Inspector's Report

ABP-307939-20

Development	Substitute consent for the Cleanrath wind farm development
Location	Townlands of Reananerree, Cloontycarthy, Cleanrath North, Derrineanig, Cleanrath South, Milmorane, Coombilane, Rathgaskig, Augeris, Gorteenakilla, Carrignadoura, Gurteenowen, Gurteenflugh, Lyrenageeha and Lackabaun, Co. Cork
Planning Authority	Cork County Council
Applicant(s)	Cleanrath Windfarm Ltd
Type of Application	Substitute Consent
Prescribed Bodies	Cork County Council HSE Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media (Now Department of Housing, Local Government and Heritage)

Observers

1. Tobias Simmonds
2. Nigel De Haas
3. Karin Kempf
4. Michael Dineen
5. David Stearman-Smith
6. Con Lehane
7. Nikki O' Sullivan
8. Timothy and Kathleen Baker
9. Tony Miller
10. Sharon Clatworthy
11. Timothy Toomey
12. Tara Laubach
13. Kirstin Laubach
14. Eileen Houlihan
15. Mary Uí Dhuinnín & Others
16. Paul Lynch
17. Orla Clarke
18. Kevin Corcoran
19. Ian Collins
20. Tadhg O'Duinnín & Others
21. Lieik Versloot
22. Val Martin & Others
23. Deirdre Murphy and Ollie O'Brien
24. Jenny Rose Clarke
25. Daphne Babington
26. Geraldine Healy
27. Catherine Ketch
28. Klaus Balz & Hanna Heubach

29. Donal O'Leary, Macroom District Environmental Group
30. Enya Heubach
31. Cecily O'Connell
32. Sarah Hodkinson
33. Wendy Miles
34. Elisabeth Flemming

Date of Site Inspection	30.08.2023, 31.08.2023
Inspector	Mary Mac Mahon

Contents

2.0 Introduction

2.1. This is an application by Cleanrath Windfarm Ltd to seek Substitute Consent for a **9** turbine windfarm, located in Cork County Council, with a blade tip height of 150 metres.

2.2. The permission under which the development was constructed was **ABP Ref**. **PL04.246742,** granted on 19.05.2017. This permission following a First Party and Third Parties appeals against a grant of permission for **11** turbines up to a tip height of 150 metres. The First Party appealed the omission of 5 no. turbines from Cork County Council's decision to grant of permission and the Third Parties appealed the grant of permission. The turbines to be omitted by the planning authority were T3, T4, T6, T7 and T9, located on the western part of the site in an area of open moor. The reasons for the omission were due to impacts on habitats and species of high biodiversity value within the site. The decision by Cork County Council to grant planning permission was made under **Reg. Ref.15/6966**. An Bord Pleanála granted permission for all 11 turbines.

2.3. The Supreme Court in **Appeal No. 167/18** decided to quash the decision of An Bord Pleanála on 12.12.2019. It found that the EIA conducted by the Board was inadequate in relation to noise, as it had relied on noise guidelines which had been questioned by third parties, and that the Board did not appear, on the face of the record, to have considered these views. The guidelines (*Wind Energy Development Guidelines*, 2006) were under review at the time, and draft guidelines (*Draft Revised Wind Energy Development Guidelines*, 2019) have been issued, but not finalised. This remains the position at date of writing. In relation to the permission on the wind farm site, the quashing of the order has been stayed pending the decision of the Board on this application for Substitute Consent.

2.4. An Bord Pleanála granted Leave to Apply for Substitute Consent (**ABP 306272-19**) on 05.05.2020, under Section 177C of the Planning and Development Act, 2000, as amended, for the 9 turbines that are constructed. The two turbines not constructed are Turbines T2 and T11. These turbines, located in the north and south of the site, would have been closest to dwellings in the area.

2.5. The application is accompanied by a Remedial EIAR, a Remedial NIS and EIAR and NIS, as well as other supporting plans and particulars. The Remedial documents relate to the construction, operation and decommissioning of the wind farm and grid connection. The EIAR and NIS relate to operation and decommissioning of the wind farm and grid connection. The EIAR and NIS are very similar to the Remedial documents, save for the omission of construction elements. I note that Section 177F (1)(a) of the Planning and Development Act, 2000, as amended, defines Remedial EIAR as a statement of the significant effects, which have occurred or which are occurring or which can reasonable be expected to occur, because the development was carried out. The wording for Remedial NIS is similar in referring to significant effects (past, present and future). The application is for substitute consent for the wind farm and I consider that the operation of the wind farm is integral to the development. If permission is granted for the construction of a retail unit, a separate permission is not required for the use to operate as a shop. Unlike a quarry, for example, where each new 'shovel' constitutes a new act of development, the wind farm remains physically unchanging, with a maximum power output, the impacts of which are known. The decommissioning of the wind farm is assessed with the Remedial documents. I consider that the Remedial EIAR and Remedial NIS are therefore the appropriate documents upon which to assess the application for substitute consent.

2.6. The Remedial documents include for the underground grid connection to the substation at Coomataggart in the administrative boundary of Kerry County Council. However, permission for the underground grid connection for Cleanrath wind farm was granted under another permission, **P.A. Reg. Ref. 18/4458**, which was not challenged and has been constructed. A separate permission provides for the underground grid connection which is in the administrative boundary of Kerry County Council, **P.A. Reg. Ref. 15/1164**, which has been constructed. The underground grid connection serves the Derragh wind farm, which has been constructed and is a 38kV cable. Once the grid connection leaves the Derragh wind farm it will continue to serve Derragh wind farm, irrespective of the outcome of this application. The underground grid connection from Cleanrath to Derragh is a 33kV cable. This runs for circa 3km. The wind farm and the 3km underground grid connection is the project subject to Remedial EIA, in my opinion, as only these elements could be subject to decommissioning, in the event of a refusal of Substitute Consent.

2.7. This report includes Appendix 1, prepared by Dr. Maeve Flynn, ecologist with An Bord Pleanála. Dr Flynn has reported on the Adequateness of information for purpose of Appropriate Assessment and Environmental Impact Assessment: Biodiversity and Ornithology. I concur with her findings and recommend that the Board do likewise.

3.0 Site and Location

3.1. The site, is stated to be 93 hectares and, is located in northwest Cork, close to the boundary with County Kerry. Macroom is some 12km southwest. The wind farm sits on a hill, with a summit of circa 300 mOD, between the Toon River and the River Lee, both of which ultimately connect to The Gearagh SAC and SPA, some 7.5km to the east. The site is some 3 km north of Lough Allua, a pNHA, which forms part of the River Lee. The nearest village is Inchigeelagh, some 2.5km to the south. However there are a number of settlements including Reanarree (which has its own school and post office), some 3 km to the north of the site and smaller clusters including Derrineanig. There are individual dwellings located close to the wind farm.

3.2. There are a number of wind farms operating in the vicinity. The nearest wind farm is the Derragh Wind Farm, referred to above, which shares the underground grid connection. It lies to the west of the site and consists of 6 no. turbines and substation.

3.3. The Sillahertaine Bog pNHA is to the north of the grid connection, near the Kerry border. The Mullaghanish to Mushermore Mountains SPA are 4.7 km to the north of the wind farms.

3.4. The nearest dwellings to a turbine, as indicated in Table 9-13 of the Remedial EIAR, are; 612 metres to Turbine 6; 643 metres to Turbine 1 and 783 metres to Turbine 10.

4.0 Development Description

4.1. The development the subject of this application for Substitute Consent is set out in the public notice. The application consists of 9 no. wind turbines with a blade tip height of 150 metres with an operational life of 25 years from commissioning; all associated

underground cabling, including to the grid connection; upgrading of local access junctions and roads; upgrade of existing and provision of new site access roads, a burrow pit; temporary construction compound; accommodation works to the turbine delivery route, including a temporary roadway, forestry felling; site drainage; decommissioning of the wind farm, removal of turbines and restoration of the site and all associated site development works and ancillary works.

4.2. The development the subject of this Substitute Consent application, differs from the permitted development in that two turbines (T2 and T11) were not completed. The met mast, access roads and underground cabling that were no longer required due to connection to the Derragh Wind farm were not constructed. Planning permission was granted for these changes under (please see Section 5 of this report for details).

4.3. The turbine model is Nordex 117, with a hub height of 91 metres and a rotor diameter of 117 metres. The blade tip height is 150 metres. Turbine foundations vary between 20.2 to 21.8metres in diameter. These are surrounded by hard standing areas to provide a level assembly area.

4.4. The power generating capacity is stated as 26.4 MW. The power output is from derived 4 no. 3.6MW and 5 no. 2.4 MW. These have the potential to provide 90.942 MW hours of electricity. The intermittency of the wind is assumed to be 35%.

4.5. The construction has resulted in the permanent loss of stated 4.13 ha of peatland habitat and physical disturbance of peatland habitat adjacent to the turbines. A habitat restoration and enhancement plan accompanies the application for some 4.3 ha in area. It includes the reinstatement of a number of peatland areas around Turbines 1, 3, 5 and 8,

4.6. A stated 8.14 ha of forestry was felled around the development footprint. An additional stated 4.18 ha of trees were felled around the turbines. An additional hectare of immature forestry will be removed to provide for an area of enhanced peatland, to offset some of the permanent loss of peatland habitat. Replacement planting of 12.32 ha is necessary as part of the tree felling licence.

4.7. Some 4.8 km of new road has been installed.

4.8. A borrow pit was excavated, adjacent to Turbine 5, some 2,550 square metres in area, with 51,905 cubic metres excavated. Rock breaking and rock blasting were utilised. The pit has been backfilled. A second borrow pit was applied for, but not required.

4.9. Turbines 6, 7, 9 and 10 are located on the western side of Derrineanig Hill, between 220m and 260m OD. Turbines 1, 3, 4, 5 and 8 are on the eastern slope, between 190m to 220m OD.

4.10. The grid connection is circa 15 km in length in total and crosses the county border into Kerry at Grousemount, to the Coomataggart substation. It is generally in the public road, save for 220 metres within the wind farm site and when it loops into the substation in Derragh, some 3km west of the wind farm.

5.0 Planning History

5.1. The planning history of the site is complex and intertwined with Derragh and Grousemount wind farms. Therefore, I will it set out in chronological order from the earliest relevant application.

5.2. **ABP Ref. PL 04.240801 (P.A. Reg. Ref. 11/5245**): Permission refused by Cork County Council to Cleanrath Windfarm Ltd. for 11 no. wind turbines (height of up to 126m), meteorological mast, sub-station, 2 no. borrow pits and ancillary works on this same site. On appeal, permission was granted on **29.04.2013**, subject to conditions. This decision to grant permission was the subject of Judicial Review by Klaus Balz & Hanna Heubach (**2013 No. 450 JR**). The decision of Barton J, delivered on the **25.02.2016**, was to quash the decision of the Board on the grounds that Appropriate Assessment had not been properly carried out.

5.3. **ABP Ref. PL04.245082 (P.A. Reg. Ref. 12/5270)** – Permission granted on appeal for 6 no. turbines with a blade tip height of 150 metres and substation at Derragh on **15.06.2016**, which connects to the national electricity grid at Coomataggart 110 kV substation at Grousemount, Kilgarvan, County Kerry (permitted under **P.A. Ref**. **15/262**). The application was accompanied by an EIS. The permission has been constructed and is the wind farm is west of the current site, within the land ownership of the current applicant.

5.4. **P.A. Reg. Ref. 15/262** – Permission granted for a substation on 01.07.2015, which was an amendment to a previously approved substation at Grousemount Wind Farm **(P.A. Reg. Ref. 10/1333,** granted **16.12.2011)**. The substation has been constructed.

5.5. **P.A. Reg. Ref. 15/1164** - Permission was granted for circa 2km of underground grid connection cable in **Kerry County Council** for Cleanrath Wind Farm at Grousemount, Kilgarvin on 03.06.2016. The application included an EIS and NIS. The wind farm substation (Coomataggart) was subsequently amended by **P.A. Reg. Ref.15/262** and has been constructed.

5.6. **ABP Ref. PL04.246742 (P.A. Reg. Ref. 15/6966)** – Permission granted on appeal by An Bord Pleanála for 11 no. turbines with a blade tip height of 150 metres on **19.05.2017**. It included the upgrading of existing and provision of new internal access roads, anemometry mast, borrow pits, underground electrical cabling and underground grid connection cable, electricity substation, construction compound and associated works. The application included an EIS and NIS. Cork County Council had decided to grant permission for 6 no wind turbines only, due to ecological concerns. The turbines granted were T1, T2, T5, T8, T10 and T11. T3 and T4 near the eastern boundary and T6, T7, and T9 near the western boundary were omitted by way of condition, which was appealed by the First Party. This permission was to be quashed by the Supreme Court (**167/18**) on **12.12.2019**, but the order has been stayed. **This is the permission that the application for substitute consent was constructed under**.

5.7. **P.A. Reg. Ref. 17/5126** – Permission granted for a substation in the Derragh wind farm to replace the permitted one on **11.08.2017.**

5.8. **P.A. Reg. Ref. 18/4458** – Permission granted for the provision of underground electrical cabling and operational access/inspection road including all associated infrastructure and works. The proposed development will alter the underground cabling and operational road layout previously considered by Cork County Council (**P.A. Reg. Ref.15/6966**) and An Bord Pleanála **(PL04.246742)** for the Cleanrath wind farm development on **19.04.2018.** This has been constructed.

5.9. **ABP 306272-19** – Application for Leave to Apply for Substitute Consent for 9 no. turbines with a blade tip height of 150 metres approved by An Bord Pleanála on **05.05.2020**.

6.0 **Legislative and Policy Context**

6.1. Since the submission of the application, there has been significant change at EU and national level with *the Directive on the Promotion of the Use of Energy from Renewable Sources* 2023 and the adoption of the *Climate Action and Low Carbon (Amendment) Act,* 2021. In addition, a new County Development Plan has been adopted for Cork County Council (2022-2028).

6.2. ***The Directive on the Promotion of the Use of Energy from Renewable Sources (Directive EU 2018/2001) (REDIII)***

6.2.1. This requires that 45% of energy produced in Europe is to be from renewable sources. It notes that lengthy, complex administrative procedures are a key barrier to investment in renewable energy and its infrastructure. The Directive simplifies and shortens the length of the administrative permit granting processes in certain environmental-related aspects. This includes national plans for designated renewable go-to areas, that have been subject to SEA. In these areas, the Directive states:

"*renewable energy projects that comply with the rules and measures identified in the plan or plans prepared by Member States, should benefit from a presumption of not having significant effects on the environment. Therefore, there should be an exemption from the need to carry out a specific environmental impact assessment at project level in the sense of Directive 2011/92/EU of the European Parliament and of the Council , with the exception of projects which are likely to have significant effects on the environment in another Member State or where a Member State likely to be significantly affected so requests*."

6.2.2. In addition, the plan would be subject to Appropriate Assessment.

6.2.3. The Directive, under (18) states that:

"*The construction and operation of renewable energy plants may result in the occasional killing or disturbance of birds and other protected species under Directive 92/43/EEC or Directive 2009/147/EC . However, such killing or disturbance would not be considered deliberate in the sense of these Directives if a project has adopted, during its construction and operation, appropriate mitigation measures to avoid collisions or prevent disturbance, and if it carries out a proper*

monitoring to assess the effectiveness of such measures and, in the light of the information gathered, takes further measures as required to ensure no significant negative impact on the population of the species concerned."

6.2.4. Article 1(10) inserts a new Article 16d to ensure that plants for the production of energy from renewable sources, their connection to the grid, the related grid itself or storage assets are presumed to be of overriding public interest for specific purposes.

6.2.5. The following Article 16d on Overriding Public Interest is inserted:

"*By [three months from entry into force], until climate neutrality is achieved, Member States shall ensure that, in the permit-granting process, the planning, construction and operation of plants for the production of energy from renewable sources, their connection to the grid and the related grid itself and storage assets are presumed as being in the overriding public interest and serving public health and safety when balancing legal interests in the individual cases for the purposes of Articles 6(4) and 16(1)(c) of Directive 92/43/EEC, Article 4(7) of Directive 2000/60/EC and Article 9(1)(a) of Directive 2009/147/EC*.'

6.2.6. The Directive states that:

"*Renewable energy sources are crucial to fight climate change, reduce energy prices, decrease the Union's dependence on fossil fuels and ensure the Union's security of supply. For the purposes of the relevant Union environmental legislation, in the necessary case-by-case assessments to ascertain whether a plant for the production of energy from renewable sources, its connection to the grid, the related grid itself or storage assets is of overriding public interest in a particular case, Member States should presume these plants and their related infrastructure as being of overriding public interest and serving public health and safety, except where there is clear evidence that these projects have major adverse effects on the environment which cannot be mitigated or compensated. Considering such plants as being of overriding public interest and serving public health and safety would allow such projects to benefit from a simplified assessment.*'

6.2.7. Ireland has yet to transpose this amendment directive, at the time of writing this report. The directive has significant implications for the provision of renewable energy from wind, in that individual applications will not need an EIA if located in areas where there is a presumption in favour of wind farms where a national plan has been subject to

SEA and AA. Furthermore, these projects will be deemed to be of Overriding Public Interest. It is acknowledged that birds and other protected species may be killed or disturbed by the operation of these wind farms.

6.3. *Climate Action and Low Carbon (Amendment) Act,* 2021 and *Climate Action Plan* 2023

6.3.1. Section 15 of the Act concerns the duties of certain bodies, to carry out their functions consistent with National Climate Objectives. It has introduced annual Climate Action Plans. There is to be a 75% reduction in carbon emissions from energy sources by 2030. Renewable energy to provide 80% of electricity demand by this date. This is to be done by the wide scale deployment of renewable energy production. There is to be an accelerated delivery of 9 GW of on-shore wind farms. The electricity grid is to be decarbonised by 2040 – A Net Zero Strategy for the ESB. This will remove the use of fossil fuel from the Irish energy generation system.

6.4. *REPowerEU Plan 2022*

6.4.1. This plan was prepared in response to the Russian invasion of Ukraine. It needs to end the EU's dependence on Russian fossil fuels and to tackle climate crisis. Recovery and Resilience Facility is central to this plan. It includes the accelerated rollout of renewable energy. It requires that 45% of energy is from renewable sources. It notes that lengthy, complex administrative procedures are a key barrier to investment in renewable energy and its infrastructure.

6.5. *European Green Deal 2020*

6.5.1. The aim of this policy is to make Europe climate neutral by 2050. In 2021, the European Climate Law made greenhouse gas emission targets a legal obligation. These were increased from 40% to 55% by 2030. Please note that many of the observations were submitted before this date and refer to the previous 40% target.

6.6. *Policy Statement on Security of Electricity Supply, 2021*

6.6.1. This states that the Programme for Government requires a 51% reduction in greenhouse gas emissions by 2030 and that 80% of electricity consumption will come from renewable sources by 2030. Ensuring energy security is a national priority, as the electricity system decarbonises towards net zero emissions.

6.7. *National Climate and Energy Plan 2021-2030 (NCEP)*

6.7.1. Ireland's target to reduce greenhouse gas emissions increased from 40% to 55% by 2030. It refers to reach 70% of energy from renewables by 2030, underpinned by the Renewable Energy Support Scheme. Energy security is a key priority.

6.8. ***The National Development Plan 2021-2030***

6.8.1. This refers to an 80% target for renewable sources.

6.9. ***National Planning Framework 2018-2040 (NPF)***

6.9.1. National Strategic Outcome 8 is to transition Ireland to a low carbon and climate resilient society. National Strategic Outcome 9 is the sustainable management of water. National Policy Objective 54 seeks to reduce our carbon footprint by integrating climate action into the planning systems. National Policy Objective 55 promotes the use of renewable energy. National Policy Objective 57 requires that River Basin Management Plan Objectives should be fully considered.

6.9.2. Ireland's national energy policy is based upon sustainability, security of supply and competitiveness.

6.9.3. The *National Planning Framework* is subject to review at present, which will in part, focus on climate change.

6.10. *Regional Spatial and Economic Strategy for the Southern Region (2020)*

6.10.1. This commits to implementing regional policy consistent with the *Climate Action Plan* 2021 and the NPF.

6.10.2. Decarbonisation is considered in Regional Policy Objective 87, 88 and 90 to 104.

6.11. ***Cork County Development Plan 2022-2028***

6.11.1. ET 13-1 states that the objective is to ensure that the county fulfils its potential in contributing to the sustainable delivery of a diverse and secure energy supply and to harness the potential of the county to assist in meeting renewable energy targets and managing overall energy demand. The planning authority will prepare a renewable energy strategy for the county.

6.11.2. Section 13.6.2 states that while the 38 commissioned wind farms in the county with a capacity of 603 MW, this will need to expand to 1,100 MW by 2030.

6.11.3. ET 13-5 states that on-shore wind energy development in Cork should focus on areas considered 'Acceptable in Principle' and 'Areas Open to Consideration' and avoid sites

'Normally Discouraged' and sites and locations of ecological sensitivities. [The site is located in an Area Open to Consideration].

6.11.4. ET 13-7 states that wind farms are open to consideration where proposals can avoid adverse impacts on the following:

- Residential amenity, particularly in respect of noise, shadow flicker and visual impact.
- Urban areas and green belts.
- European sites, NHAs and pNHAs and other sires of significant ecological value.
- Architectural and archaeological heritage.
- Visual quality of the landscape and degree of visibility of the impacts.
- Cumulative impacts.

