manner that is consistent with existing and emerging baseline trends).
- The overall likely cumulative effect on Recorded Monuments will be neutral.
- The overall likely cumulative effect on unregistered buildings, earthworks and field boundaries of heritage interest will be slight adverse (an effect which causes noticeable changes in the character of the historic environment without affecting its sensitivities).

When considering the potential future baseline scenario, as identified also in EIAR **Chapter 14 Landscape and Visual**, one of the most notable differences is the clear reduction in the potential for isolated views of the proposed Oatfield Wind Farm to be afforded.

A cumulative effect is predicted during the construction phase of the GCR as the Carrowngowan Wind Farm Project's GCR will intersect that of the Proposed Development for a length of approximately 150m along the R471.

During the operational phase, it is considered that there will be no additional cumulative indirect effect on the setting of World Heritage Sites or National Monuments.

The overall likely cumulative effect on the settings of all Architectural Conservation Areas (ACAs), Protected Structures and National Inventory of Architectural Heritage Sites is likely to be Significant.

The overall likely cumulative effect on Recorded Monuments will likely remain neutral. The overall likely cumulative effect on unregistered buildings, earthworks and field boundaries of heritage interest may be moderate adverse. This will primarily be due to potential cumulative loss of unregistered upland field boundaries, trackways and currently unknown buried archaeology in the locations of the windfarm developments.

Any adverse significant effects identified on the settings of heritage assets would be reversed by the decommissioning of the Proposed Development.

Mitigation measures will include:

- 50m Buffer around the monument and a visual barrier to be erected demarcating the extent of the buffer zone on the ground during the construction phase;
- Preservation in situ. Buffer to be placed around these historic buildings and visual barrier to be erected demarcating the extent of the buffer zone on the ground during construction;
- Photographic and written recording of the features prior to removal.
- Licensed archaeological monitoring of any open cut trenching outside of the existing modern public road and also along the section of the public road adjacent to the St Vincent de Paul Church recorded monument. Field boundaries should be preserved in situ where possible and the cable trench for off road sections should be aligned through existing gaps of field boundaries to minimize loss of field boundaries.
- Preservation in situ of historic bridge.
- Licensed archaeological monitoring of groundworks across this bridge.

20.5.10 Traffic and Transportation

The Fahybeg wind farm was identified as potentially resulting in cumulative effects on traffic and transportation with the Proposed Development.

Whilst there would be an increase in traffic resulting from the cumulative schemes during each stage of the project, overall, there are no significant effects anticipated as a result of the cumulative impacts and therefore no mitigation is proposed.

20.5.11 Air Quality

The phasing/commencement of any other permitted developments in the locality could potentially result in the scenario where a number of other construction sites are in operation at the same time as the Proposed Development. The IAQM construction phase methodology states that beyond 250m from a site boundary, the risk of impact from activities carried out on-site during the construction phase can be considered to be

negligible. All permitted developments are expected to agree and follow site specific Construction Environmental Management Plans or Dust Management Plans and Construction Traffic Management Plans that will adequately control emissions from construction.

Chapter 17 identifies that there are no significant residual cumulative effects at any of the project phases.

20.5.12 Climate

As identified in EIAR **Chapter 18 Climate**, the Proposed Development makes an important contribution to securing the quick deployment required by the Republic of Ireland's Government's emissions reductions ambitions for 2030. The Proposed Development also assists in meeting the Republic of Ireland's Government's target of securing an overall ambition of 8GW of installed onshore wind capacity in the Republic of Ireland by 2030, as set out in the Climate Action Plan 2021: Securing Our Future.

Any other wind-based energy generation projects in Clare County Council and the Republic of Ireland would be highly likely to result in total emissions savings by offsetting fossil fuel contributions to grid electricity. The GHG savings would thus outweigh total losses and the cumulative effects from these existing and potential wind farm developments would be Significantly Beneficial, contributing towards climate change mitigation.