6.11.5. In ET 13-9, national wind energy guidelines are referred to. Wind farms are to be developed in line with the 2006 guidelines and the *Draft Revised Wind Energy Development Guidelines* 2019 and any relevant update.

6.11.6. In ET 13-11, Public Consultation is required to be carried out with the local community in advance of and in addition to the statutory public consultation as part of the planning application process.

6.11.7. Section 13.7 of the plan sets out a list of criteria to be covered in development proposals for. These criteria include EIAR assessment and the information typically contained in this document, community engagement, grid connection.

6.11.8. In GI 14-9 on Landscape, it is policy to protect the visual and scenic amenities of Cork and in part d) to protected skylines and ridgelines from development. [The site is located in a High Value Landscape Area].

6.11.9. Scenic Routes

6.11.10. There are 118 Scenic Routes in Cork. In GI14-13, the policy is to protect the character of the views and prospects obtainable from scenic routes and in particular, views and prospects from these scenic routes.

6.11.11. In GI-14 on Development on Scenic Routes, the developer has to demonstrate that there would be no adverse obstruction or degradation of the views and provide for mitigation measures, including landscaping and planting.

6.11.12. The Site is visible from S32 (South Lake Road), S33 Béal Átha Ghaorthaidh S34 Inchigeela and Ballingeary, S26 Lissaresig and Mouth of the Glen and S23 between Macroom and Derrynasaggart Mountains.

6.11.13. Water Management

6.11.14. Lough Allua is designated a Priority Action Area (16). WM11-1 is to protect and improve water resources and meet the requirements of the River Basin Management Plan and not to contravene the objectives of the Water Framework Directive.

6.11.15. WM11-12 requires that surface water catchments are managed and the use of lands adjoining streams, watercourses and rivers minimise damage to property by flooding and conservation of objectives of European sites.

6.11.16. The site is not located in an Area at Risk of Flooding. However the drainage design of proposed development must ensure that there is no increase in flood risk downstream.

6.11.17. Biodiversity

6.11.18. BE 15-2 requires the protection of natural heritage areas under EU legislation, National legislation and International Agreements. Ecological linkages between the site will be maintained and enhances. Species requiring protection will be protected. Areas of local biodiversity value, ecological corridors and habitats that are features of Cork's ecological network will be protected and enhanced where possible. Features that contribute the ecological coherence of the European network (such as traditional field boundaries) will be protected.

6.11.19. BE 15-13 seeks to minimise noise and light emissions. The planning authority will have regard to Dark Sky principles.

6.11.20. Built and Cultural Heritage

6.11.21. HE 16-2 requires the preservation (in-situ or by record) of all Archaeological Sites and Monuments. HE 16-7 considers battlefield and ambush sites and development in areas adjoining these site should be historically assessed.

6.11.22. HE16-9 requires that all large scale planning applications be subject to archaeological assessment.

6.11.23. HE 16-14 deals with the Record of Protected Structures and seeks their protection. HE 16-15 seek to protect where possible, structures on the NIAH.

6.11.24. HE 16-20 considers Historic landscapes and their assessment.

6.11.25. The site is located in the Gaeltacht Area. H16-25 considers linguistic issues.

6.11.26. TO 10-7 supports and promotes the development of long distance walking. The site is visible from Slí Mhuscaraí.

6.12. ***Cork County Council Climate Adaptation Strategy 2019-2024***

6.12.1. Fluvial flooding is regarded as the highest climate risk. In relation to wind, projections indicate a reduction in wind speed in summer and increases in winter.

6.13. ***Draft River Basin Management Plan* 2022-2027**

6.13.1. Peatland management affects the level, quantity and quality of water. It can impact on water quality and river habitat, which includes the release of ammonia and fine grained suspended solids. The restoration of peatland can lead to improvement in quality of water and reduce waterborne carbon.

6.13.2. The wind farm is located within WFD catchment 19: Lee, Cork Harbour and Youghal Bay catchment.

6.13.3. The Local Authority is responsible for the Prioritised Areas for Protection. Lough Allua is a Priority Area for Action. It is protected for salmonids and is a recreational water. It is currently at Poor Status, having been tested in 2021. Lee Cork is at moderate status. Lough Allua has high nutrients levels and physical modification. Land drainage is identified as moving nutrient rich water downstream and doing so faster. However, wastewater discharges have an impact.

6.14. ***Blarney Macroom Municipal District Local Area Plan, 2017***

6.14.1. This concerns local settlement areas.

7.0 European and National Natural Heritage Designations

7.1. European sites located in proximity to the subject site include:

- The Gerragh SAC
- The Gerragh SPA
- Mullaghanish to Musheramore Mountains SPA

7.2. Natural Heritage Areas and proposed Natural Heritage Areas in proximity to the subject site:

- Sillahertane Bog NHA
- Lough Allua pNHA
- Ballagh Bog pNHA
- Gouganebarra Lake pNHA

8.0 **Prescribed Bodies**

8.1. The following prescribed bodies were invited to comment:

- Cork County Council (invited and commented)
- HSE (invited and commented)
- Heritage Council (invited)
- An Taisce (invited)
- Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media (invited and commented – this is now the Department of Housing, Local Government and Heritage and includes the NPWS and DAU)
- An Chomhairle Ealaíon (invited)
- Failte Ireland (invited)
- Department of Communications, Climate Action and Environment (invited)
- Commission for Regulation of Utilities (invited)
- Transport Infrastructure Ireland (invited and commented)
- Inland Fisheries Ireland (invited)
- Irish Water (invited)

8.2. Four prescribed bodies responded. The comments are set out below:

8.3. **Cork County Council**

8.3.1. The submission was received from the planning authority recommends that the development should be granted Substitute Consent, having regard to the planning history of the site, its presence and the absence of significant effects on the environment. A series of conditions is recommended (17 no). While signed on 01.08.2023, the report was compiled November, 2020. Therefore, no update was provided in relation to development plan policy from the planning authority. Please note that Observers have queried the legal status of the document, as it was late and the recommendation and signing was not completed until this year. Irrespective of status, I will summarise the contents below.

8.3.2. Section 177 (2) (a) refers to the planning history of the site. The submission refers to the Leave to Appeal report and decision made by An Bord Pleanála and the judicial review proceedings. It notes that the development has been in 'sleep mode' since 01.05.2020. It also refers to P.A. **Reg. Ref. 18/4458** for amendments for underground cabling.

8.3.3. Section 177I (2) (b) refers to warning letters or enforcement procedures in relation to the development. None have been issued.

8.3.4. Section 177I (2) (c) refers to the development plan or local plan for the area. The *Blarney/Macroom District Local Area Plan*, 2017 is stated to apply. In relation to the previous plan, the site is located in an area designated as 'Open to Consideration' in the Wind Energy Strategy Map. The submission notes that there is a designated scenic route close to the northern end of the site – S26 – Road between Lissacresig and Mouth of the Glen. The site sits between two Landscape Character Areas (15a and 12a), both of high landscape value and high landscape sensitivity, but of local importance. Four recorded monuments are located to the northwest of Turbine 6 (T6). These are CO 069-094 Enclosure, CO 069-095001 and 002 (hut and site), Co 069-096 – field boundary. The monuments are circa 85-100 metres from the turbine base. There are further monuments within 100 metres of the grid connection route. The report lists a series of policies referred to in the 2014 development plan.

8.3.5. Section 177I (2) (d) refers to information concerning significant effects on the environment, a European Site and any Remedial measures recommended or undertaken. The submission states that no part of the site or cabling lies within a European Site. The Mullaghanish to Musheramore SPA (site code 4162) is circa

4.6km north of the wind farm. The planning authority is not aware of any known significant effects on the on this SPA. The Gearagh SAC (site code 0108) and Gearagh SPA (site code 4109) are approximately 7.8km north of the wind farm. The planning authority does not consider the development poses a significant risk of impact on these sites or their qualifying interests. No Remedial measures are required in relation to the protection of habitats or species.

8.3.6. Archaeological monitoring has been carried out in relation to Turbine 6 and no direct impacts were identified (however a condition is contained in the response document, which relates to the permission, which has been complied with).

8.3.7. The Environment Section has reviewed Water Quality. Reinstatement works are proposed to be carried out on a number of peatland areas around Turbines 1, 3, 5 and 8. This area amounts circa 4.3 ha. Mitigation measures were employed during construction and water quality monitoring has been undertaken continuously. No significant impacts on water quality arose within or downstream of the windfarm site or along the grid connection route. An Operation and Environment Management Plan has been submitted, which includes quarterly water quality sampling and is to be updated. The 4 no. turbidity monitors are proposed to be removed at the next quarterly surface water events. No specific water quality monitoring is proposed for the areas of reinstated peatlands. However, the applicant has stated that routine inspections will be carried out on a daily and weekly basis and an Environmental Audit will be carried out monthly.

8.3.8. The council is not aware of any significant impacts on water quality arising from works on any of the surface waters downstream of the wind farm. The EPA carry out Q value monitoring of the Toon and Lee Rivers. This took place in 2017 and 2020. No significant deterioration has been notified to the council [Neither are considered at risk, 20.10.2023 - Inspector].

8.3.9. Air and Noise in the Remedial EIAR were reviewed. Mitigation measures were employed during construction. There are no significant direct or indirect effects. Dust suppression measures were implemented. Limited emissions are expected during operation. During decommissioning, emissions are also expected to be short term and imperceptible.

8.3.10. In relation to noise, the cumulative impact of the Derragh Wind Farm is included. When the wind farm was constructed, the Derragh Wind Farm was not constructed so the pre-construction survey did not include for noise from this source. The submission considers that the noise assessment that was undertaken was done in accordance with best practice guidance and relate to worst case analysis. The cumulative predicted noise emissions are all well below the adopted criteria for day and night time at all properties within 2 km of the site. Commissioning surveys were also carried out between 26.03.2020 to 07.05.2020. This survey found that the total noise levels measured were below the limit values in the 2017 permission in all cases. The submission from the planning authority is satisfied that it has been demonstrated that the noise levels at the noise sensitive locations in the vicinity if the wind farm would be in compliance with the adopted criteria in this assessment and the 2017 permission. It notes that the noise assessment would have benefited from providing the distances of all noise sensitive locations within the 2 km radius of the turbines and a scaled map showing the same and where the noise monitoring took place. Traffic is not considered a significant generator of noise during operation and decommissioning is similarly not expected to be of significant impacts.

8.3.11. The Heritage Officer states that there has been no new areas designated or proposed to be designated since the original permission was assessed. The officer is not familiar with the submitted documents and is unaware of any issues in relation to compliance or concerns regarding impact on the environment.

8.3.12. The Archaeologist provided comments to the Senior Planner has recommended conditions. However, I note that conditions recommended have been taken from **P.A. Reg. Ref 15/6966** and have been complied with.

8.3.13. The council is satisfied that vibration impacts are likely to be below any threshold for perceptibility, due to distance from sensitive locations (over 600 metres).

8.4. Transport Infrastructure Ireland

8.4.1. The Board should have regard to the provisions of Chapter 3 of the DOELCG Spatial Planning and National Road Guidelines, 2012. This relates to development management and roads.

8.5. Health Service Executive

8.5.1. The response was provided from the Environmental Health Service (EHS).

8.5.2. The NTS is considered accurate and readable.

8.5.3. The link between public consultations and how these have influenced the decision making process is clear.

8.5.4. There will no negative impact on air from dust during operation.

8.5.5. There were no complaints received regarding shadow flicker when the wind farm was operating. This combined with modelling and other mitigation measures satisfies the EHS.

8.5.6. The restoration of 4.3 ha of peatland within the Cleanrath wind farm will be positive.

8.5.7. Given the distance between turbines and sensitive locations, no vibration is likely to be perceived.

8.5.8. The noise condition in the *Wind Energy Development Guidelines* 2006 is still the only guidance available. The development complies with the 2017 permission requirements.

8.5.9. Sampling demonstrates that there has been no significant changes in the electrical conductivity or pH levels at 13 locations downstream of the development. Results from Ammonia showed 9 exceedances from 6 sampling stations. The EHS accepts that these are likely from peatland runoff or agricultural or wastewater system discharges.

8.5.10. There is no significant risk to ground water drinking supplies due to distance from wells and the nature of the development.

8.5.11. If all mitigation measures are implemented in full, then significant risks to the environment are adequately controlled.

8.6. **Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media (Now Department of Housing, Local Government and Heritage)**

8.6.1. The site is within the catchment of the Gearagh candidate SAC (no. 00108). Species of Conservation importance include the Kerry slug and bat species - species listed in Annex IV of the EU Habitats Directive, white-tailed eagle and golden plover from the Annex I of the EU Bird Directive.

8.6.2. There was one sighting the white tailed eagle during the monitoring period(7km south of the wind farm site). However, the eagle could roost close to the wind farm or Lough

Allua. Collision could be a potential threat, as occurred at Sillahertaine wind farm in the nearby Roughty Valley in Co. Kerry.

8.6.3. Two conditions are recommended – annual and adaptive monitoring and the provision of a precautionary management plan. The plan will include the removal of animal carcasses where feasible and should eagles occur regularly, an effective protocol for reducing risk of collision.

8.6.4. The EIAR notes that there is significant use of the wind farm site by Leisler's bat, with one fatality recorded to date. Bats are subject to strict protection. A further condition is recommended, the monitoring of bat fatalities by trained dogs should continue during the life time of the operation of the wind farm.

8.7. Applicant's Response to Submissions from Department of Housing, Local Government and Heritage and Cork County Council

8.7.1. Department of Housing, Local Government and Heritage

8.7.2. The response notes that the Department listed various species, which have been addressed in the applicant's supporting documentation, but only comments on the White tailed eagle and Leisler's Bat.

8.7.3. Bird surveys of the site have been carried out since 2015, over four periods to 2020. Post construction surveys continue and include flight activity. surveys (Vantage Point Surveys); breeding bird surveys, winter walkover surveys, breeding raptor surveys, hen harrier winter roost surveys and targeted bird collision surveys with training dogs, with detection and scavenger trials.

8.7.4. One observation of a White tailed eagle was recorded, 7 km southwest of the wind farm site on 05.03.2020. There has been none since (18.01.2021). However, the conditions set out by the Department can be implemented.

8.7.5. The Annual and Adaptive monitoring condition – as per the *Scottish Natural Heritage Guidelines* 2009, monitoring is taking place in Year 1,2, 3, 5 10 and 15 of the life time of the wind farm. Year 1 has been completed. The surveys for the White tailed eagle can be carried out annually. The current programme can be amended with consultation with the NPWS, planning authority and other relevant stakeholders.

8.7.6. The vantage point survey and corpse survey can be undertaken monthly for each monitoring year. All monitoring can be provided to the NPWS annually.

8.7.7. Additional surveys can be carried out at Lough Allua or other suitable habitat on an annual basis. However, it would be more effective to design the surveys based on the results of the operational surveys of the wind farm site. Additional surveys can be undertaken if eagle activity is recorded. Breeding and winter season surveys can be adapted.

8.7.8. The precautionary management plan, which provides for the management of fallen animal corpses and the protocol for reducing collision risk can be implemented. Fallen animal corpses are most likely to be sheep. Sheep stocking is low in the area but fallen corpses will be removed by the site manager. Surveys for fallen animal corpses will be done on a monthly basis, and include all areas between turbines and to a buffer of 100metres outside the outermost turbines. Specific training will be provided to assist in spotting carcasses. Drone survey will be undertaken and a log kept of the number of corpses, which can be reported to the NPWS.

8.7.9. A Collision Risk Analysis will be undertaken for the White tailed eagle annually. If a significant effect or regular flight path is identified, the relevant turbine(s) will be curtailed. Curtailment will continue until the risk of collision has been reduced. A population viability analysis will be undertaken annually, to inform the collision risk analysis.

8.7.10. The monitoring results will be sent to the planning authority and NPWS annually and will include maps outlining flight lines.

8.7.11. In relation to Liesler's bat, corpse searches have been ongoing monthly since 2020, using both hand and trained dog search. These will be continued. Three years of post construction monitoring are required to assess the effects on bat species. In addition, carcass searches for collision fatalities will be under taken in Year 5, 10 and 15 of the lifetime of the wind farm.

8.7.12. Cork County Council

8.7.13. The applicant concurred with the planning authority in relation to information provided under S177(2) (a) and (b) of the Act. It notes that the submission has not been updated having regard to the new development plan. However, the main policy elements are considered unchanged. The site is still located in an area where wind farms are open to consideration. No new scenic routes have been designated. The documents submitted with the application remain valid.

8.7.14. The applicant noted that the planning authority do not consider that the development poses a significant risk of impacting on European Sites. The planning authority recommends a grant of substitute consent.

9.0 Observers

9.1. There have been three opportunities for public participation during the course of the application process. The first was during the statutory consultation time frame when the application was first lodged, the second was in response to the new public notices in relation to Exceptional Circumstances and the third in relation to the planning authority submission. The applicant responded to the issues raised by the public under Exceptional Circumstances.

9.2. Thirty-four individual observations were received by An Bord Pleanála during the consultation periods for this case. One of these included a petition with numerous names and addresses. This section of the report will summarise the observations. This will be done generally on a thematic basis received in relation to the application, exceptional circumstances and then the planning authority submission.

9.3. **Statutory Consultation Period Observations**

9.3.1. Public Notices / Participation

9.3.2. There is a lack of clarity in relation to the proposed development to be retained. It is unclear if the development is for the retention of 9 turbines only, the retention of 9 turbines and completion of the other 2 turbines originally applied for (i.e. 11 wind turbines), and whether this windfarm is actually part of a wider windfarm which involves the Derragh windfarm with 6 turbines (15 to 17 wind turbines). The company's website refers to Cleanrath as being 15 turbines, commissioned in 2020, with an output of 46.2MW.

9.3.3. The application provides for a Remedial EIAR and Remedial NIS (which the applicant states is for construction and commissioning of the windfarm) and an EIAR and NIS (which the applicant states is for the operation of the windfarm). The limited time available for the public to review the documents is a source of concern. The documents are very large and the site notice was erected on the 12.08.2020. The application was lodged on 14.08.2020, but documents were not available from An Bord Pleanála until

24.08.2020, well into the 5 week statutory time period, which concluded on 17.09.2020.

9.3.4. The consultation undertaken by the developer occurred 4 years ago in a town that is not local to the wind farm and was considered little value. The Community Liaison Officer also has proved to be of little value.

9.3.5. **Legal matters**

9.3.6. The observers refer to the planning history of the site, including relevant court judgements. They consider that the applicant has not provided information in relation to 'exceptional circumstances'. Exceptional circumstances are necessary to justify Substitute Consent (Section 177K of the Planning and Development Act). While these circumstances are not defined in the act, the observers refer to the need that such circumstances should remain the exception and should not act to encourage applicants to bypass the EIA Directive. This was emphasised by McKechnie J, in the court judgement ([2020] IESC 39), where he stated that such applications cannot be in anyway 'standard, typical or routine'. He considered that the factors to be considered in the legislation are 'general, ordinary, broad and widely drawn'. The exceptional circumstances cited by the applicants is simply that the project was required to be completed by 2020, to avail of REFIT (Renewable Energy Feed In Tarrif) and its price paid per Megawatt of Energy. Otherwise, the price would be reduced under the following scheme, the Renewable Energy Support Scheme (RESS). A deliberate decision was made to construct the wind farm, even though the court process has not been exhausted, to avail of the higher price. The applicant took a risk, that they would win the case and should accept the consequences of losing the case. The financial imperative to complete the development does not come within the scope of 'exceptional circumstances'.

9.3.7. Public participation in the decision-making process in relation to what constitutes exceptional circumstances, is essential. Reference is made to the [2020] IESC 39 judgement, which identified that the 'Leave to Appeal' stage of the process is not open to public participation, which is in breach of the EIA Directive.

9.3.8. The absence of the carrying out of a Strategic Environmental Assessment of a plan or programme is raised. In a Court of European Justice judgement, C-24/19, a permission for a wind farm in Belgium was annulled as there was no SEA of the

regional government order and circular which provided the policy basis for the permission. In the current application, the National Renewable Energy Action Plan (NREAP), adopted in 2010, is the policy framework for windfarms. NREAP is relied on in the Remedial EIAR as a central plank for project justification and policy context. No SEA was carried out for NREAP or the *Wind Energy Development Guidelines*, 2006. Therefore, reliance on these polices which were not subject to SEA to justify the wind farm leaves the decision open to being annulled.

9.3.9. There are exceptions to annulment – where it is incompatible with other matters of EU law concerning the provision of the environment and where it is necessary for the security of energy supply to the state as a whole. That type of exception does not apply in this instance.

9.3.10. The site has been subject to two judicial reviews and the Board has lost on both occasions. It is likely that this could occur again. The Board must demonstrate that it has sufficient expertise and that it seriously considers all the points made in the observations.

9.3.11. **Inadequate Policy Support**

9.3.12. Cleanrath is not referred to in the *National Planning Framework* or the *Regional Social and Economic Strategy*. It is not imperative to grant planning permission as Ireland is on track to meet its renewable energy targets. On-shore and off shore wind energy is subject to SEA.

9.3.13. There are references to the previous *Cork County Development Plan*, 2014-2020, which I have not included here as that plan has been replaced by the adopted plan, *Cork County Development Plan*, 2022-2028.

9.3.14. Proximity to Houses

9.3.15. In Poland and Bavaria, the distance between turbines and houses are required to be 10 times the tip height. There are a number of houses in close proximity to the turbines. These will be subject to noise, shadow flicker, etc. The applicant has settled another court case in relation to health impacts for an individual 700 metres from a wind turbine.

9.3.16. **Noise**

9.3.17. Noise from the turbines has been experienced during the limited time that these have operated (for maintenance and related purposes). The area is particularly quiet and so the noise generated is significant, relative to ambient conditions. It can be heard indoors, in places distant from the turbines. It is particularly evident at night.

9.3.18. There is no appropriate noise condition to be applied as the standard noise condition set out in the *Wind Energy Development Guidelines 2006* has been rejected by the courts in the Supreme Court decision on Cleanrath wind farm.

9.3.19. Each type of turbine has its own individual noise signature. Therefore, the type of turbine has to be particularised and it is not acceptable to simply specify height.

9.3.20. Infrasound and Low Frequency Noise (ILFN)

9.3.21. Infrasound gives rise to health impacts in terms of annoyance, distress, insomnia, heart problems, and other issues. Effects can be felt as far away as 15km. Scientific studies have shown this to be the case and numerous studies are cited.

9.3.22. Shadow flicker

9.3.23. There are 18 sensitive locations that are affected by shadow flicker and 14 of these will exceed 30 minutes. This will severely disrupt residential amenity and shows that the site is not appropriate for wind farm use.

9.3.24. Heath Impacts

9.3.25. As well as the Infrasound effects, EMF from high powered electricity lines has to be considered. Scientific studies are cited.

9.3.26. Visual Impact

9.3.27. There has been a highly adverse impact on the visual amenity of the area, with an over saturation of wind farms. These detract from Lough Allua, scenic routes, cycle and walking routes, Beara Breifne Cycle Route and the Slí Gaeltacht Mhuscaraí Walk, which is the only national walk that passes through a Gaeltacht area. The views from people's houses have been destroyed. The zone of visibility is very wide.

9.3.28. Biodiversity, including Ornithology

9.3.29. The development is in the catchment of the River Lee and are a threat to Lough Allua, a proposed Natural Heritage Area, and the Gearagh Special Area of Conservation. There are threats to the freshwater pearl mussel (in the Gearagh and the Toon),

eagles, other birds of prey, hen harriers, bats, the Whooper swan and Kerry slug. There has been considerable loss of wildlife from construction and loss of habitat. Findings in relation to the Whooper Swan not utilising Lough Allua are contradicted in another EIAR. The Lesser Horseshoe Bat is in the area and a hen harrier family have been photographed.

9.3.30. A White Tailed Eagle was in collision with a wind turbine in Kilgarvin in 2011 and died. These have been sighted in the area.

9.3.31. Red lights

9.3.32. The red lights at the top of the turbines have been cited by a number of observers as having a significant impact on their enjoyment of the night sky and gives rise to light pollution. The purpose of the lights are to alert aircraft to the turbines. A transponder is available so that these lights remain off until aircraft come within range. Such a system has been applied in Germany and is due to be mandatory on the turbines above 100metres in hub height from 01.01.2024. Lanthan Safe Sky is an example of one such product.

9.3.33. Property values

9.3.34. The value of property in the vicinity of the turbines has significantly fallen, by half in an individual case. Experience in the UK has confirmed that those closest to the turbines are worst affected by the fall in property value. A decrease in value of 10-17% has been documented and scientific studies are cited.

9.3.35. TV Reception

9.3.36. When the turbines have been turned on, there has been difficulties with TV reception.

9.3.37. Consideration of Alternatives

9.3.38. Given that the wind farm has been constructed, it is inappropriate to consider alternatives in the Remedial EIAR. The choices are to permit all or some of the development and the extent of decommissioning.

9.3.39. Carbon Saving

9.3.40. Construction works, steel needed for the turbines, etc. should be calculated as part of carbon saving, so that there is clarity on the amount of carbon saved by the

development. Wind energy still requires gas energy, so its contribution to carbon saving is limited. The real solution is to reduce energy consumption.

9.3.41. Cumulative Impacts

9.3.42. The cumulative assessment of the other wind farms at Augeris and Shehy More should be taken into account.

9.3.43. Construction

9.3.44. During construction, locals were discommoded due to road works and road closures. Fences were damaged. No compensation has been provided.

9.3.45. Landslide

9.3.46. There remains a serious risk of landslide.

9.3.47. Surface water runoff

9.3.48. Since the turbines have been constructed, run-off to local roads have increased and the developer has refused to revisit properties affected by these works. There is no credible water management. There has been impacts on waterways and streams in the vicinity of the turbines.

9.3.49. Flooding of the Toon Valley is a concern. Changes in the way that surface water enters the Gearagh will impact on the hydromorphology and could give rise to flash flood and landslide. The Gearagh, which is unique in this part of Europe, will be further effected by erosion. It is a European Site, an SAC and SPA and its habitat has been threatened by works carried out in the past by the ESB and continues to be threatened by the changing landscape and ecological impact of wind farms and coniferous forestry. A petition for the protection of the Gearagh has been made to Europe.

9.3.50. Underground Cabling

9.3.51. There is no certainty that the cables have been laid where they are claimed to be laid. In addition, there has been no consent from landowners who own the ground beneath the road surface, where cables have been buried.

9.3.52. Safety of Turbines

9.3.53. The turbines are subject to the Machinery Directive. Turbines can malfunction, can go on fire and rotors disconnect. There is no clarity on the type of turbine being used.

9.3.54. Local benefits

9.3.55. Wind farms do not produce local jobs and there is no significant boost to the local economy. However, the people living in the area bear the negative consequences of wind farm development.

9.3.56. Planning Authority

9.3.57. Cork County Council has consistently refused planning permission for the development and its views should be respected.

10.0 Applicant's Case for Exceptional Circumstances

10.1. The applicant has submitted the reasons why it considers that the application should be granted substitute consent, as it conforms with the requirements of Exceptional Circumstances, as set out in the Planning and Development Act, 2000, as amended.

10.2. The permission, ABP. Ref. **PL04.246742**, has been subject to judicial review. The decision of the Supreme Court, which overturned a High Court decision, allowed the appeal. That decision, delivered on 12.12.2019, which was to quash decision of the Board to grant permission, has been stayed, subject to the outcome of this Substitute Consent process. The Supreme Court decision found that there was a procedural error in the decision made by the Board.

10.3. The applicant, at planning application stage, submitted an Environmental Impact Statement and Natura Impact Statement. The decision of the Board was informed by these documents. A decision to grant with conditions was issued by the Board. The development was authorised. All mitigation measures were implemented. No attempt was made to avoid the EIA Directive or the Habitats Directive and no circumvention of these Directives arises.

10.4. The applicant had a reasonable belief that the development was authorised, as there was a planning permission in place.

10.5. Public participation has not been substantially impaired. The application to Cork County Council was subject to the statutory consultation period; public participation was available through the appeal process, both as appellants or observers and the current application has been subject to public participation. The public was involved in the EIA process and continue to be.

10.6. The conclusion of the previous EIA process was that there was not likely to be significant effects on the environment, due to the carrying out and continuation of the development. The conclusion of the previous Appropriate Assessment process on the previous application was that there would not be likely significant effects on the integrity of a European Site from the carrying out or continuation of the development. The mitigation measures have been implemented, ensuring that such effects will not arise. No remediation works are required.

10.7. The development, when carried out was authorised. This application arises from the judgement that the permission was invalidated. The applicant has not carried out any previous works.

10.8. This application arises solely from a narrow error of law or procedure on the part of the Board. Exceptional circumstances therefore apply.

11.0 Observations following Public Notices of Applicant's Exceptional Circumstances

11.1.1. ABP Ref. PL 04.240801 is not current and the turbines are larger than under **ABP Ref. PL04.240801.** Therefore, the supporting impact data was not there. The shadow cast is longer. The impact on House A (C04) is still relevant.

11.1.2. A Stay of Certiorari was granted by Justice O'Donnell on 05.05.2020 – the same day of the Leave to Appeal was granted. There has been litigation at every stage since application for planning permission was first sought in 2011, so the applicant was aware of the risk. The leave to appeal was to the Supreme Court was made on 23.11.2018 and the appeal on 14.02.2019.

11.1.3. The decision not to remit the decision to the board was influenced by the developer, who preferred the route of Substitute Consent, and began the application for leave to appeal before the Order of Certiorari was issued.

11.1.4. In the judgment delivered regarding the Order of Certiorari, the judge considered that most of the work was carried out between October 2018 and December 2019. These works occurred while the legal process was ongoing. As notice parties, it is hard to sustain the belief that the permission was authorised. The construction works were

only completed after the Supreme Court found the decision invalid. As the decision was invalid, the EIA and AA falls as well.

11.1.5. A letter regarding the REFIT 2 scheme is referred to in the judgement. This letter refers to the requirement that full planning permission is required at all times. The 'merged site' refers to Derragh and Cleanrath. The accompanying affidavit states that the loss of the minimum price to be paid until 2032 would have catastrophic consequences on the project. The judgement states that the consequences of proceeding were predictable. The observers reaffirm that this is not an endorsement for exceptional circumstances. A grant of planning permission would set a very undesirable precedent. The removal of the turbines and associated infrastructure would remediate the significant effects and adverse effects already sustained.

11.1.6. Cleanrath Windfarm Ltd. is a special purpose vehicle for Enerco Energy Ltd. which have carried out windfarm development in Ireland. It is a meaningless statement that Cleanrath Windfarm Ltd has not previously carried out any other development. It is confusing for the public that it is unclear that Enerco Energy Ltd are the developers and operators.

11.1.7. The EIA is out of date and the site is now within Hen Harrier territory. The Shehy Hill range is home to hen harriers. These cannot expand as they are in a landscape dominated by wind farms and the associated infrastructure.

11.1.8. It is most unfortunate that the new Wind Guidelines still have not been adopted. It is widely accepted that ETSU97, upon which the 2006 guidelines were based at very outdated. Amplitude Modulation and Extreme Amplitude Modulation is recognised by a group of acousticians. Cork County Council recognised that the guidelines were not appropriate to deal with modern turbines. Poland now has a 2 km buffer from wind farms. This is to enable sleep, which is a health issue.

11.1.9. The noise when the wind farm was operating was considerable and a humming sound was emitted which felt like vibrations on windy days. There is a turbine in close proximity to homes. Shadow flicker will be an issue, as it was when the turbines are operational.

11.1.10. There have been no updated surveys on bats or birds. If bat corpses are being found, it is too late. The red lights attract bats. There is updated research from the NPWS on bat mitigation measures.

11.1.11. The visual impact studies are not representative of the experience on the ground.

11.1.12. It is not acceptable to say that blinds will deal with shadow flicker.

11.1.13. The impact on property values has been devastating.

11.1.14. The Board has a poor track record in relation to dealing with this site and has failed in its fundamental duty of fairness.

12.0 Applicant's Response to Further Observations

12.1.1. There are no new matters arising. The applicant does not agree with the points raised. The Supreme Court stayed the final determination of the proceedings to allow the applicant make an application for Substitute Consent.

12.1.2. The noise levels from the wind farm are considerably less than the limit values in the 2017 permissions and the *Wind Energy Development Guidelines*, 2006. The Balz and Huebach judgement requires the board to engage with arguments made in relation to the guidelines, but it does not require that the Board departs from them.

12.1.3. There is no evidence that the regularisation of the development would circumvent the purposed and objectives of the EIA or Habitats Directive.

12.1.4. The developer proceeded after the High Court judgement. The works carried out after 19.12.2019 were completed on health and safety grounds.

12.1.5. There was no impairment on the ability to carry out EIA and AA and public participation has occurred.

12.1.6. No new scientific data has been presented in relation to significant effects.

12.1.7. The removal of the turbines and associated infrastructure would have significant and adverse effects.

12.1.8. No unauthorised development has occurred.

13.0 **Observations following Planning Authority Submission**

13.1.1. The planning authority submission was circulated to observers. This had to circulated a second time, arising from a photocopying error. The second circulation included the full submission, which was printed directly from the email received from the planning authority.

13.1.2. One submission related to the correction of a previous submission, which has been noted. Many of the responses included comments on the consideration of exceptional circumstances, circumvention of the EIA and Habitats Directive, etc. As these matters have already been addressed, the summary below will focus on points raised in relation to the planning authority submission. The main new points raised are set out below.

13.1.3. One submission does not consider that the Board are entitled to seek a report on the application from the planning authority outside of the 10 week period of the statutory time limit. What is submitted is not a Section177 (I) report. A section of the report was completed in October, 2020 and completed, in respect of the decision making portion, on 01.08.2023. It is not a copy of the report, as requested in the Section 132 notice. It cannot be considered by the Board and should be dismissed, as being factually and legally unsafe.

13.1.4. The planning authrity should not support this development, given its history. The planning authority should not change its mind in recommending that only 6 turbines be allowed due to habitat and species of high biodiversity value, unless it explains the reasons why it has changed its position. The failure of the Heritage Officer to visit the site, or read the submitted documentation, means that the planning authority cannot have arrived at a reasoned opinion on the development.

13.1.5. The planning authority's submission is based on out of date material and does not appear comprehensive. The planning authority has provided little information on environmental impacts and the information contained in the applicant's documents is three years old. The planning authority has not considered the observations made by the public. The planning authority did not update the report to take into account the new development plan.

13.1.6. The turbines are not recyclable and mining for the minerals used in the nacelles destroy the local area where mining takes place.

13.1.7. The planning authority has recommended a less onerous condition than that suggested by the applicant. The *Wind Energy Development Guidelines* of 2006 have a daytime limit of 40dB(A).

13.1.8. The use of the measurement LA90 10min, which averages sound, is not sufficient to protect residential amenity. The suggested condition does not have regard to the features of wind turbine noise which makes it annoying – Low Frequency Noise – or should be penalised or require specific review – Amplitude Modulation. A paper in relation to Amplitude Modulation is included, dated 2019, which found that a wind farm in Australia, which had 37 turbines operating, with a rated power of 3 MW, gave rise to an audible low-frequency tone for 20% up to a distance of 2.4km.

13.1.9. The planning authority has only referenced the applicant's documents and not the observers. This is contrary to the Supreme Court's decision that there is a duty to have regard to all the submissions received. There is reference to a bibliography of articles submitted in relation to the previous appeal on this site, relating to noise, health studies, property values, public health and safety, public participation and various judgements and other documents.

13.1.10. The noise limit should be 35dB(A), having regard to the ambient noise experienced and the need for people to sleep at night. The proliferation of noise limits and inconsistencies in the various guidelines are not helpful and do not protect residential amenity. How will complaints in relation to noise or other matters be dealt with? Critical information in relation to windspeeds, time of day, etc. is not present. The photographs showing the noise measuring devices are not indicative. [There is reference to an accompanying report by Mr. Dick Bowdler, challenging the noise assessment, but it is not provided]. Some 22 properties will fail to comply with the noise standards. Infrasound and Low Frequency Noise continue to a problem. Noise should be monitored by a national agency.

13.1.11. Impact on the Hen Harrier is of concern and they may not return to this mountain range, given the number of wind farms in the area. The need for monitoring for the White-tailed eagle has to be considered.

13.1.12. The Kestrel and Skylark are in decline and are at risk of collision.

13.1.13. Water quality monitoring during peat reinstatement has not been proposed. There is no information on water quality in the Toon River. The planning authority should have requested this information from the EPA. The proposed water quality sampling on a quarterly basis is not sufficient and does not address extreme weather events on site.

13.1.14. Water quality information is available on catchments.ie and should have been consulted.

13.1.15. Hydrological Monitoring in Section 2.5 of the Peatland Restoration and Enhancement Plan provides for monitoring of water levels with the restoration and enhancement areas, so that any positive impacts can be verified and quantified – will this take account of the integrity of the peatland reinstatement measures over time and the associated water level sin the dammed off areas?

13.1.16. The Heritage Officer has not read the Remedial EIAR or Remedial NIS and is unaware of any water quality issues.

13.1.17. The archaeological report is out of date.

13.1.18. The planning authority cannot keep track of the level of degradation of landscapes of highly sensitive ecological value. The Gearagh SAC is being destroyed due to development of wind farms and coniferous forestry, with the resultant changes to hydrology in the Toon River and leading to more flooding. The Gearagh SAC is to be expanded.

13.1.19. The planning authority has not been equal in its treatment of the applicant's submission in balancing it against the action of completing the wind farm while legal proceedings were on going.

13.1.20. A submission was received from TII regarding conditions for the haulage route. The conditions are no longer relevant as the turbines are in place.

14.0 **Planning Assessment**

14.1. Please note that this is the first part of three assessment elements – planning matters, Remedial EIA and Remedial Appropriate Assessment. There is a significant degree of overlap between the three, as many of the same topics are involved. I have also woven

in the Observers views into all three assessments, so that points raised can be addressed where the information is provided. Dr. Flynn has also provided her report in Appendix 1, which I have considered in this main report.

14.2. Some of the observations have included links in the document to other pieces of information, available online. Under Section 130(1)(c)(iv) of the Planning and Development Act, 2000, observers are required to state in full, the reasons, considerations and arguments on which they are based.

14.3. The main planning issues in this application, in my opinion, are as follows:

- Does the applicant meet the test for 'Exceptional Circumstances'?
- Legislation and Policy matters
- Carbon Saving
- Noise
- Surface water, flooding and landslide
- Biodiversity and impacts on designated sites
- Amenity issues, including Shadow Flicker, Visual impact, and
- Other issues

14.4. **Exceptional Circumstances**

14.4.1. The applicant has applied for Substitute Consent under Section 177C (2(b)) of the Planning and Development Act, 2000. The section requires the applicant to be of the opinion that exceptional circumstances apply, to permit the regularisation of the development. I note that there is the option under Section 177C 2(a), where an applicant considers that the permission granted may be in breach of law or defective in a material respect, pursuant to a final judgement of a court in the state, by reason of an error in procedure, that an application for substitute consent can be made. This would seem to fit the facts in this case. The Board Order in the decision to grant Leave to Appeal however, also refers to exceptional circumstances (**ABP 306272-19**).

14.4.2. Whether regularisation would circumvent the purposes and objectives of the EIA or Habitats Directives?

14.4.3. The applicant argues that as that the application and appeal submitted that was subject to judicial review contained both an EIS and NIS, so there was no avoidance of the purposes and objectives of the directives.

14.4.4. The observers suggest that a grant of substitute consent would undermine the Directives. They argue that reason that the applicant pushed ahead with the construction of the wind farm is to ensure that the development could avail of the commercial returns available from REFIT 2, which are more generous than the later replacement scheme. Statements given to the court where the loss of REFIT2 being commercially catastrophic for the developer is referred to. As the driving force for completion of the wind farm is based on commercial reasons, which could apply to any business, then no exceptional circumstances apply. The applicant took a commercial risk. The precedent a grant of substitute consent would encourage other developers not to wait for the outcome of court cases brought on the basis of EIA and Appropriate Assessment. This could lead to the circumvention of the directives.

14.4.5. The Court of Justice has stated that retrospective measures cannot act as an incentive to bypass the EIA directive and the measures should remain exceptional. This has been echoed by the Irish judiciary.

14.4.6. The applicant notes that the court has stayed the quashing of the permission, pending the decision of the Board on substitute consent. Therefore, technically the permission remains in place.

14.4.7. I consider that this issue of circumvention of the Directives has to be considered in the round. Three separate applications (including this current one) have been made on the site. All three have included EIAR/EIS and NIS. The failures that have been identified by the courts in relation to the directives on this site were not due to the absence of compilation of information in terms of EIA or AA. There has been no attempt to avoid EIA or AA by the applicant.

14.4.8. The circumvention, as it is described by the observers, arose because works were undertaken while the planning permission was still being challenged before the courts. To allow the applicant benefit from this approach would encourage others to proceed with works before court processes have concluded, and to avail of substitute consent, making it a more frequent aspect of the planning system, which the European and Irish courts wish to prevent.

14.4.9. I consider that the applicant has not attempted to avoid EIA, but has availed of their legal right to implement a permission that has been challenged.

14.4.10. Whether there could have been a reasonable basis for a belief that the development was not unauthorised?

14.4.11. The applicant considers that a reasonable basis for the belief that the development was not unauthorised because there was a permission in place until the Supreme Court concluded that the permission had been invalidly granted.

14.4.12. The observers point to the history of judicial review on the site from the 2011 application and that there was an obvious risk of continued court challenge. The timeline for construction indicates that construction was ongoing while the permission was being challenged. As the judgement was delivered on 12.12.2019, the applicant would have known since that date, that there was no permission on the site, but still continued with their works. The applicant states that the majority of the turbines was constructed by then and the works that continued were necessary to safely complete works already commenced. The Observers disagree and consider that any works, in particular, after that date, are unauthorised.

14.4.13. There is technically a permission still in place, as the quashing order has been stayed. The applicant submitted their compliance material to the planning authority. No enforcement action was taken against the construction that can be seen from the planning authority public file. No Section 160 injunction was taken against the works, while these were being undertaken.

14.4.14. I consider that the applicant had a reasonable basis for the belief that the development was not unauthorised.

14.4.15. Has the ability to carry out an assessment of the environmental impacts or appropriate assessment and to provide for public participation been substantially impaired?

14.4.16. The applicant reiterates that the previous application and appeal was subject to both EIA and Appropriate Assessment which included public participation and the current application has similarly been subject to public participation.

14.4.17. Some observers suggest that the height of the turbines were lower than the current application and so the previous EIA and AA are not comparable. However, the

height of the turbines are the same as the previous permission. It was the 2011 permission where the turbines were lower.

14.4.18. Others state that public participation was poor and that the one public meeting held took place distant from the site.

14.4.19. The ability to carry out the necessary assessments has been substantially impaired and public participation is moot, due to the construction that has taken place.

14.4.20. I do not consider that the ability to carry out EIA or AA has substantially impaired. The baseline, receiving environment has been well documented since 2010. The 'before' and 'after' situation is readily discernible.

14.4.21. The requirement for public participation in decision making is a key aspect of the EIA and Habitat Directives. There were two published invitations for the public to participate in this application and the submission by the planning authority has been circulated to observers for comment. I consider that there has been no impairment of public participation in this particular application.

14.4.22. The actual or likely significant effects on the environment or adverse effects on the integrity of a European site resulting from the carrying out of the development or continuation of the development

14.4.23. The applicant states that the previous application and appeal was subject to EIA and AA and a finding that there would be no significant effects on the environment or adverse effects on the integrity of any European site was made. This is confirmed in the Remedial EIAR and Remedial NIS.

14.4.24. The observers are concerned that the studies that the application are based on are out of date and that the Hen Harrier has expanded its territory. The development would adversely effect this species of Special Conservation Interest.

14.4.25. There has been extensive bird survey on this site dating back to 2011. The latest survey undertaken was in May, 2020. Scottish Natural Heritage guidance is that bird survey results remain valid for a period of five years. Having reviewed the bird surveys, the use of the site is not extensive by Species of Conservation Interest and I would not consider that it has become part of the core foraging area for Hen Harriers, as the level of sighting are low. No roosts have been found on site.

14.4.26. The observers consider that there could be a significant effects on bats, which are attracted to the red light on the turbines. The red lights have a significant environmental impact, as the dark skies are destroyed. The evidence, in my opinion, does not demonstrate that there have been significant impacts on bats to date.

14.4.27. Noise is a significant environmental impact on the population living in proximity to the turbines. This will be discussed in greater detail later in the report.

14.4.28. The wind farm has resulted in a significant decrease in property values. This will be discussed in greater detail later in the report.

14.4.29. Cork County Council have recommended a grant of Substitute Consent for the development and are satisfied that mitigation measures have, and will continue to be effective. This will be discussed in greater detail later in the report. I note that Observers have questioned the legitimacy of the report, having regard to it being submitted after the 10 week period allowed for the Act, and the recommendation signed this year. The purpose of seeking the report of the planning authority is to inform this decision making process and I consider this input is of value.

14.4.30. I consider that the actual and likely significant effects on the environment or adverse effects on the integrity of European sites have been successfully mitigated, as will be set out in the relevant sections of this report.

14.4.31. The extent to which significant effects or adverse effects can be remediated

14.4.32. The applicant states that none have arisen and so no remediation is required. Observers state that only the early decommissioning of the wind farm will allow for the remediation of the site. I am satisfied that no significant effects or adverse effects have arisen and that additional works involving peat restoration will be carried out with the mitigation measures that have been effective to date.

14.4.33. Whether the applicant has complied with previous planning permissions as granted or has previously carried out an unauthorised development

14.4.34. The applicant states that the company, Cleanrath Windfarm Ltd. has never previously carried out development and that all conditions that were attached to the permission has been complied with.

14.4.35. Observers consider that this statement does not reflect that the developer of the site is Enerco Energy Ltd. which own and develop a large number of wind farms

in Ireland and internationally. Cleanrath Windfarm Ltd. is a subsidiary of the parent company.

14.4.36. The applicant submitted the compliance information to the planning authority and so has complied with the conditions of the permission. There is no evidence to demonstrate that the company, or its parent company, have carried out an unauthorised development.

14.4.37. Other such matters that the Board considers relevant

14.4.38. The applicant considers that in a situation where works were carried out pursuant to a planning permission that had been subject to EIA and AA, and the single issue of concern of the courts was how the Board dealt with public submissions in relation to the adequacy of national guidelines in place at the time of decision, that exceptional circumstances apply. The applicant considered that the court did not come to a finding that there were significant effects on the environment or significant adverse effects on the integrity of European sites.

14.4.39. Since this application was made in 2020, there have been material changes in circumstances having regards to the war in Ukraine and the decision by the EU to speed up the delivery of renewable energy, to end European dependence on Russian fossil fuel. To that end, the amount of renewable energy to be achieved by 2030 has increased to 80%. The revised energy directive will make renewable energy projects Imperative Reasons of Overriding Public Interest for public health and safety reasons. The consenting procedures for renewable energy are to be changed to projects to be expedited. While the revised directive has yet to be transposed, the direction of travel in policy terms is that renewable energy projects are critical infrastructure for Europe. Therefore, unless there is evidence of significant adverse impacts in relation to EIA or significant adverse effects on the integrity of European Sites, I am of the opinion that exceptional circumstances apply in this case, having regard to the need, at a European level, to respond to European energy security requirements, to reduce reliance on energy from sources outside the European Union.

14.4.40. I note the reference to Strategic Environmental Assessment (SEA) and that SEA has not been carried out for the NREAP or 2006 Wind Energy Development Guidelines as stated by Observers. This could be fatal from a legal perspective, it is argued, due the decision on C-24/19. There are exceptions, where it is necessary for

the security of the state. However, in this case, there has been an SEA carried out for the current development plan*, Cork Count Development Plan,* 2022-2028, which specifically considered wind energy and where the plan intends to more than double the capacity of renewable energy in the county and this site is located where wind farms are open to consideration. Therefore, I am satisfied that the SEA requirement has been fulfilled for wind energy in Cork County.

14.4.41. Conclusion

14.4.42. The permission has been declared invalid, due to a failing on behalf of the Board in terms of procedural and legal matters. Exceptional circumstances pertain that would facilitate a grant of Substitute Consent.

14.5. Policy Matters

14.5.1. Development Plan

14.5.2. The current development plan has changed since the application for substitute was made. The current development plan is the *Cork County Development Plan 2022-2028*. This is the appropriate development plan under which to assess the application. The applicant and observers in their comments refer to the previous plan. The planning authority, when asked for their submission, did not update their submission to take account of the new development plan. In response to circulation of the planning authority submission, the applicant's agent has stated that there are no significant changes in the new development plan relating to wind energy or the locality. I would concur that there are no new scenic routes designated nor protected structures.

14.5.3. Policy ET 13-1 states that it is an objective to ensure that the county fulfils its potential in renewable energy targets and contribute to the sustainable delivery of a diverse and secure energy supply. The intention is to achieve 1,100 MW by 2030, an increase of circa 500 MW on current levels. The wind farms should be focused on the areas that are acceptable in principle or open to consideration. The site is located in an area where wind farms are open to consideration.

14.5.4. The criteria for open to consideration are to avoid having adverse impact on a number of issues, including residential amenity, particularly in relation to noise, shadow flicker and visual amenity, areas of ecological, architectural and archaeological value, the visual quality of the landscape, degree of visibility and cumulative impacts.

14.5.5. These matters and other relevant policies will be dealt with under the relevant sections. However, I am satisfied that the development is located in an area where wind farms are acceptable, subject to certain criteria.

14.5.6. EU Energy Policy

14.5.7. REPowerEU 2022 and EU Directive 2018/2001, as amended 18.05.2022, and Renewable Energy Directive (RED III) agreed 30.03.2023, are focused on providing Europe with renewable forms of energy and energy efficiency measures. Legally binding targets for renewable energy for 2030 have been increased to 42.5%, with an optional increase to 45%, of total energy consumption (passed by the EU Parliament on 12.09.2023). Previously the target was 32% and 30%. A large number of observers pointed to how, in 2020, targets were close to being reached and that the wind farm was unnecessary in this context. Due to the changes in renewable energy targets at EU level, the need to generate more energy from renewable sources has materially changed.

14.5.8. In addition, the law seeks to speed up the administrative process for approving renewable energy projects. Under the Directive, national authorities are to approve or reject solar or wind projects in renewable 'acceleration areas' within 12 months. Outside of these areas, the decision time period is 24 months. Renewable energy projects have been designated projects of Overiding Public Interest for specific purposes, serving public health and safety. In 'acceleration areas' which have been subject to SEA, the need to carry out specific EIA at project level has been removed. Furthermore, the construction and operation of renewable energy plants is recognised as occasionally killing and disturbing birds and other protected species under the Habitats and Birds Directives. The Directive states that this is not considered deliberate if appropriate mitigation measures are in place to avoid collision or prevent disturbance. If there is clear evidence that the project is have major adverse effects on the environment that cannot be mitigated or compensated, then the project is to be refused.

14.5.9. The above legislation has not yet been transposed yet in Ireland. However, the direction of travel is clear – that unless there is major adverse effects on the environment that cannot be mitigated or compensated for, renewable energy projects should be approved in certain areas. Even where protected species are concerned,

once mitigation measures are in place to minimise killing and disturbance, renewable energy projects are to be approved. The purpose is to speed up the delivery of renewable energy, through simplifying the administrative process, to maximise the amount of renewable energy generated. EIA and Appropriate Assessment for individual projects are to be removed, as the assessment is to occur at SEA and Appropriate Assessment stage at a national level.

14.5.10. In the current case, there is a wind farm that is ready for operation, which can increase the amount of renewable energy that can be delivered in Ireland immediately. It would seem that EU law as it is currently evolving, would support the operation of the wind farm. The changes in EU law have been brought about due to the exceptional circumstances at an international scale that Europe is facing arising from the war in the Ukraine. While the legal changes have not been transposed here in Ireland, I consider, from a European energy perspective, that there is a presumption in favour of the operation of the wind farm, save for the demonstration of major adverse effects.

14.5.11. National and Regional Policy

14.5.12. The *National Planning Framework 2018-2040* (NPF) has a national strategic objective (NS0 8) to transition Ireland to a low carbon and climate resilient society. National Policy Objective 55 promotes the use of renewable energy. The *National Development Plan 2021-2030* has a target of 80% of energy generation from renewable sources. *Climate Action Plan* 2023 is predicated on 70% of electricity demand by 2030 and refers to the need to ensure security of supply. 9 GW of energy is to be provided by on-shore wind. Again, this indicates a presumption in favour of the operation of the wind farm, not least because of the opportunity cost in terms of a source of renewable energy and the time taken to provide for an alternative source.

14.5.13. Regional policy commits to implementing the NPF and Climate Action Plans. The *Blarney Macroom Local Area Plan* 2017 is not relevant to the development.

14.5.14. Conclusion

14.5.15. Policy at European, national, regional and county level support renewable wind energy. European law, yet to be transposed, adds further momentum in this direction. I consider, therefore, there is considerable policy support for a grant of Substitute Consent in this instance.

14.6. Carbon Saving

14.6.1. The development will provide renewable electricity for 19,272 households. The observers are concerned that the carbon saving calculation from the development does not include for the loss of carbon sink from peat and the carbon generated by the production of the turbines. The carbon losses arising from the development is set out in Table 10.10 of the Remedial EIAR. The losses include for the manufacture, construction and decommissioning of the turbines; the losses due to reduced carbon fixing; the losses from soil organic matter, leaching and felling of forestry. A minimum and maximum amount is indicated. The quantum is 27,551 tonnes to 29,104 tonnes over the 25 year life period. In contrast, the amount of carbon dioxide that does not require to be generated is 887,541 tonnes. Observers suggest that the degree of carbon saving is overstated, by approximately 7%. The need of back up gas fired plants ramping up and down to compensate for when the wind does not blow has not been included in the calculation. There is some merit in this argument. However, the *Climate Action Plan* 2023 seeks the decarbonisation by 2040, then the use of fossil fuelled power stations will be phased out. If the wind farm is refused permission, then its early decommissioning would lead to an annual increase in carbon emissions of circa 35,339 tonnes per annum that could otherwise be avoided.

14.6.2. I am satisfied that the calculation, if not perfect, demonstrates significant carbon saving over the operational lifetime of the wind farm.

14.6.3. Conclusion

14.6.4. The carbon savings from the development significantly outweigh the carbon losses.

14.7. **Noise**

14.7.1. I note the decision in Court Case **167/18**, turned on the point that the Board had failed to consider engage with the submission on behalf of third parties, that the *Wind Energy Development Guidelines*, 2006, were no longer fit for purpose and had enclosed some 26 documents relating to noise studies, health studies, property values, public health and safety, public participation and policy. I note that the latest of these documents dated from 2015 and when relating to noise, involved wind farms that used turbines have been manufactured and constructed from before that date. Another observer lists scholarly articles on the link between noise and health, dating from 2016 and others from 2019.

14.7.2. I refer to the *Draft Revised Wind Energy Development Guidelines, 2019* which note that turbine and blade design have been updated to minimise infrasound. The draft guidelines note on Page 67 that:

"*However, under some running conditions wind turbines can generate special audible characteristics in the form of amplitude modulation, tonal and low frequency noise at distances of hundreds of metres from the turbine*."

The solution in the draft guidelines is to impose penalties of up to 11 dB(A) on noise with tonal and amplitude modulation characteristics, in addition to a fixed threshold for low frequency noise. The draft guidelines update the method of noise calculation, set a maximum of 43 dB(A) as a Relative Rated Noise Limit and recommends provision for a complaints mechanism.

14.7.3. I accept that there have been significant difficulties in the operation of wind farms that impacted on local residents, which has been evidenced by reference to international studies. I note that the *Wind Energy Development Guidelines,* 2006 has not been updated to take account of the deficiencies set out in the draft 2019 guidelines. The main issue is that Section 28 guidelines are guidelines to be considered. It is possible to take account of new information or particular local circumstances to depart from the guidelines. However, the current guidelines are at least the starting point.

14.7.4. The *Wind Energy Development Guidelines* 2006 state that the cut-in speed, or the wind speed that turbines begin working at, is 5 metres per second (m/sec). Noise is louder downwind of turbines and that when wind speeds become faster, the noise of the wind masks the noise from the turbines. In general, a day time noise level of 45dB(A) or 5dB(A) above background noise is recommended, externally measured at noise sensitive locations. However, in low noise environments, the 5dB(A) may not be necessary to protect amenities and may unduly restrict wind energy developments, which have "wider national and global benefits". The noise level of 35-40dB(A), LA90, 10min, is the range recommended. At night time, the guidelines consider that external amenity is less relevant and allow for a fixed limit of 43dB(A) to protect sleep i.e. the wind turbines are allowed to operate at a higher level of noise. There is a general statement that noise is unlikely to be a significant problem where the distance from the nearest turbine to any noise sensitive property is more than 500 metres. Observers state that as the ambient noise level is less than 30dB(A), the maximum increase

allowed should be a fixed limit of 35dB(A). They consider that the noise from the turbines when operational is louder than is presented in the Remedial EIAR.

14.7.5. The *Draft Revised Wind Energy Development Guidelines* 2019 recognise that the above limitation "*lacked clarity and could potentially lead to significant increases in noise levels being set at low background noise level locations*." (Page 63). It takes into account guidance from WHO (2018) [guidelines cited by an Observer] and other professional bodies. The draft document states that the WHO guidelines found that noise gives rise to annoyance and did not find other health affects – it affects general amenity.

14.7.6. The draft guidelines seek to reduce the noise levels permitted to:

"*a relative rated noise limit of 5dB(A) above existing background noise within the range of 35 to 43dB(A), with 43dB(A) being the maximum noise limit permitted, day or night*." (Page 63).

14.7.7. In addition, the draft takes into account tonal noise, amplitude modulation and a fixed threshold for low frequency noise – issues of concern for the observers.

14.7.8. "*The relative rated noise limit sets two further limitations on the noise level: 1. A rating penalty for certain special audible characteristics (tonal noise and amplitude modulation); and 2. A maximum noise level of 43 dB(A). The rating scheme for special audible characteristics is discussed in this chapter and is set out in Technical Appendix 1 and imposes penalties of up to 11 dB(A) on noise with tonal and amplitude modulation characteristics, in addition to a fixed threshold for low frequency noise*." Page 63

14.7.9. Even where noise sensitive locations have a financial stake in the wind farm, the maximum noise threshold would apply.

14.7.10. The draft guidelines notes that modern wind turbines cut in at between 3 to 4 m/s and reach a maximum rated power at 10m/s. A maximum 35dB(A) shall be imposed at lower wind speeds (7m/sec), where the background noise of 5dB(A) applies. Night time noise is to be quieter and set at background plus 5 dB(A) for the evening period and the background level plus 10 dB(A) for the day period. The RRNL is set at 5 dB above the background noise curves subject to wind turbine noise levels remaining in the range 35-43 dB(A).

14.7.11. The draft guidelines state that with modern design, continuous infrasound elements have been eliminated. This also applies to Low Frequency Noise as downwind turbines are no longer used.

14.7.12. The applicant has put forward that the condition attached to the permission under **PL04.246742** provides for adequate protection of residential amenity (Condition 7). That condition has a fixed upper limit of 43dB(A), which is consistent with the night time limit of the 2006 *Wind Energy Development Guidelines*.

14.7.13. The applicant states that the 43dB(A) is being applied at night time, save for properties where there is a financial incentive, where a noise limit of 45dB(A) applies. The daytime limit is 40dB(A). I consider that a noise limit that allows for greater noise at night time, is inconsistent with the preservation of residential amenity.

14.7.14. Having regard to the varying standards set out above, I will assess the noise impacts as set out in the Remedial EIAR, which considers the noise background prior to the construction of the wind farm and the noise impacts as set out in the EIAR, for the operation of the wind farm.

14.7.15. The background noise, prior to construction of the wind farm, at the three nearest noise sensitive locations is set out in Table 11-12 of the Remedial EIAR, as follows.

Table 11-12 *Derived Background Noise Levels*

Location	Period	Derived $L_{A90,\ 10\ min}$ Levels (dB) at various Standardised 10m Height Wind Speed (m/s)							
		3	4	5	6	7	8	9	10
A	Day	23.5	24.6	26.0	27.4	29.0	30.8	32.6	34.6
	Night	18.7	19.8	21.2	22.8	24.8	27.1	29.6	32.5
B	Day	25.4	26.8	28.5	30.2	32.0	34.0	36.2	38.4
	Night	18.0	19.2	21.4	24.3	27.7	31.6	35.6	39.6
C	Day	21.4	23.8	26.1	28.5	30.9	33.2	35.6	37.9
	Night	19.5	20.9	22.7	25.0	27.5	30.2	32.9	35.6
Envelope	Day	21.4	23.8	26.0	27.4	29.0	30.8	32.6	34.6
	Night	18.0	19.2	21.2	22.8	24.8	27.1	29.6	32.5

14.7.16. It is evident from the information in the table that the area is a very low noise environment, particularly at night, where above 30 dB $L_{A90\ 10min}$ only occurs in windspeeds from between 8 to 10 m/sec for one of the dwellings. The 2006 *Wind Energy Development Guidelines* recognise that only allowing an increase of 5dB(A) would make it very difficult to permit wind farms in these locations. It notes the need

to weigh up the global and national requirements as well as local impact, when coming to a decision.

14.7.17. Noise when the wind farm is operating, taken from Table 11-16 in the Remedial EIAR, is set out as follows. It takes account of the cumulative noise assessment with Derragh wind farm.

Table 11-16 Comparison of Measured Cumulative Noise Levels against 2017 Planning Noise Criteria

NSL	Description	Total Noise Level dB L_{A90} at Standardised Wind Speed at 10m A.G.L.					
		3.0	4.0	5.0	6.0	7.0	≥8.0
C04	Measured Cumulative Noise Level	26.1	28.4	31.3	34.1	36.6	38.1
	Noise Criterion Curve	43.0	43.0	43.0	43.0	43.0	43.0
	Complies?	Yes	Yes	Yes	Yes	Yes	Yes
C18	Measured Cumulative Noise Level	24.1	25.5	27.8	30.4	32.8	34.4
	Noise Criterion Curve	43.0	43.0	43.0	43.0	43.0	43.0
	Complies?	Yes	Yes	Yes	Yes	Yes	Yes
C23	Measured Cumulative Noise Level	22.3	26.2	29.4	31.8	33.6	34.5
	Noise Criterion Curve	43.0	43.0	43.0	43.0	43.0	43.0
	Complies?	Yes	Yes	Yes	Yes	Yes	Yes

14.7.18. Of note, save for at C04- (House A), the noise level is below 35dB(A) at wind speeds up to 7 m/sec. The 1.6dB(A) above the level is not normally perceptible (generally, the human ear registers a change of 3dB(A)).

14.7.19. The following table one compares the 'before' and 'after' at a single wind speed, 7 m/sec.

14.7.20. Table 4: Comparison Pre-Construction and Post Development Noise Levels

House	Pre-Construction	Noise level dB LA90	Wind Farm Operational dB LA90	Difference dB LA90	Exceed 5dB(A)?	Exceed 43dB(A)?
A	Day	29.0	36.6	7.6	Yes	No
	Night	24.8	36.6 (assumed)	11.8	Yes	No
B	Day	32.0	32.8	0.8	No	No

	Night	27.7	32.8 (assumed)	5.1	Yes	No
C	Day	30.9	33.6	2.7	No	No
	Night	27.5	33.6 (assumed)	6.1	Yes	No

14.7.21. It is evident that the operation of the turbines will have a significant impact at a local level, particularly on House A. However, the noise level from the operation of the turbines comes within the limits of the 2006 guidelines, the draft guidelines (2019) and the daytime limit of 40dB(A).

14.7.22. There is an argument to limit the noise to 35dB(A), given the quietness of the area is below 30dB(A) when wind speeds are less than 8 m/sec, as recommended by the Observers. However, in this instance only one house is affected this severely. There is a balance to be struck between impacting the residential amenity of one dwelling, versus the carbon saving that the wind farm would produce if allowed to operate with a higher fixed limit. This is weighing up the interest of the state, to provide for energy from sustainable sources, is to reduce its carbon emissions, and the interest of amenity of the owners and or occupiers of a dwelling. I consider that the need of the state for sustainable source of energy outweighs the disamenity for the dwelling, the noise environment of which will remain below accepted maximum limits (43bB(A)).

14.7.23. I note that the wind farm has operated at a maximum noise level of 40dB during the daytime, under the noise condition associated with **PL04.246742**. I consider it reasonable to impose this a maximum noise level, on a rated noise level limit, on a 24 hour basis.

14.7.24. The Remedial EIAR states that for landowners with a financial interest in the project, a noise limit of 45dB LA90,10min for day and night time periods has been adopted. This exceeds the noise limits set in the *Draft Revised Wind Guidelines* 2019, which limit noise to 43dB LA90,10min.

14.7.25. I have reviewed the construction and decommissioning noise levels. These are consistent with normal standards. The impacts have already been experienced and

will be experienced again, whether the wind farm is decommissioned early or at the end of its operational lifetime.

14.7.26. An observer has questioned the above noise measurements prepared by AWN. The location of the measuring devices, the type of device, and the length of survey time are questioned. It is stated that a report prepared by another noise consultant on another wind farm considered the measurements provided on that site were in error. No expert report has been provided in relation to this wind farm. There is no evidence in front of me not to accept the information provided in the Remedial EIAR.

14.7.27. Tonal components, amplitude modification, infrasound and low noise frequency has been cited by observers as significant adverse impacts of wind farms. The *Draft Revised Wind Development Guidelines* 2019 state that many of these issues have been dealt with by way of changes in design and are not characteristic of modern wind turbines. Measures to mitigate these potential issues, should they arise, can be implemented in the future.

14.7.28. Conclusion

14.7.29. The wind farm, if operational, will have significant adverse impacts at a local level due to the quietness of the area, but the noise levels remain within national and internationally acceptable noise levels. On that basis, I am not inclined to recommend a refusal permission on this ground. The maximum noise level should be set on 43 dB(A) LA90, irrespective of financial interest associated with the wind farm.

14.8. Surface Water, Flooding and Landslide

14.8.1. Observers are concerned that the construction of the turbines bases has released peat and silt that has been drained to the watercourses in and around the site, leading to increased suspended solids in the water, which reduces water quality downstream, leading to a deterioration of water quality, which would in turn effect aquatic life and the birds and animals that feed on these. The main rivers around the site ultimately flow to the Gearagh SAC and SPA.

14.8.2. The Remedial EIAR details the measures undertaken in construction to prevent this from happening (9.5.2). Surface water quality monitoring was undertaken during construction and no evidence of a significant rise in suspended solids or deterioration

of water quality was found that could be connected to the construction site. I am satisfied that the construction of the development did not impact on the quality of surface water.

14.8.3. Concern was also expressed that the removal of peat on-site and its replacement with hard standing would increase both the volume and rate of run-off from the site. This would increase the risk of flooding, which could increase erosion, impacting on water quality and eroding the forested islands which are of high conservation value.

14.8.4. The Remedial EIAR states that the area of hard standing is approximately 9.5 hectares, within ancatchment area stated as 525 ha, approximately 2% of the area. The hard standing areas are surfaced with loose stone, so this in itself provides some permeability and attenuation. The increase in run-off rate is stated as 0.76% in the average daily/monthly volume, which is considered to be negligible. However, the flow of water in the rivers was monitored and no increase in water volume was detected. I am satisfied that the development will not lead to increased erosion or flooding, as the surface water run-off from the site has not significantly increased.

14.8.5. Landslide is also of concern to observers. The word is not specifically referred to in the applicant's documentation. However, peat instability is discussed. A Geotechnical and Peat Stability Assessment was completed prior to construction and informed the turbine locations and Construction and Environmental Management Plan. During construction, no observations of peat instability were made. During operation, vehicular movements, wind action and water movements can give rise to erosion. No heavy works will take place during extremely wet periods. However, over time, peat stability will increase with the growth of acrotelm. I am satisfied that the risk of landslide at operational stage and decommissioning is low.

14.8.6. Additional works in relation to peat reinstatement are required. Observers consider that quarterly monitoring of water quality is insufficient, particularly after extreme rainfall events. The planning has also requested water monitoring. This can be dealt with by way of condition.

14.8.7. Observers have raised the issue of surface water from the wind farm damaging roads and property, including a forest, and that the applicant has failed to rectify the damage. Photographs are included showing drains. If construction works have resulted in damage to private property, then I consider this a civil matter. Neither the Roads nor

Drainage Section in Cork County Council have commented on the development. The surface water drainage system, as set out in the accompanying drawings, appear comprehensive.

14.8.8. Conclusion

14.8.9. The development of the wind farm has not resulted in water pollution and has not increased the volume of water run-off to watercourses. Peat stability has been a risk that has been taken into account in the design of the layout and placing of the turbines. Ongoing water monitoring can be conditioned.

14.9. Biodiversity and Ornithology

14.9.1. The above section details how surface water was unaffected by the construction of development and that there has been no pollution and the hydrological regime has not been affected (please see also Section 15.9 of the EIAR assessment). Therefore, a significant amount of concern regarding aquatic life and the creatures, including species of conservation interest and protected species, that rely on the rivers, streams and lakes downstream of the site should be allayed. This includes the protected species, including Fresh Water Pearl Mussel, otters, fish, invertebrates and birds that feed on these. Therefore, this section will concentrate on Annex I habitat, and species listed in Annex II and / or IV of the Habitats Directive, the Kerry Slug, bat species, the Hen Harrier and the White Tailed Eagle. Badgers, protected under the Wildlife Act, were not found on site.

14.9.2. The report of Dr. Maeve Flynn, in Appendix 1, has also been considered in this section. Dr. Flynn considers the information provided in the Redial EIAR and Remedial NIS as adequate.

14.10. Habitats

14.10.1. As described in the REIAR, the site consists of a mix of habitat types. This includes wet and dry heath, upland and low land blanket bog (circa 63% of the site), and coniferous forest. Northern Atlantic wet heath with Erica tetralix may qualify as an Annex I habitat. However, it is dominated by Purple moor grass, and lacks the 50% cover of positive indicator species – with less than 15% cover of ericoid species and supports less than 10% bryophyte and lichen cover to be considered in favourable conservation status. Similarly, European Dry Heath lack the 50% cover of indicator species. Blanket bog (Active) is an Annex I Priority habitat. It is fragmented on the site

and generally occurs along with small areas of Northern Atlantic wet heath and Acid flush. The two larger areas have been avoided in the turbine and road layout. All has been subject to some degree of drainage and cutting. Whilst still active, it has a degraded hydrology. Bog woodland habitat on site is limited around the access road and does not correspond to the bog woodland (91D0) Annex I habitat because it lacks the required ground flora (25% Sphagnum). The site has been subject to human intervention for agriculture, peat harvesting (including the provision of drains to remove water), forestry and tracks and is not a pristine environment. For information on the habitats relating to each turbine, I direct the Board to 6.6.1.2 in the Remedial EIAR. In relation to the grid connection, it runs from T7 along the permitted Operational Access/Inspection Road (18/4458) to the public road.

14.10.2. The peat restoration proposals include the blocking forestry drains, removal of brash material and installation of piezometers to monitor the water table. I am satisfied that such measures will have a positive impact, along with the proposal to reinstate 4 hectares of peatland. I note the planning authority's submission suggesting conditions in relation to water quality. The removal of invasive species is positive.

14.10.3. An Observer has referenced protected flora on site, but while found in the general area, where not found on site.

14.11. **Bats**

14.11.1. Bats surveys were undertaken and use of the site was found to be low, due to its upland, exposed habitat. No roosts were found in 2020, which is consistent with the lack of suitable mature trees and type of trees in the conifer plantation. Common pipistrelle was the most frequently recorded at the site, with Liesler's bat was next most common. A single Lieslar's bat corpse was found near turbine 8, which is located near the coniferous forest. The NPWS raised concerns that that use of the site by Liesler's bat is significant and states that this type of bat is particularly prone to turbine collision. It recommended the condition that the monitoring of bat fatalities by trained dogs should continue through the life of the project and if there is a high number, the habitat should be monitored. Given that a single Leisler's bat corpse has been recorded on site and due to the mitigation measures proposed, I am satisfied that there will not be a significant impact on this mammal arising from the operation of the wind farm. The turbine blade tips are 50 metres from forestry. Curtailment can also be used

as a mitigation measure if necessary. Dr. Flynn concurs with the findings that impacts on bats are long term and slight and mitigation measures are satisfactory.

14.12. **Other mammals, amphibians, lizards, Marsh Fritillary butterfly, Kerry Slug**

14.12.1. Please refer to Section 15.6 on the Remedial EIAR assessment.

14.13. **Birds**

14.13.1. Bird surveys have taken place on site since 2011. Pre-commencement operational surveys took place in 2018 and 2020. I am satisfied that the bird survey date pertaining to these dates are still relevant, as the industry standard, Scottish Natural Heritage Guidance consider that these surveys have a validity of 5 years.

14.13.2. The site is circa 3 km from Lough Allua, a proposed Natural Heritage Area, less than 5 km from the Mullaghanish to Musheramore Mountains SPA and less than 8 km from the Gearagh proposed SPA.

14.13.3. The Key Ornithological Receptors are identified as Hen Harrier (Wintering), Golden Plover (Wintering), Chough (All Seasons), Merlin (All Seasons), Peregrine (All Seasons), Kestrel (All Seasons), Sparrowhawk (All Seasons), Snipe (All Seasons). The NPWS subsequently drew attention to the White tailed eagle.

14.13.4. No hen harrier roosts were found on site and there were 14 sightings of the birds. Observers are concerned that the hen harrier has expanded their territory to included the site. I note that Hen Harriers can have a core foraging area of up 5 km. While the site falls within this distance, the number of sightings are too low to consider the site as part of this core foraging area.. Collision risk assessment has been carried out to determine if the species is likely to collide with the blades and the risk is considered to be extremely low.

14.13.5. The White tailed eagle was observed on one occasion. Concern is raised by the NPWS and the observers that this re-introduced species may in future roost in Lough Allua, as the species expands its range in the South West. Topography in terms of the location of wind farms within eagle territories can cause issues, as occurred in Sillahertane wind farm, where 3 eagles were killed by collision with wind turbines. NPWS have requested that a specific condition be attached to any grant of permission. This requires annual and adaptive monitoring, to be co-ordinated with other wind farms in the area and shared with the NPWS and a precautionary management plan for

eagles be prepared and implemented. The two elements are the removal of any fallen animal carcasses from the wind farm and a protocol to reduce collision risk. The applicant agreed to this for the first 3 years, with a review in year 5, year 10 and year 15. If eagles are seen in Lough Allua, this will trigger surveys. Fallen carcasses will be removed. The protocol for reducing collision risk is that the risk analysis will be done each monitoring year and if found significant, the relevant turbine will curtailed until the risk is reduced. This approach appears pragmatic. Dr. Flynn concurs.

14.13.6. To date, only one corpse, subsequently identified as a skylark, was found when the wind farm was operating. I am satisfied that with continued monitoring of corpses that the risk to birds and bats can be established and curtailment introduced, if required.

14.13.7. Having regard to the remaining Key Ornithological Receptors, the Chough was considered of county significance and the remainder of local significance. The Chough was only recorded on two dates during the surveys of 2015 and 2017. I am satisfied that the wind farm is not likely to have significant effects on the Chough.

14.13.8. Dr. Flynn considers the surveys undertaken are extensive, adequate and up to industry standard. Significant effects have not occurred and are not anticipated to occur.

14.13.9. Conclusion

14.13.10. Both biodiversity and ornithology have been subject to detailed consideration. Dr. Flynn is satisfied with the mitigation and monitoring measures proposed and the prevention of the spread of invasive species. This combined with adaptive monitoring will ensure that significant effects will be prevented. I concur, particularly in relation to curtailment, which if necessary, will provide adequate protection for both bats and birds. I am satisfied that that other protected species will not be significantly effected.

14.14. Shadow Flicker

14.14.1. The applicant has indicated that, if left unchecked, 18 locations would be affected by shadow flicker and of these 14 would exceed 30 minutes. Observers have indicated the unsuitability of the site for wind turbines due to shadow flicker. However, in accordance with the *Draft Revised Wind Energy Guidelines*, the turbines can be curtailed under the conditions that shadow flicker arises. I am satisfied that shadow flicker can be curtailed and this can be conditioned.

14.14.2. Conclusion

14.14.3. I do not consider shadow flicker a reason to refuse Substitute Consent.

14.15. **Visual amenity, landscape and scenic routes**

14.15.1. The site is located in a High Value Landscape Area, where wind farms are 'open to consideration'. Please refer to the photomontages supplied. These are not photomontages as normally contemplated, which is what a development might look like in the future – these are a record of what is constructed.

14.15.2. As the observers have stated, there are a number of wind farms in the area. As well as the Derragh wind farm, other wind farms are visible at different viewpoints. The observers are concerned that the landscape is at tipping point, from being a rural, upland area to an industrialised landscape. The piecemeal approach of single wind farm applications is eroding the landscape and impacting on communities and individuals. The EIAR states that the number of wind farms in the area is 27 (existing, permitted and proposed with 45 turbines combined). The locations of these can been seen in Figure 13-6.

14.15.3. The bulk of the wind farms are not visible from the area. However, there are enough wind farms for it not to be an uncommon sight. This has the effect of normalising the development and lowering the 'surprise' when coming across one. The 2006 *Wind Development Energy Guidelines* refer to the 'Mountain Mooreland' landscape type as being capable of absorbing a number of wind farms. The *Draft Revised Wind Energy Development Guidelines* 2019 refer to the need to consider the spatial extent, in terms of its panoramic setting. In this case, the development is not located on the highest ground and there is a backdrop of mountains in some views. This backdrop in my opinion, relieves the visual dominance of the development.

14.15.4. In relation to Scenic Routes, county development plan policy is that the developer must demonstrate that there is no adverse obstruction or degradation of views. I have identified the scenic routes from the where the wind farm is visible in my assessment of the EIAR. Important views taken from Scenic Routes are VP1, VP4, VP6, VP7 and VP10. The EIAR in Table 13-6 describe the impacts as being moderate, save for VP7, which is considered slight. Observers are particularly concerned about the views of the site from Lough Allua, but I do not consider that it diminishes the

quality of the view. I would consider that the development does not have a significant adverse impact on the landscape.

14.15.5. Turbine 6, when viewed from Derrineanig, is imposing on the landscape. However, I note that the dwellings in the area generally do not face towards the hill, but instead face towards the valley. Therefore I am satisfied that the turbine does not unduly detract from the amenity of the dwellings.

14.15.6. Long distance walking is promoted in the development plan and the site is visible from Slí Mhuscaraí. I do not consider it detracts from the walk and consider that walking based tourism would value the 'green' credentials of the development.

14.15.7. Conclusion

14.15.8. The development does not significantly detract from the landscape and is acceptable in terms of visual amenity.

14.16. **Proximity to Houses**

14.16.1. Observers point to Bavaria, where wind turbines are required to be located 10 times the tip height from dwellings. I note that recently, the rest of Germany has set a standard of 4 times the tip height from dwellings, as it found it impossible to deliver on renewable energy projects. Given the dispersed nature of rural dwellings in Ireland, I would concur that renewable energy projects would be effectively halted if this standard of 10 was adopted. The dwellings in this project are a minimum of 600 metres distant from turbines (4 times from tip height) and so I am satisfied that this is a reasonable distance. The *Draft Revised Wind Energy Development Guidelines* 2019 recommend this separation distance for visual amenity reasons, subject to a mandatory setback of 500 metres.

14.16.2. Conclusion

14.16.3. An adequate setback distance has been set in relation to turbines and housing.

14.17. **Property Devaluation**

14.17.1. Studies have been put forward by both the applicant and observers on the matter of property devaluation. Some studies indicate significant devaluation (as indicated by a submission on this file in relation to an individual property, of the order of 50%) and other studies show no impact on property value. It is likely that there is truth on both sides. Individual buyers may be put off by the presence of turbines, while,

for others, it may not be a concern and some could view the presence of turbines as a positive contribution to climate change and consider the association positively. Those with properties involved in the wind farm may see the value of their property increase where the wind farm is generating an income stream from the land.

14.17.2. The area is a scenic part of Cork where wind farms are quite plentiful and are likely to become more plentiful, having regard to the ambition of the county development plan. This wind farm is not extensive and is generally not, visually overbearing on individual dwellings. Therefore, impacts on property value are unlikely to be negative in the long term.

14.17.3. Conclusion

14.17.4. The roll-out of on-shore wind farms will significantly increase in Cork (nearly doubling in the current county development plan). I do not consider that wind turbines are likely to permanently reduce property values unless there is significant overbearing. That does not occur in this wind farm and I do not consider it is a reason to refuse Substitute Consent.

14.18. **Dark Sky**

14.18.1. The county development plan has a policy (BT15-3) to minimise light emissions and have regard to Dark Sky principles. The Observers point to the impact that the red lights on the nacelles have on the amenity of the area and how there is better technology available, where the lights only come on when needed when aircraft are in proximity. I consider that the loss of the dark sky has to be weighed with aviation safety. I do not consider it appropriate to condition the use of lighting reliant on transponders without recourse to the Department of Defence and Irish Aviation Authority.

14.18.2. Conclusion

14.18.3. The current light settings are appropriate, should Substitute Consent be granted.

14.19. **Cultural Heritage**

14.19.1. The development has made new archaeological finds, which have been subject to appropriate investigation. I am satisfied that the views of the wind farm do not detract

from archaeology or protected structures in the general. As referred to above, the development does not significantly detract from the walking routes in the area.

14.19.2. The site is located in the Gaeltacht and the signage should be both languages. This could be achieved by condition.

14.19.3. Conclusion

14.19.4. There is no significant impact on cultural heritage, tourist walks or the Irish language.

14.20. **Telecommunications**

14.20.1. Observers have stated that there are difficulties with TV reception when the turbines were operating. The applicant has indicated that that an agreement is in place with RTE. I consider that a condition can be applied so that persons who are experiencing difficulties with TV Reception can be provided with alternatives. Should there be interference with microwaves signals, alternative arrangements can be made to boost signal.

14.20.2. Conclusion

14.20.3. Impacts on telecommunications can be mitigated by way of condition.

14.20.4. Employment / Community Gain

14.20.5. Observers are concerned that the development will not lead to jobs in the local area. I consider that the wind farm industry has created jobs in the region, both in terms of construction and operation. In addition, during construction, many workers have stayed over locally, so this has provided additional income at local level. I also consider that there are indirect employment gains as industries increase reliance on renewable energy sources and Ireland becomes an attractive location for such companies.

14.20.6. There is a direct benefit to the local community in terms of a community benefit fund. This has an initial fund of €150,000, of which €100,000 has already been dispersed. An annual contribution of €30,000 for 25 years will be provided from operation. Such contributions should be index linked, to ensure that they remain as valuable in later years. This can be conditioned. There are also direct long term financial benefits to landowners involved in the project.

14.20.7. Conclusion

14.20.8. The development has brought direct economic benefits to the area at construction stage and ongoing.

14.20.9. Underground Cabling

14.20.10. I have stated that as the underground cable grid connection is subject to a separate permission, I do not consider that any legal consequences from this application can technically affect that permission. When the wind farm is decommissioned, the cable will be rewound, but the ducting will remain in place. This is considered pragmatic, to avoid future environmental impacts. Concerns are raised about the location of the underground cable. The location of the cable is indicated by markers and there are joint bays at surface level.

14.20.11. Others have raised the issue of consent as the ownership of the land below the road is claimed. Article 22 (2) (g)(ii) of the Planning and Development Regulations, 2001, as amended, allows where the applicant is not the legal owner of the public road, written confirmation that the proposed development concerned is to be undertaken by a statutory undertaker having a right or interest to provide services in connection with the proposed development, applies. The applicant is such a statutory undertaker.

14.20.12. Concern is raised about EMF, from the grid connection. The grid connection from Cleanrath wind farm to Derragh wind farm is 33kV, which is a power line regularly used in suburban areas and can be carried on wooden pole sets. I do not consider that the underground cable is likely to have any health implications.

14.20.13. Finally, there is reference to moving the underground cable in the planning authority's report. This matter has been dealt with during construction.

14.20.14. Conclusion

14.20.15. The underground cable grid connection will not give rise to environmental impacts and can be safely identified.

14.20.16. Cumulative Effects

14.20.17. Concerns have been raised used that the cumulative effects of the wind farms in the area, including Augeris and Shehy More have not been considered. This is not

accurate and these wind farms have been included for cumulative effects in most chapters of the EIAR.

14.20.18. The Derragh wind farm is the wind farm in proximity to Cleanrath and Observers have made the point that the two wind farms could be viewed as the same project. They visually read as one in some views, the substation is shared and the grid connection goes from Cleanrath into Derragh, before continuing to Coomataggart Substation. They are described as one development on the Enerco website. However, I am satisfied that the two wind farms are separate from a planning perspective. I am also satisfied that the other wind farms in the area have been considered for cumulative purposes.

14.20.19. Conclusion

14.20.20. Cumulative impacts have been adequately assessed.

14.20.21. Model of Turbine Assessed and Turbine Safety

14.20.22. Observers are concerned that the model of turbine that is being used has not been identified. This is not accurate. The turbine model is Nordex 117. The safety of the mechanical operation of turbines is not a matter for the Board. The separation distances of turbines from dwellings exceed 4 times the blade tip height, so in the event of turbine collapse, or turbines going on fire, there is an adequate buffer from dwellings. Others have raised concerns about the fuel stored in the nacelles could give rise to pollution if there was a leak. This risk is recognised and a programme for regular inspection for leaks and fitness for purpose of plant and equipment is to be part of the operational phase.

14.20.23. Conclusion

14.20.24. The model is known and the turbines are located an adequate distance from dwellings. The safety, monitoring and maintenance of the turbines will be part of an ongoing programme of inspection.

14.20.25. Views of the Planning Authority

14.20.26. Various observers are under the impression that that the planning authority has consistently refused planning permission for the development. This is not accurate. The decision to refuse planning permission was made by Cork County Council in 2011. In 2016, the planning authority granted permission for part of the development. The

planning authority has recommended a grant of permission in this substitute consent application. I include this information for clarity.

15.0 Remedial Environmental Impact Assessment

15.1. Introduction and Scope

15.1.1. This application is accompanied by both a Remedial EIAR (REIAR) and EIAR. The REIAR and EIAR in this case relates to the same development. The applicant has provided for the construction, operation and decommissioning of the wind farm into the REIAR and the operation and decommissioning into the EIAR. The logic for this is that the wind farm has been constructed, but is not in operation, as it is in 'sleep mode' and therefore that part of the development has not been carried out.

15.1.2. In this case, 9 of 11 turbines have been constructed. I am of the view that an EIAR would be required if the applicant sought to construct the additional two turbines. However, this is not the case, in this instance. The applicant is seeking substitute consent only for the wind farm 'as built'. Inherent in retention of the structures is the operation and decommissioning of the wind farms, in my opinion. It would not make sense that a substitute consent application could be granted for the construction of a wind farm, but not its operation. Therefore, for the purposes of this assessment, I will focus on the Remedial EIAR, which covers all aspects of the development from construction to decommissioning.

15.1.3. The development that the Remedial EIAR describe includes the underground connection to the national grid, which connects through to the administrative area of Kerry County Council to the substation at Grousemount. The majority of the connection is shared with the Derragh wind farm, which was permitted under **P.A. Reg. Ref.17/5126** and which combined the transmission of electricity from both wind farms. The 2 km of underground cabling underground connection for both wind farms in Kerry has not been challenged, and is a permission that has been implemented (**P.A. Reg. Ref. 15/1164**). While I accept that a grid connection is part of the overall project of the wind farm, for all practical purposes, any decision on the adequacy of the Remedial EIAR will not impact on the bulk of the underground connection, as the grid connection will continue for Derragh wind farm. The removal of the 33kV cable to the Derragh wind farm (circa 3 km in length) will involve the extraction of the cables

from the cable ducting via cable joint bat and rolling onto cable drums, which does not involve works, from a planning perspective. The focus of the assessment of the Remedial EIAR will therefore concentrate on the turbines and only the construction of the underground connection to Derragh wind farm. The haul route for the turbines is briefly reviewed, as it will be necessary for decommissioning. That is the project subject to substitute consent, in my opinion. This limits the extent of conditions that An Bord Pleanála may wish to apply.

15.1.4. The individual members of the design team that has prepared the Remedial EIAR indicted their qualifications and experience. I note that some observers have expressed a lack of confidence in certain consultants, I am satisfied that they have sufficient expertise in their areas.

15.2. Non-Technical Summary

15.2.1. The REIAR includes a Non-Technical Summary (NTS). I have reviewed it. I note that the NTS does refer specifically to major accidents or natural disasters. The NTS refers to peat instability, but the purpose (in part) of the NTS is to make technical language more accessible to the public, therefore it would have been useful to use the term landslide or peat slide. Notwithstanding this reservation, I consider these an accurate reflection of the chapters in the main volumes.

15.3. Consideration of alternatives

15.3.1. Summary of Alternatives

15.3.2. In the Remedial EIAR, alternatives are presented in terms of the 'Do-Nothing' option, alternative sites, alternative land uses, alternative turbines, turbines numbers and models, alternative site layout (turbines, road layout, electricity substation and grid connection) alternative transport route and site access and alternative early decommissioning.

15.3.3. Alternative sites are discussed in terms of how the applicant arrived at the choice of this particular location. The document notes that planning permission has been granted on the site previously and while these permissions were challenged, the strategic suitability of the site for a wind farm has not been.

15.3.4. One of the considerations is the grid connection, which ideally should be less than 15km from the wind farm. The Coomataggart substation fits this criterion. Other

considerations are development plan designations, environmental designations, the need to avoid low lying valleys where settlements are located, the availability of wind speeds, planning history and settlement patterns. Cleanrath emerged from this assessment as being sufficiently large enough to cater for the wind farm and is considered optimal.

15.3.5. An alternative land use would be to return the site to its original land use – commercial forestry and grasslands. This is not considered appropriate by the applicant due to the loss of a renewable energy source and reduction in greenhouse gas emissions. Forestry would not generate renewable energy or reduce the reliance on fossil fuels.

15.3.6. Alternative turbines were considered prior to selecting the turbine envelope. The installed turbines are considered the most efficient. Eleven turbines could have been installed, with a lower blade to tip height of 126 metres, as per the 2013 permission. This was not considered the most efficient use of the wind resource. Increasing the height to 150 metres would generate more renewable energy.

15.3.7. Eleven turbines was not considered a viable alternative as the available grid capacity could not accommodate it.

15.3.8. More numerous turbines at a lower height was considered to achieve the same power output (circa 26 MW). This would have required 18 no. turbines. This would have required a greater footprint and more road infrastructure, increasing the risk of environmental impacts.

15.3.9. The alternative layouts considered were the six turbine layout as granted by Cork County Council in 2916 (**P.A. Reg. Ref. 15/6966**). However, this limited the contribution to meeting renewable energy targets.

15.3.10. The omission of two turbines, one of the borrow pits, the met mast and related infrastructure has a negative effect in terms of air and climate. However, there are gains in terms of reduction in environmental effects for noise, shadow flicker and visual effects and reduced environmental effects.

15.3.11. In terms of road infrastructure, the upgrading of the existing road infrastructure is preferable to designing a new road network. The substation associated with Cleanrath wind farm would have been an unnecessary duplication. Underground cables are considered less visually intrusive than overhead lines. The route chosen is on existing public road corridors and existing tracks. An amended route was granted

planning permission under **P.A. Reg. Ref**. **18/4458** and is a shorter route, reducing the potential for environmental effects. The same permission provided for one access route for turbine delivery (instead of three options) and the road to the west of the turbines was used for cabling purposes.

15.3.12. The decommissioning of the wind farm would result in missing the national target for renewable energy of 40% in 2020 and 70% by 2030. This would result in a long term slight negative effect on air quality and climate due to the reduction in renewable energy. The decommissioning the wind farm early would involve further construction works which would need mitigation to offset potential environmental impacts. It is considered the least environmentally sustainable option and the potential loss of renewable energy.

15.3.13. The preferred option is the operation of the Cleanrath wind farm as constructed.

15.3.14. Inspector's Analysis of Summary

15.3.15. I note that the 'Do-Nothing' alternative is described leaving the site as it was, prior to construction. This is not a 'Do-Nothing' scenario in the context of a development that has been constructed, in my opinion. The 'Do-Nothing` scenario, then is the option of the wind farm remaining in 'sleep mode'. This is not a reasonable alternative in my view, as the visual impact of the wind farm development remains without any benefit of electricity generation or reduction in Greenhouse Gases (GHG). The development must be either allowed to operate or be decommissioned. I do not consider that a 'Do-nothing' approach is appropriate in the context of a development that has already taken place.

15.3.16. Inspector's Evaluation

15.3.17. Observers have made the point that there are three main reasonable alternatives in relation to this development. The first is decommissioning the wind farm in its entirety; the second is retaining the wind farm and permitting its operation in its entirety and the third considering the removal of certain turbines due to their impact. I concur with these choices. This last option was considered by the applicant in terms of the Cork County Council decision on the 2016 development, which was to omit 5 turbines. However, the turbines which were to be omitted by the council related to impacts on habitats. The Board did not concur with the omission of these turbines on that basis and likewise, the courts did not find that there was a habitat issue. The

Supreme Court found that there was a difficulty in the treatment of noise, where submissions were made that the condition on noise in the *Wind Energy Development Guidelines, 2006, was considered effectively not fit for* purpose and this matter was not addressed in the Inspector's report. The omission of turbines on the grounds of habitats was not considered necessary on the basis of the information provided at that point in time.

15.3.18. Inspector's Comments and Conclusion

15.3.19. Notwithstanding the above omission, the influence of environmental effects on the choices made in relation to alternatives presented, is clear. Each chapter considers a 'Do-nothing' Scenario, but I do not consider this a relevant option, as stated above. However, I acknowledge that the consideration of this scenario is part of EIA practice. The alternatives available to An Bord Pleanála, in my opinion, is to grant, refuse or amend the current development.

15.4. Description of Development

15.4.1. Chapter 4 in the Remedial EIAR sets out the development and its various components. The location of the wind turbines, turbine type, foundations and their construction, power output; site roads (existing and newly installed roads (4.8km) and floating roads), borrow pit and rock extraction areas and methods, peat and overburden management, the Derragh wind farm substation, site cabling, grid connection, construction compound, site entrances, turbine and construction materials transport route and related improvement works and a temporary delivery accommodation roadway. Associated works include peatland habitat restoration (still to be undertaken), tree felling and tree planting and site drainage are described. Interceptor drains, swales and check dams, level spreaders, vegetation filters, stilling ponds, silt bags, watercourse crossings, silt fence and forestry felling drainage, borrow pit drainage, cable trench drainage, preparative and reactive site drainage manage measures are included. The construction phase is described, in terms of timing, sequencing, monitoring and oversight. Construction methods are set out for the turbines, roads, hard stand areas and Derragh substation. The construction compound is described. The methodology for cable ducting and road crossings; how existing underground services are dealt with and drain crossings and culverts are completed. A community gain proposal is explained. This has an initial fund of €150,000, of which

€100,000 has already been dispersed. An annual contribution of €30,000 for 25 years will be provided from operation.

15.4.2. The operation phase is described, including the restoration of peatland habitat, the maintenance and monitoring programmes. The development will provide energy for 19,272 households.

15.4.3. The decommissioning phase is described, which includes a traffic management plan.

15.4.4. Commentary and Conclusion

15.4.5. The chapter contains a satisfactory description of the development to be retained and operated. There is adequate information on the site, design, size and other relevant features of the development.

15.4.6. Observers have drawn attention to the fact that the Derragh wind farm is within the same ownership as the owners of Cleanrath wind farm – Enerco Energy. Enerco Energy's website of 29.08.2023 describes the Cleanrath wind farm as being operational and providing 46.2 MW and consisting of 15 no. turbines. I note the planning history of the Derragh wind farm which was subject to EIA. I note that a single grid connection provides for the power generated by both wind farms to be fed to the substation at Derragh and on to Coomataggart Substation. I am satisfied that while the two wind farms may be described on the company website as a single project, that the two wind farms began life as separate entities and one has the benefit of a permission, for which EIA has been undertaken, while the other is the subject of this substitute consent process. The Derragh wind farm has been included in the REIAR in terms of cumulative impacts. I am satisfied that the Remedial EIAR have given an adequate description of the project for which Substitute Consent has been sought, albeit including the underground cable route, which does not require regularisation from a planning perspective.

15.5. **Population and Human Health**

15.5.1. Inspector's Summary and Analysis

15.5.2. This chapter in the Remedial EIAR describes population, human health, employment and economic activity, land use, residential amenity, community facilities and services, tourism, property values, shadow flicker, noise and health and safety.

15.5.3. The population is based on the 2016 Census and is stated as 1,335 persons, over a land area of 87.1 square kilometres. I note that the density of population is very low at around 16 person per square kilometre (dividing the population by 87 square kilometres). The figure in the Remedial EIAR is 21 persons, so a different area was used for this. 68% of the land use is farmland, generally pasture.

15.5.4. The majority of population are concentrated around Inchigeela. The population grew between 2011 and 2016 by 13 persons, circa 1%. This is significantly lower than County Cork, which grew at a rate of 4.6%. There was little change in household numbers, as it was 488 households in 2011 and 489 households in 2016.

15.5.5. The most common occupation was farmer, followed by skilled manual and employer manager. Circa 150 persons are employed in farming. During construction, 80 direct jobs were created for a 16 month period.

15.5.6. The nearest school is stated to be in Inchigeela, but the national school in Reenanaree would be closer (circa 1.7km versus 2.6km).

15.5.7. The economic value of wind farms to the state, the power created and the number of jobs created is described. The Deloitte report (2009) which estimated that up to 30% of capital investment is retained in the local economy, into construction, legal, finance and other professional services.

15.5.8. Local amenities will benefit from enhanced facilities via the Community Benefit proposals.

15.5.9. The Cleanrath wind farm is not considered to impact on the tourist attractions in the aera, including the Lee River Valley. There is some potential for visual impacts on three scenic routes – S26, S27 and S34. These are to be assessed in the chapter on landscape. However, research in Scotland (Scottish Tourism Survey 2016) indicates that that there are no conclusive negative impacts from wind farm development. Fáilte Ireland surveyed tourists in 2007 and found that most had seen a wind farm on the holiday. 15% considered the impact negative but 45% saw it as positive.

15.5.10. Health impacts are considered in this chapter. The Environmental Noise Guidelines for the European Region WHO Regional Office for Europe (2018) recommend reducing noise levels to below 45 dB Lden. It notes a risk of annoyance at levels below this standard, but cannot determine if this risk leads to a health impact.

15.5.11. The HSE *Position Paper on Wind Turbines and Public Health* 2017 found that scientific evidence of health impacts was weak or absent. It recommended that the 2013 *Draft revision to the Wind Energy Development Guidelines* (2006) which set stricter noise limitations and a minimum setback of 500 metres from the nearest dwelling and the complete elimination of shadow flicker.

15.5.12. Other international studies are cited. These concur that health impacts arising from turbines have not been scientifically demonstrated. Observers have referenced studies that state the opposite.

15.5.13. Flying fragments of ice on wind turbines is not a threat as sensors on the blades cause the blades to stop rotating until the blades have been de-iced.

15.5.14. Turbine blades are glass fibre reinforced plastic so are unlikely to increase lightning strikes. Lightning protection conduction cables run from the nacelle to the base of the turbine and are then earthed.

15.5.15. The Extremely Low Frequency (ELF) and Electric Magnetic Fields (EMF) comply with international guidelines.

15.5.16. The construction phase can give rise to potential health impacts from dust, potential spillage of hydrocarbons to land and water, silt and noise emissions. However, the residual effects have not occurred.

15.5.17. No water supplies have been impacted.

15.5.18. No flooding has occurred and there has been no change to the hydrological regime.

15.5.19. The type of natural disaster or major accident is considered to be limited to flooding and fire. There are no significant sources of pollution from a wind farm so environmental or health effects are limited. The Observers refer to the need for to consider landslide as a significant risk of major accident. I would concur with that. Peat instability is considered in the EIAR, but not under this heading.

15.5.20. There have been no studies in Ireland on property values. The Remedial EIAR cites an American study, in 2009, that found over 7,500 sales within 10 miles of 24 wind farms there is no evidence of consistent, measurable and significant effect on property values, but the possibility may exist for individual or small numbers of homes. A similar study in 2013 which covered 50,000 homes sales found the same. A UK

study in 2014 came to a similar conclusion. A Scottish survey in 2016 for 500,000 properties found that property within 2 to 3 km found either no significant effect or a positive one. The Observers refer a paper from Gibbons in the London School of Economics in 2015 which assessed 38,000 property transactions. It found that the closer a property was to a wind farm, if that wind farm was visible, there is a fall off of circa 6% of property value if less the wind farm had less than 10 turbines and 12% if 20 or more wind turbines. The graph illustrating this information shows that if the wind turbines were not visible, there was an increase in value of circa 3%, the nearer a wind farm. This probably a reflection of the fact that wind farms are often located in attractive landscapes, which have an inherent value, but also shows how difficult it is to extrapolate for one criterion only when analysing property transactions.

15.5.21. Shadow flicker can be predicted and eliminated, as required under the *Draft Revised Wind Energy Development Guidelines* 2019. Shadow flicker as described in the Remedial EIAR complies with the *Wind Energy Development Guidelines* 2006, which allow for a limited amount of shadow flicker. All residential properties within 10 rotor diameters of turbines have been assessed (18 in number). The nearest residential property is 613 metres, or in excess of 4 rotor diameters (600 metres).

15.5.22. The turbines have been tested, so a worst case scenario can be provided. Sixteen properties may experience shadow flicker. The daily threshold figure is exceeded in 14 properties, however the annual figure is not exceeded in any property. Only 7 of the 14 properties have a clear line of sight to the turbine without obstruction. The properties are tabled and mapped. The new turbine numbering is used in the tables. No residual effects are anticipated as the turbines can be curtailed during the relevant periods, as described in the mitigation measures.

15.5.23. No cumulative shadow flicker arises with the Derragh wind farm.

15.5.24. The residential amenity (noise, shadow flicker and visual amenity) is considered as well as the effects on residential amenity during construction.

15.5.25. The Construction Phase in terms of the Health and Safety of workers is also considered with mitigation measures. Construction noise is discussed under the relevant chapter.

15.5.26. Interference with Communications Systems can occur. This can be dealt with by way of installation of deflectors or repeaters. This is also considered under Material Assets.

15.5.27. The effects of an early decommissioning phase are considered. It is noted that while the physical impacts are the same, the effects are different as the renewable energy that the turbines would create would be lost to the state and alternative sites would have to be found to replace the site with.

15.5.28. Inspector's Evaluation of Direct Effects

15.5.29. I consider that this chapter has considered the direct effects on population of the construction and operation of the wind farm. It does not detail the operational noise impacts but this is considered elsewhere.

15.5.30. Inspector's Evaluation of Indirect Effects

15.5.31. Generally, no indirect effects are found, save in relation to employment and investment, which is considered long term and positive.

15.5.32. Inspector's Evaluation of Residual Effects

15.5.33. Residual effects on human health are considered not to occur. Some slight negative impacts may have arisen during construction. However, with mitigation measures in place these are not expected to be significant.

15.5.34. Cumulative Impacts

15.5.35. Cumulative impacts with the Derragh wind farm are considered and are not considered significant.

15.5.36. Inspector's Comments and Conclusions

15.5.37. The chapter does not refer to the site's location in the Gaeltacht, although referred to in the chapter on archaeology and cultural heritage. However, any impact on the linguistic asset of the area is not anticipated. The chapter refers to tourism and property values, which would normally be considered under material assets. Save for the points raised in the proceeding, particularly in relation to landslide as a possible major accident or natural disaster, I am satisfied that Remedial EIAR has adequately described the receiving environment, the direct, indirect, residual and cumulative impacts of the development in relation to population and human health.

15.6. **Biodiversity**

15.6.1. Inspector's Summary and Analysis

15.6.2. The Remedial EIAR refers to the potential for significant effects to occur or whether significant effects have occurred on biodiversity, which includes flora, fauna and habitats during construction, the short-term operational phase, the current Sleep Mode and operation. Impacts on birds are considered in Chapter 7, Ornithology. The receiving environment described is pre-construction. It includes the turbine delivery route and the grid connection.

15.6.3. The Remedial EIAR refers to relevant guidance and legislation. The methodology for each individual survey is provided. Relevant stakeholders were consulted for scoping purposes.

15.6.4. Field Surveys were carried out between 2010 and 2020. Winter and summer surveys were undertaken, where appropriate, before, during and after construction. Detailed habitat assessments were undertaken, as well Invasive Species Surveys. Mammal surveys were carried out in 2015 and again in 2018. Bat surveys were carried out in 2015, 2020 and are stated to be currently ongoing. The otter survey paid particular attention to the River Toon, to a 10 metre buffer of the riparian corridor. In the badger survey, no setts were encountered.

15.6.5. Watercourse surveys were undertaken for freshwater macro-invertebrates (kick sampling). It included biological water quality assessment. Visual assessment of the water course for signs of pollution or instream activity that could be attributable to the construction of the wind farm.

15.6.6. The potential of the streams to provide habitat for Fresh Water Pearl Mussel was undertaken in May 2020.

15.6.7. Marsh Fritillary Surveys (including the presence of the larval food plant – devil's bit scabious) for suitable habitat and the presence of adult butterflies were undertaken in 2015 and 2019.

15.6.8. Kerry slug surveys were carried out in 2011, 2018 and 2019. The surveys included the cable route.

15.6.9. Amphibians were found on site and it is likely that the Common Lizard and Smooth Newt are present. As the loss of habitat was limited, no significant effects were anticipated.

15.6.10. Dr. Flynn assessed the chapter and found that the methodologies were in line with best practice and undertaken at the optimum season and were up to date at the time of application.

15.6.11. Desk studies identified designated sites within 15 km and further where there was potential for connectivity at greater distance. This was informed by Scottish Natural Heritage Guidance which takes into consideration the distances that protected species might travel beyond the boundary of the SPA. Bird surveys were undertaken between 2015 and 2019. Additional pre-commencement and operational surveys were undertaken in 2018, 2019 and 2020 and this is considered in more detail in Chapter 7. The likely Zone of Impact of the wind farm was established from potential pathways. Table 6.3 sets out the SACs and NHAs (candidate and proposed also) that fall within the Likely Zone of Impact and sets out the reasoning as to why the designated sites could be excluded and included. Sites were excluded if the qualifying interests were not impacted by the wind farm and its operation or if there were no pathways between the wind farm and the designated sites or if protected species did not range as far as the wind farm.

15.6.12. The designated sites that were scoped into the study area are as follows:

- The Gearagh SAC 000106 and pNHA, due to the hydrological connection via the River Toon and potential indirect effects on aquatic Qualifying Interests arising from a deterioration of water quality from pollution.
- Sillahertane Bog NHA, as the grid connection is through an adjoining path.
- Lough Allua pNHA, due to the hydrological connection via surface water.
- Para 6.5.2. refers to The Gearagh SPA and rules it in for assessment of impacts.
- The Mullaghanish to Musheramore Mountains SPA are identified in Figure 6.3.

15.6.13. Annex I habitats were mapped outside of and adjacent to the southern boundary of the site. These habitats are:

- North Atlantic Wet Heaths with Erica tetralix (4010),

- European Dry Heaths (4030)
- Blanket Bog (7130)

15.6.14. These were found 95 metres from the nearest infrastructure. No other Annex I habitat was found close to he site.

15.6.15. A data search was undertaken for any protected flora and fauna in the wider environmental records. and for records of invasive species. This informed the surveys undertaken.

15.6.16. The Lee and Toon rivers are sensitive areas for the Freshwater Pearl Mussel, albeit not SACs. Locations are confidential, but there are some populations 2km from the site.

15.6.17. The National Bat Database found 27 bat roosts within a 10km radius of the site and that eight of the nine bat species of Ireland are found within the area.

15.6.18. The majority of the site is located within the Lee subcatchment area. The remainder is in the Toon subcatchment area. A number of streams originate in the site. Information from the 2013-2018 River Waterbody Status is provided. The water quality is good and not at risk. The Q-value (Biotic Index of Water Quality), which demonstrates the relative abundance of macro-invertebrates in a sample, found that the Q value in the Toon and Sullane Rivers in recent years was high (4-5). [I have confirmed that the status is unchanged in the 2016-2021 WFD Surface Waters Ecological Status in Catchments.ie.]

15.6.19. The IFI found that the Sullane River supported brown trout, salmon and had species richness grade of 5 in 2014.

15.6.20. Field studies confirmed the following information about the site.

15.6.21. Habitat (Fossitt habitat codes) – the majority of the wind farm site is classified as wet heath (HH3), dry heath (HH1), exposed siliceous rock, upland blanket bog (PB2) and acid flush (PF2) mosaic. Conifer plantation (WD4) made up the bulk of the remainder of the study area. Blanket bog is fragmented, but the largest area is north of T5. The bog has been subject to peat cutting in the past. Upland bog was also found north of T4, outside the construction footprint. A small amount of dry heath was found north of T10, which corresponds to Annex I habitat, European Dry Heath (4030).

15.6.22. The conifer plantation include pre-thicket plantation, where T5 and T8 are located.

15.6.23. The access road to the site crosses the Toon River, which is classified as eroding/upland river (FW2). There are number drainage ditches in the site, which function as seasonal streams.

15.6.24. While Bog Woodland is present on site along the access road between T5 and T3, surveys in 2020 found it did not correspond to Annex I habitat as it did not have the required ground flora.

15.6.25. There is Wet Willow Alder ash Woodland along the Toon River in the north of the site. This corresponds to alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) (91E0) Annex I habitat, and has been avoided.

15.6.26. Following construction, the habitats were resurveyed in May 2020, to assess the 'as built' condition.

15.6.27. The grid connection cable route runs from near T7 onto the public road, until it turns on the access track of the constructed Derragh Wind farm the substation. The cable from the substation loops back out onto the public road. More information on the route is available in the EIAR, but for practical purposes, I will be confining my assessment to the limited extent of cabling required for the Cleanrath wind farm alone.

15.6.28. No protected flora were recorded in the wind farm or grid connection route. Invasive species were found – Rhododendron and Himalayan knotweed. An invasive Species Management Plan has been prepared (Appendix 6-2).

15.6.29. Five bat species were recorded 2015. Activity is described low, due to the habitat, which pre-commencement of development had coniferous forest and limited hedgerow. Trees in the area had limited potential for roosts. In 2020, again, no structures were found that are suitable for roosts. Some 5,000 bat passes were recorded over spring and summer. This is considered low in comparison to other sites studied. Common Pipistrelle, Leisler's bat and Soprano were the most common bats. Corpse search surveys were undertaken and only one Liesler's bat corpse was found, at T8. The NPWS considered that the use of the site by Liesler's bats was significant. It constituted circa 10% of ground level static surveys. The Remedial EIAR describes their use of the site to be moderate to high, during peak activity times.

15.6.30. Mammal species found on the site included red squirrel, pine marten, red fox, Irish hare and sika deer. Hedgehog, pygmy shrew, Irish stoat, otter and badger are likely to be present.

15.6.31. However, no evidence of badger active or setts were found on the wind farm site or grid connection. No otter breeding or resting sites were recorded, but spraints on the bridge over the River Toon, east of Derrineaning Hill were found and on the Cathiar no Cáithe River. An otter slide was recoded on the banks of the Bunsheelin River.

15.6.32. Frogs are likely to be widespread and potentially, the Common lizard and smooth newt.

15.6.33. While the larvae plant for the March fritillary was found on the site, no adult marsh fritillary were found.

15.6.34. Kerry slugs were found on site and were relocated, following the issue of derogation licence from the NPWS, in advance of works. 142 Kerry slugs were relocated.

15.6.35. The streams that flow off site were subject to kick-sampling. 11 survey stations were set up. No evidence of found of any impact on water quality. No freshwater pearl mussel was found in the local streams.

15.6.36. The Gearagh SAC and SPAs were identified as Key Ecological Receptors (KER) of international importance. The Sillahertane Bog and Lough Allua pNHA (The Gearagh is also a pNHA) is of national importance. The fresh water pearl mussel is of national importance and a KER.

15.6.37. Wet Heath, Dry Heath, Blanket Bog and Oak-birch-holly woodland found on site is of county importance. The woodland is not a KER.

15.6.38. The remaining habitat is of local importance (higher value), as is the Toon River and other watercourses. These are KER. The otter, bat species, aquatic fauna, and Kerry slug are of local importance (higher value) and are KER.

15.6.39. The ‘Do-nothing’ Impact is described as leaving the site as is prior to construction. However, ‘do-nothing’ in this case would be to keep the site in Sleep Mode. The reality is that the site will be either commissioned or decommissioned early.

15.6.40. The impacts during construction on Key Ecological Receptors are described. Table 6-16 states the extent of habitat that was lost to construction and the percentage remaining. Of the 468.32 hectares studied, 9.8 ha was lost or circa 2% of the total area of the site. The habitats of low ecological value make up circa 58% of the development footprint. Approximately 4.13 ha of the peatland mosaic has been lost with 260.72 ha remaining.

15.6.41. Approximately 0.0049 ha of bog woodland has been lost out of 0.89 ha.

15.6.42. The impact on Upland Eroding Rivers and Sensitive Aquatic Faunal Species during construction is discussed. The footprint has been designed to avoid watercourses, with large scale infrastructure 50 metres located from them. However, the site access and grid connection route cross a number of watercourses.

15.6.43. Inspector's Evaluation of Direct Effects

15.6.44. The development footprint of the site has generally been located on the lower value habitats. Of the more valuable habitat, about 16% of the peatland mosaic has been lost. This loss is considered permanent, moderate effect. Mitigation measures are proposed to reinstate the peatland habitats around the turbines. Temporary disturbance during construction has already been mitigated by the replacement with intact turves.

15.6.45. There is a permanent loss of bog woodland on the access track between T3 and T5. It is not Annex I woodland. Mitigation measures include the management of this area to remove gorse and conifer seeding, to allow the bog woodland regenerate naturally.

15.6.46. No direct effects occur in watercourses as no in-stream works were undertaken.

15.6.47. The level of use of bats on the site after construction is consistent with levels prior to construction. During construction, equipment was not operating at night so noise did not arise and artificial lighting was kept to a minimum. The NPWS in their submission raised concerns about Leisler's bat and the need for corpse searching monitoring. The applicant agrees to this and notes it is part of the proposed mitigation measures.

15.6.48. No direct effects arise for otters.

15.6.49. All areas of habitat suitable for Kerry slugs were surveyed and any slugs found were translocated to areas outside the construction footprint, under licence from the NPWS. No evidence significant impacts have been recorded on the wind farm or grid connection.

15.6.50. Inspector's Evaluation of Indirect Effects

15.6.51. Indirect effects on peatlands through changes to the drainage system was assessed and no evidence of effect was found following botanical survey.

15.6.52. Indirect effects could occur through silt and pollutant run-off and nutrient enrichment, due to removal of the conifer plantation, scrub, earthworks and use of concrete. No evidence of effect was found, due to successful mitigation, and so no indirect effects would impact on qualifying interests.

15.6.53. Some positive indirect effects on bats was found as the removal of the conifer plantation resulted in the creation of more woodland edge habitat.

15.6.54. No indirect effect arose for otters as there was no water pollution.

15.6.55. Inspector's Evaluation of Residual Effects

15.6.56. No significant residual effects are expected on habitats.

15.6.57. For the bog woodland, over time this should increase in area.

15.6.58. No significant effects on aquatic habitats or species.

15.6.59. The construction has not resulted in residual effects on bats, otters, the Kerry Slug.

15.6.60. Cumulative Impacts

15.6.61. No cumulative effects arise.

15.6.62. Commentary and Conclusion on Construction

15.6.63. The direct impacts during construction have been very limited on biodiversity due to effective mitigation measures. There is the permanent loss of habitat but this is limited in extent (16% of the peatland mosaic in the study area).

15.6.64. Impacts During Operation

15.6.65. There will be no additional loss of habitats, during the operational phase. Potential effects on Upland Eroding Rivers, downstream watercourses and Sensitive

Aquatic Faunal Species include faster surface water runoff from the increase in hard standing, which could indirectly cause erosion and a deterioration of water quality and supporting habitat quality. Felling of forestry to provide for peat restoration and reinstatement could give rise to the run off of pollutants. No evidence of these effects has occurred since the wind farm was constructed. No impact on the aquatic habitat of protected species has occurred. No residual effects have occurred.

15.6.66. No significant impacts on bats have occurred.

15.6.67. Impacts during Decommissioning

15.6.68. Decommissioning will involve the removal of the above ground elements of the turbines, covering the hard standing with soil and the redundant grid connection cables removed from their tranches. Mitigation measures will be employed during decommissioning, as per the decommissioning plan in accordance with the Scottish Natural Heritage guidance documentation. No significant impacts are expected at decommissioning stage.

15.6.69. Biodiversity gains

15.6.70. A Habitat Management Plan has been submitted to ensure that the peatland habitats will be actively managed and restored. The planning authority has identified the need for water monitoring and this can be conditioned, if a grant of substitute consent is issued.

15.6.71. Impacts on Designated Sites

15.6.72. This section considers the Gearagh SAC and SPA and the Mullaghanish to Musheramore Mountains SPA. It refers to the Remedial NIS, which concludes that there are not direct or indirect adverse effects on European Sites from the wind farm site, the grid connection and the delivery route.

15.6.73. The Sillahertane Bog NHA, The Gearagh pNHA and Lough Allua pNHA are identified as being within the potential zone of impact. The grid connection passes through the edge of the Sillhertane Bog NHA in an existing track [this section of the underground grid connection is from the Derragh wind farm and is not considered subject to EIA as no change will arise, irrespective of the outcome of this case]. Mitigation measures were employed and there has been no significant effects during construction. No potential for effects will arise during operation and decommissioning.

15.6.74. The Gearagh pNHA is 9.4 km surface water distance from the wind farm site and further from the grid connection. Mitigation measures during construction were employed and no significant effects during construction. No potential for effects arise during operation and decommissioning.

15.6.75. Lough Allua pNHA is 1.6km from the grid connection and further from the wind farm site. Surface water connections from the site via the Graige River and other streams exist. Mitigation measures during construction were employed and no significant effects during construction. No potential for effects arise during operation and decommissioning.

15.6.76. A summary of the water protection measures is provided. These are comprehensive. A summary of peatland mitigation measures is provided. It includes measures to enhance the existing peatlands. Bat mitigation measures include that a minimum buffer of 50 metres of forestry from blade tip, which will be maintained over the operational life of the windfarms. The first three years are considered for post-construction effects. Monitoring for carcasses will be maintained. A curtailment programme can be implemented during key activity and weather parameters.

15.6.77. Inspector's Evaluation of Direct Impacts

15.6.78. I am satisfied that the direct impact impacts have been adequately assessed.

15.6.79. Inspector's Evaluation of Indirect Impacts

15.6.80. I am satisfied that the indirect impact impacts have been adequately assessed.

15.6.81. Inspector's Evaluation of Residual Impacts

15.6.82. I am satisfied that the residual impact impacts have been adequately assessed.

15.6.83. Cumulative Impacts

15.6.84. Cumulative impacts of plans are considered – the Cork and Kerry county development plans and the River Basin Management Plan for Ireland (2018-2021). [Since then, the new county development plan has been adopted and the *Third Cycle River Basin Management Plan* 2022-2027 is in draft form. Restoration of Lough Allua is an area to be restored]. No cumulative impacts have been identified at the plan level has been identified. I am satisfied that due to the successful drainage mitigation measures employed to date and that will continue to be employed that there will be no impact on Lough Allua from the development.

15.6.85. Other wind farms sites within 10 km are listed, including the Derragh wind farm and Grousemount wind farm and Coomataggart Station and no cumulative impacts were found. No residual impacts were found on the Key Environmental Receptors.

15.6.86. Inspector's Commentary and Conclusion

15.6.87. I consider the chapter to be comprehensive in their approach, description of impacts (direct, indirect and residual). I would have considered there to be more potential for cumulative impacts in relation to water quality, given that streams from Derragh would discharge to the Toon River. However, I would accept that if neither has had an impact on water quality, then no cumulative impacts would arise. Similarly, given the wind farm proximity to Derragh wind farm, potential impacts on bats. However, the impacts on bats from the Cleanrath wind farm has been limited from the evidence submitted. Dr. Flynn in her report, considers the applicant's response to the NPWS submission, takes full consideration of the issues identified and approach to monitoring is appropriate. Mitigation and montoring measures for habitats, watercourses, bats, otter and Kerry Slug have ensured that significant effects have been and will be prevented. My overall conclusion in relation to biodiversity is that the environmental impacts of the wind farm have been limited to date and will continue to be limited during operation and decommissioning.

15.7. Ornithology

15.7.1. Inspector's Summary and Analysis

15.7.2. Numerous bird surveys were undertaken between 2015 and 2107 (two full breeding seasons and two non-breeding seasons). More surveys were carried out in 2018 and 2020. Historical surveys were carried out in the 2011/2012 winter season. Vantage point surveys were taken from 3 fixed vantage points. This informs the collision risk assessment. Various individual bird species surveys were carried out. The Hen Harrier survey, a bird of concern to third parties, extends for circa 2 km beyond the Cleanrath wind farm. These were carried in 2020. Corpse searches were also carried out and are ongoing.

15.7.3. Mullaghanish to Musheramore Mountains SPA was included in the potential Zone of Influence. It has been designated for the Hen Harrier. The designated site is 4.7 km from the wind farm. The core foraging area for the bird is generally 2 km, during the

breeding season. However, the Hen Harrier was recorded on site, although no breeding activity was recorded.

15.7.4. The Gearagh SPA is 7.6 km by distance on land and 9.3 km via surface water. The development site does not host habitat suitable for the bird species that are the qualifying interests for the SPA. However, due to the hydrological connection, it has been scoped in for indirect effects regarding water quality.

15.7.5. In 2011, a single observation of a female hen harrier was seen flying over the site. A Merlin was also spotted and Peregrine on two occasions. Golden Plover was recorded on a number of occasions.

15.7.6. In 2015-2017, Whooper Swan was recorded 2km to the south. Golden Plover were recorded on 31 occasions, mainly within the winter months. The flocks varied in size from 26 to a maximum of 52 no. birds. Of these, 23 of the flights were within the height band of 10-175 metres (Potential Collision Height (PCH)). No evidence was found of breeding on site.

15.7.7. The Hen Harrier was recorded on 14 occasions in the north-western section of the site, 5 of which were in the PCH. No evidence on breeding on site was found, but flight has been documented. Chough were seen on five occasions. Merlin were recorded twice. Four observations of Peregrine were recorded, in flight. A pair of Wigeons were recorded once on site in an area of blanket bog, but were not seen again. Woodcock were recorded on three occasions. Kestrel were recorded in both flight and breeding bird survey. Of the 72 flight observations, 31 were within the PCH. The wider area is being used for breeding purposes. Sparrowhawk were seen on vantage point and breeding raptor surveys. There is a nest in an area of dense conifer to the southeast of the site. A buzzard was observed once. Snipe were observed on vantage point and breeding bird surveys, indicative of probable breeding in the area. A pair of Teal were observed in blanket bog on site but ewe not seen again. Meadow pipit were recorded during all survey types.

15.7.8. In 2018-2020, Kestrel, sparrowhawk and meadow pipit were observed.

15.7.9. 2020 monitoring results showed that the Golden Plover was recorded and there is a known roost 400 metres from the nearest turbine. A male Hen Harrier was recorded twice during the survey, more that 2km to the north of the wind farm site. A White-tailed Eagle was observed on one occasion, flying above the PCH. A female Merlin

was observed 1 km to the north of the nearest turbine and male merline twice. Peregrine were observed on 4 occasions. A Little Egret was seen once. Woodcock on three occasions. Kestrel were seen in much lower numbers than on the earlier surveys. Sparrowhawk and Buzzard were seen on a number of occasions. Snipe was observed once within the site. A pair of meadow pipits were recorded once and are likely to be breeding in the area.

15.7.10. Bird collision monitoring found a feather from a skylark. No other corpses of key ornithological receptors, target species of bird of conservation concern has been recorded.

15.7.11. The Remedial EIAR's evaluation of the above findings are that the Golden Plover, which winters in the area, is a Local Importance. The Hen Harrier, recorded in 2015-2017, is of National /International Importance for wintering population, but was not seen during breeding. The Chough is of County Importance. The records of Merlin and Peregrine are of Local Importance. The White Tailed Eagle is found not of significance to the species, based on one remote observation. Similarly, the Little Egret, Wigeon, Woodcock, Teal and Buzzard are not regarded as being of significance. Kestrel, Sparrowhawk, Snipe and Meadow pipit are of Local Importance.

15.7.12. Key Ornithological Receptors including the Golden Plover, Hen Harrier, Kestrel, Sparrowhawk and Chough are considered, requiring further study, in terms of habitat loss, displacement and collision risk and Merlin, Peregrine and Snipe are at risk from habitat loss and displacement. The Hen Harrier and Chough are of high sensitivity, Golden Plover, Marlin and Peregrine Medium Sensitivity and Kestrel, Sparrowhawk and Snipe are Low Sensitivity.

15.7.13. During Construction and Operation, the direct effects on Hen Harriers in relation to Direct Habitat Loss is considered low by the authors and there will be a long term slight negative effect. Risk of displacement is considered low, with a long-term slight negative Effect. Collision risk during operation is calculated as a rate of 0.003 or one bird in 333 years and is considered insignificant.

15.7.14. The Golden Plover is similarly described, but the collision risk is estimated to 2.054 collisions per year, which is considered negligible in the context of the recorded population.

15.7.15. The loss of direct habitat to the Chough during construction is considered low, with a long term slight negative effect. Displacement is considered short term slight negative. During operation, no effect is anticipated in relation to habitat loss and a long term slight negative is expected for displacement. No collision risk is expected.

15.7.16. Merlin will experience a long term, slight negative effect during construction for direct habitat and short term, slight negative effect for displacement. No significant effect is expected during operation on direct habitat loss and a long term slight negative is expected for displacement. No significant effect is expected for collision, with an estimated collision risk is 0.025 collisions per year. This is equivalent to one bird every 40 years. There is a long term slight negative effect. The kestrel collision risk is 1.096 collisions per year, which is considered negligible. There is a long term slight negative effect. The Sparrowhawk has a collision risk of 0.015 collisions per year – one every 66 years. There is a long term imperceptible negative effect. The Snipe is one collision every 5 years. There is a long term imperceptible negative effect.

15.7.17. No effects are anticipated during decommissioning. The effects of grid connection are assessed as negligible.

15.7.18. Mitigation measures during construction were carried out. No operational mitigation measures are required to date. Monitoring is ongoing. Limited mitigation measures will be required when decommissioning.

15.7.19. Inspector's Evaluation of Direct Effects

15.7.20. The main impacts on birds arise from direct habitat loss, displacement (if birds avoid the area and are/or deterred from using normal light paths) and death through collision. The Remedial EIAR finds that effects are imperceptible to slight on bird KOR. Observations received concerned eagles, hen harriers, buzzards and other birds of prey. The NPWS in their submission raised concerns about the White-tailed Eagle, which was sighted on one occasion. The submission suggests that as this re-introduced species could extend its range in the future, by Lough Allua. It notes that three eagles were killed in collision at Sillahertane wind farm, 9 km to the west. The submission recommends that annual and adaptive monitoring of the use of Lough Allua for these birds and that a precautionary management plan is drawn up. The applicant, in response states that the one sighting occurred 7 km southwest of the wind farm, but is willing to accept an amended condition, that the current surveys are

changed to include for all bird species. If the birds are observed or activity recorded, that this would trigger the additional surveys at Lough Allua. A Precautionary Management Plan is accepted with curtailment of turbines if necessary.

15.7.21. Observations received were concerned that the Hen Harrier territory had expanded in recent years and therefore the bird is more likely to come into contact with the site. I note that hen harriers have been recorded in flight on the site in the 2015-2017 survey, but no evidence of any breeding activity was observed. However, no nesting has been found. No sighting was made during the pre-commencement survey in 2018. An additional sighting was made at operational stage in 2020, 2 km from the site. Again, no evidence of winter roosting was found. I am satisfied that the evidence shows that then hen harrier is not dependent on this site for breeding or roosting. A collision risk analysis has been prepared for the hen harrier.

15.7.22. Inspector's Evaluation of Indirect Effects

15.7.23. In screening the development for the need for Appropriate Assessment, the applicant considered that the development could have significant indirect effects on the Hen Harrier by reason of displacement, in the absence of more detailed assessment. Therefore the Muallaghanish to Musheramore Mountains SPA was included in the Remedial NIS. However, the number of recorded sightings of the Hen Harrier are very limited, so I am satisfied that displacement will not occur.

15.7.24. Inspector's Evaluation of Residual Effects

15.7.25. The residual effects on Key Ornithological Receptors are described as being between slight or imperceptible. I would concur with this assessment.

15.7.26. Cumulative Impacts

15.7.27. Cumulative effects on the various birds with forestry and agricultural practices and other developments are not considered significant. There are 26 wind farms within 20 km of the subject site, of which there are 226 turbines permitted, under construction or existing. The Derragh wind farm, 1.7 km from the site, is 6 no. turbines and no significant residual effects have been identified. The same approach is adopted for the rest of the wind farms. Golden Plover and Merlin was not recorded in Derragh wind farm, because the coniferous habitat was unsuitable for these species.

15.7.28. Inspector's Commentary and Conclusion

15.7.29. I note that guidance from Scottish Natural Heritage states that information from bird surveys have a life of circa 5 years. Therefore, reliance can be attached to the 2020 and 2018 surveys. However, I would consider that there is value in the surveys carried out prior to these dates as there has been nearly a decade of bird surveys on the site, which far exceeds most circumstances.

15.7.30. The survey information shows that the site has some, but limited value for ornithology. The Collision Risk Analysis shows that the likelihood of significant impacts is very low. The Corpse Search confirms this (albeit for a limited time of operation).

15.7.31. The NPWS has identified the possibility of the White tailed eagle roosting near Lough Allua in the future. A mitigation plan has been prepared, which includes monitoring, in case that this comes to pass. Dr. Flynn is satisfied with the mitigation measures proposed. Therefore, I am satisfied that the wind farm will not give rise to significant adverse impacts on ornithology, subject to attachment of appropriate conditions.

15.8. Lands, Soils and Geology

15.8.1. Geotechnical investigations and a peat stability assessment were undertaken as part of the methodology pre-construction. 225 peat probe depths were carried out by AGEC Ltd. 'As built' were undertaken by HES in 2020.

15.8.2. Inspector's Summary and Analysis

15.8.3. Bedrock is at the surface of the site, particularly on the western side, where T6, T7, T9 and T10 are located. There are pockets of soils and peat between rock outcrops. The EPA soils map identify peaty podzols as the main soil type. This is thin. Between T1, T3 and T4, there are small areas of blanket bog. Peat depths vary between 0 to 0.6m, with maximum peat depths of up to 3.4m. Outside the development footprint, there is an average depth of 0.2 metres. The peat depth adjacent to the access road varies between 0.3m to 3.4m. The deeper peat areas are the east of the site, where it is more level.

15.8.4. The Peat Stability Assessment set a minimum required Factor of Safety of 1.3. This gives the probability of an event [landslide] to be Negligible / None. Peat shear strengths within the range of 8 to 39kPa were found, with an average value of 20kPa. The risk rating following the drained condition was found to acceptable, following mitigation. No peat stability issues arose during construction.

15.8.5. Some 61,000m^3 was required to be cut (the majority of this was rock at some 52,000m^3. Some 48,000m^3 of fill was required. 4,763m^3 of rock was required from the borrow pit. 11,448m^3 of soil was removed for the grid connection trench. 5,724m^3 was exported off site and the remainder used to reinstatement and improvement purposed on existing private access road.

15.8.6. Mitigation measures included designing and placing turbines on shallow peat and use of existing forestry roads. Floating roads were employed where it was geotechnically feasible to do so. Minimum volumes of peat were removed. Material excavated during drainage works and settlement pond construction were used for pond creation and local landscaping.

15.8.7. Inspector's Evaluation of Direct Effects

15.8.8. The impact assessment is considered low, in the REIAR due to the low importance of the bedrock geology and degraded nature of the peat.

15.8.9. No records or reports of soil contamination incidence occurred during construction.

15.8.10. Erosion of peat and spoil during construction was highly likely. Peat removed was reinstated in landscape, the burrow pit or along designated access road. There was a detailed Peat and Spoil Management Plan.

15.8.11. Peat instability and failure is where there is a significant mass movement of a body of peat. This could have resulted in loss of loss, injury or contamination of watercourse by particulates. A Peat Risk Assessment for each element of the development was carried out. The risk was found to be trivial / tolerable following implementation of mitigation measures. This included no undercutting of slopes and no unsupported excavations and a robust and managed drainage system.

15.8.12. In terms of operation, a peatland habitat restoration will be undertaken in an area of forestry that was felled during construction and an additional hectare of immature forestry that will be felled for peatland habitat. Erosion of peat and subsoil is a risk in the short term but will give rise to positive impacts in the long term. The maintenance works will have no effect on lands, soils and geology. Brash removed will be shored up slope of the cleared area, which will provide a buffer area for surface water. Brash mats will be used to prevent vehicles causing soil erosion and avoid the formation of rutted areas. This work will not be done in extremely wet periods.

15.8.13. Decommissioning will involve the rehabilitation of turbine bases, ideally sourced from within the site. Some inert soil will be imported (circa 1,500m^3) which will be locally sourced. The temporary road works for turbine removal will have to be undertaken. While cables will be removed, the ducting will remain in place. A decommissioning plan has been prepared.

15.8.14. Potential health effects arise from soil and ground contamination. Oil changes will take place on a bunded area.

15.8.15. I am satisfied that the direct effects have been identified and have been avoided through mitigation, during construction. Peat restoration will be similarly mitigated and subject to adequate monitoring, as recommended by Cork County Council, should be acceptable.

15.8.16. Inspector's Evaluation of Indirect Effects

15.8.17. Indirect effects arise in relation to water, which is dealt with later.

15.8.18. Inspector's Evaluation of Residual Effects

15.8.19. The residual effects are considered negative, slight, direct and permanent.

15.8.20. Cumulative Impacts

15.8.21. No cumulative effects are expected. Very limited cumulative effects arose with the cabling for Grousemount, which was under construction at the time.

15.8.22. Commentary

15.8.23. I consider that the direct effects and impacts of the development as completed has been adequately described. I note the concerns of the planning authority and observers about the lack of information in relation to water monitoring of drainage for the peat restoration stage. The planning authority submission requests that a revised OEMP be submitted and the water quality monitoring programme be detailed in it. This can be conditioned. There is no direct reference to landslide in this chapter, as noted by the Observers. However, it has been addressed using the phrasing of 'Peat Instability and Failure' (Remedial EIAR 8.5.2.4). I consider that the geotechnical studies carried out, the depth of peat on site and proximity of bedrock to the surface, limits the risk of land slide. However, it would have been helpful if this had been directly addressed in the Remedial EIAR, as it is a common concern in relation to wind farms, particularly at construction stage. It should have been addressed under the heading

of Major Accident or Natural Disaster. No landslide occurred at this site. I am satisfied that no significant effects arise regarding lands, soil and geology.

15.9. Hydrology and Hydrogeology

15.9.1. Inspector's Summary and Analysis

15.9.2. The main environmental concern is how earthworks could impact via surface water run-off streams and rivers.

15.9.3. The grid connection route has 126 no. watercourse crossing, including 13 no. existing bridge/culvert crossings over natural watercourses and the remaining are culvert crossings. The site is in the River Lee surface water catchment.

15.9.4. Ballyvourney (0.6km north of the site) has a rainfall monitor. The local average long term rainfall data shows that January is typically the wettest month, with 201mm/yr and July the driest at 85mm/yr. The total for the year is 1645mm. The Actual Evaporation is 513mm/yr. The effective rainfall, available for runoff and groundwater recharge is 1,131mm/yr. Due to the sloping nature of the site, runoff is estimated to be high (95%) and groundwater recharge is low. The estimated runoff is 31,299m^3/day in January, from a catchment of 525ha.

15.9.5. The western section of the site (T7 to T10) drains to Lough Allua and the eastern section (T1, T3, T4, T5 and T8) to the Toon River, which is a tributary of River Lee. The entrance to the wind farm crosses the Sullane Beg River, another stream tributary to the River Lee. The grid connection route crosses the Aghnakinneirth Stream.

15.9.6. On site, natural channels and valleys have formed between ridges on the west and southwest. Acid flushes have been generated by the surface water flows around T9 and T4 (as confirmed by chemical testing). The wind farm access road intercept the flows. On the eastern side forestry and manmade drains predominate.

15.9.7. Surface water around T9 has been managed so as flow is maintained to the flush habitat.

15.9.8. Surface water monitoring was agreed with Cork County Council in advance of works at three locations on the Toon River, one on the Sullane River and one on the River Lee. Flow monitoring occurred pre and post construction. The information indicates that peak flows are similar, indicating that has been no impacts on water flow.

15.9.9. Part of the site falls within the 1 in 100 year flood zone for fluvial and pluvial flood events. All turbines are located 50 metres from streams, as are the majority of access roads. The grid connection is underground and unaffected.

15.9.10. The Q-rating for water in the Rivers Lee and Toon are Q4 (good) [this is unchanged].

15.9.11. Surface water monitoring took place from 2018 to 2020 in 13 no. locations. The four closest were SW2, SW4, SW5 and SW7. No exceedance of the Surface Water Regulations occurred. Average pH levels remained similar and with the range of Quality of Salmonid Waters Regulations. The electrical conductivity ranged between 53 and 123µs/cm.

15.9.12. Continuous automated turbidity monitoring is ongoing. No significant spike occurred during construction that were attributable to the wind farm. This was confirmed by visual inspection.

15.9.13. The site is underline by Devonian Old Red Sandstone. The aquifer classification varies between Poor and Locally Important. Groundwater flow occurs within the top 15 to 20 metres of the aquifer. Diffuse recharge occurs. Vulnerability is classified as 'high to extreme'.

15.9.14. The Water Framework Directive and *River Basin Management Plan* (2018-2021) shows that groundwater body status is 'good'. The Rivers Lee, Toon and Sullane Beg are 'good' downstream of the site but this improves to 'high' further downstream.

15.9.15. The Gearagh SAC is downstream of the site. It contains the only extensive alluvial forest west of the Rhine. Part of it is also an SPA for winter birds. Lough Allua is a designated pNHA.

15.9.16. Drainage management was employed to mitigate impacts on surface water bodies. This included avoidance of disturbance to collecting drainage waters, route through settlement ponds, attenuated, treated and then diffuse release over vegetated surfaces, with no direct discharge to surface water.

15.9.17. The construction phase required the felling of 12.32ha of plantation forestry. The majority of the felling was in the Toon River catchment. It required the access road construction, turbine base and grid cable trench excavation, which led to the

removal of vegetation, excavation of peat and bedrock, which could lead to suspended solids to be released to surface water. No dewatering of the borrow pit or turbine bases was required.

15.9.18. No negative impacts from concrete and other cement based products arose.

15.9.19. There is freshwater pearl mussel 1.5km downstream of the site in the Toon River and at further distances. Impacts on surface water was imperceptible.

15.9.20. Of the 13 natural water crossings along the grid route, no in-stream works were required. Trench works were managed so as no surface quality impacts arose.

15.9.21. No significant impacts on flush habitats arose.

15.9.22. During operation, the increase in impermeable surface could increase the volume of surface water reaching the surface water drainage network, which could result in erosion of watercourses and impact on water quality. Mitigation measures were used to direct surface water away from infrastructure and attenuate on natural vegetation. Swales and roadside drains were also used. The area of permanent development footprint is 9.5ha of a study area of 525ha (circa 2%). This is a slight overestimation as areas of hard stand and access roads are permeable. In a worst case scenario, the increase in run-off is 238m^3/day, which is a less than 1% increase in daily runoff volume.

15.9.23. Decommissioning will require similar mitigation measures to those employed during construction. No significant impacts are anticipated. I consider that the analysis is satisfactory.

15.9.24. Inspector's Evaluation of Direct Effects

15.9.25. The direct effects are comprehensively covered. I am satisfied that there are no significant adverse effects.

15.9.26. Inspector's Evaluation of Indirect Effects

15.9.27. The indirect impacts of clear felling, suspended solids entering surface water, dewatering, from cement-based materials, on designated sites, flooding and the freshwater pearl mussel (the latter three being of particular concerns to observers) have been clearly set out. I am satisfied that there are no significant adverse indirect effects.

15.9.28. Inspector's Evaluation of Residual Effects

15.9.29. I consider that the results are negative, imperceptible, indirect, long term and not significant.

15.9.30. Cumulative Impacts

15.9.31. The Remedial EIAR states that, in the River Lee Catchment, in combination there would be 45 turbines existing, under construction and permitted. The River Lee catchment is 662km^2, which equates to one turbine for every 15km^2. I consider that the cumulative impacts are not significant.

15.9.32. No public health issue from contamination of groundwater or surface water.

15.9.33. Inspector's Commentary and Conclusion

15.9.34. Observers are particularly concerned about the potential for impacts on water quality, increased rate of flooding and the consequential impacts on designated sites and their qualifying interests. I am satisfied that these concerns have been satisfied by the information provided. There are no significant, adverse effects arising on water.

15.10. Air and Climate

15.10.1. Inspector's Summary and Analysis of Air

15.10.2. Air quality sampling was deemed unnecessary for the site, due to its non-industrial nature and its rural location. It is located in Zone D of the EPA's Air Quality Zones. There are indirect emissions associated with the construction and decommissioning of the windfarm arising from vehicle emissions and dust.

15.10.3. In relation to climate, the production of energy from the wind farm will reduce dependency on fossil fuels, which in turn will reduce emissions that are damaging to human health and the environment.

15.10.4. The EPA in 2018 estimated that air pollution results in 1,180 premature deaths in Ireland.

15.10.5. Dust during construction was generated. There is an EPA limit of 350 mg/m^2/day. This gave rise to short term slight negative impacts, which were mitigated.

15.10.6. Construction machinery and plant gave rise to exhaust emissions. This gave rise to short term slight negative impacts, which were mitigated.

15.10.7. The grid connection works gave rise to short term imperceptible negative impacts.

15.10.8. Transport to site of turbines and construction materials gave rise to exhaust emissions. This gave rise to short term slight negative impacts, which were mitigated.

15.10.9. The mitigation measures are standard construction measures.

15.10.10. Inspector's Evaluation of Direct Effects

15.10.11. The effects were short term slight negative impacts, which were mitigated.

15.10.12. Inspector's Evaluation of Indirect Effects

15.10.13. No significant indirect effects on air quality arose.

15.10.14. Inspector's Evaluation of Residual Effects

15.10.15. This gave rise to short term imperceptible negative impacts, which were mitigated.

15.10.16. During the operational phase, there is limited exhaust emissions from machinery and vehicles used for maintenance purposes. Good practice measures will ensure that this is minimised, so that there are no significant direct or indirect effects. There will be a long term imperceptible residual impact. There will also be a long term slight positive impact on air quality, due to the rection in reliance on fossil fuels. This will have a long slight positive impact on human health.

15.10.17. The decommissioning phase will be similar to the construction phase, but with the loss of the positive benefits for air quality.

15.10.18. Inspector's Commentary and Conclusion

15.10.19. I am satisfied that the construction of the wind farm has not had a significant adverse effect on air and its operation and decommissioning would not have significant adverse effects either.

15.10.20. Climate

15.10.21. Ireland will face difficulties reaching its climate targets to reduce greenhouse gas (GHG) and increase the share of renewable energy by 2030. It has performed poorly in relation to other countries.

15.10.22. The carbon losses and savings from the development are set out. It includes the loss of carbon savings from peatland habitat on site (carbon sequestering), based on a Scottish model from 2011. When flooded, peat soils emit less carbon dioxide (CO^2) but more methane than when drained. Plant fixation allows for soil carbon stocks to increase. When peat is drained, soils are aerated, and carbon is lost to the atmosphere.

15.10.23. The Remedial EIAR states that the wind farm was designed to minimise impact on blanket bog or areas of wet heath habitats. Existing cutover areas, conifer plantation and recently felled areas and existing tracks were utilised where possible. Where peatland is lost, it will be reinstated to restore the balance. The hydrological regime will be restored, ensuring that the remaining peatlands are not disturbed. The Remedial EIAR notes that the effect of drainage may reduce dissolved and particulate organic carbon retention within the peat. This has been included in the calculations. No landslides – a significant potential large carbon loss, occurred in construction. Carbon losses from tree felling are also included in the calculation.

15.10.24. Table 10-10 sets out the calculation for carbon losses. It provides for expected losses and maximum losses. The CO^2 losses will range from 27,551 tonnes to 29,104 tonnes over its 25 year life. The bulk of the losses arise from turbines and the felling of forestry. As the forestry is commercial, this loss would occur in any event.

15.10.25. An alternative calculation is prepared for if the turbines were replaced with new models, which would add an additional 22,990 tonnes. If the turbines were decommissioned early, this is similar to the original figures, but the loss from forestry felling would be reduced.

15.10.26. The annual carbon savings, assuming a power output of 26.4MW, turbines turning 35% of time (load factor), the number of hours in a year and the carbon load in grams per kilowatt hours. The wind farm would save 35,229 tonnes per annum – 883,475 tonnes over the 25 year lifespan. Replanting of felled forestry would save the loss of forestry arising from the development.

15.10.27. Therefore, the carbon loss from the construction and operation of the wind farm is approximately 3% of its savings, which could be achieved in under 10 months of operation.

15.10.28. These carbon savings would be lost if the wind farm is decommissioned early. This would be a long-term slight negative impact.

15.10.29. The construction phase of the wind farm gave rise to slight insignificant GHG, which have a shorth slight negative impact. Mitigation measures were implemented. There were no significant direct or indirect effects.

15.10.30. During operation, there will be a reduction in carbon dioxide, which will be a long term, slight positive effect, which overall will be a direct, long term moderate positive effect. Decommissioning post operation, as there will be no significant groundworks, the effects will be less than construction.

15.10.31. Cumulative Impacts

15.10.32. The Remedial EIAR states that once mitigation has been implemented, there will be no cumulative negative effect on air and climate during construction. The cumulative effect during operation will be positive. I would concur with this analysis.

15.10.33. Commentary and Conclusion

15.10.34. I note that figures in relation air quality have been provided for the Cork city and harbour areas, but I do not consider these relevant to the site.

15.10.35. I consider that the carbon losses are overstated, due to the future felling of coniferous forest. However I concur with the Observers that the requirement to run fossil fuel energy power stations to provide for fluctuating power needs have not been incorporated into the model. However, these power stations are to be phased out over time, to achieve a Net Zero Strategy by 2040.

15.10.36. Generally, I consider that the carbon balance has correctly included for the manufacture of the turbines, the loss of carbon sink from peat and have demonstrated the extent of carbon savings that would arise if substitute consent is granted. This has informed the planning analysis above.

15.11. Noise and Vibration

15.11.1. Inspector's Summary and Analysis

15.11.2. The chapter sets out accepted noise and vibration standards for construction activity and construction traffic.

15.11.3. The operational phase noise assessment is based on the noise levels considered acceptable under *Wind Energy Development Guidelines* 2006, which applies a fixed limit of 43 dB(A) at night and in low noise backgrounds (at less than 30d(B)A, the daytime limits are 35-40dB(A) It also refers to the condition in relation to noise, which applied to the permission that was judicially reviewed (Condition 7). This condition set the noise standard which applied to both the wind farm itself and the cumulative noise arising from other wind farms in the vicinity. It required that:

'*Wind turbine noise shall not exceed the greater of either:*

5dB(A) above background noise levels or,

43 dB(A),

when measures externally at dwellings or other noise sensitive receptors.'

15.11.4. The condition included a noise monitoring compliance programme.

15.11.5. The development has adopted a daytime maximum noise level of 40dB(A), which is 3dB(A) below the condition requirements. The night-time maximum noise level is set at 5dB(A) above the background allowance or 43dB(A), whichever is the higher. For landowners with a financial interest in the project, 45dB(A), day or night has been adopted.

15.11.6. Guidance, when coming to these standards, have been taken from ETSU-R-97, which the 2006 Irish guidelines relied on and the *A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise* (2013) by the Institute of Acoustics. Reference is made to the *Draft Revised Wind Energy Development Guidelines* 2019, but notes that the noise guidelines from 2006 are the current standard. Other guidance is the World Health Organisation (WHO) *Environmental Noise Guidelines for the European Region* (2018), as referred to by the Observers. This recommends that noise from wind turbines should be below 45d(B) Lden, as above this level has impacts on human health. The report declined to make a recommendation on night time level, as the quality of evidence is described as too low. It also noted problems with the use of Lden as a measurement, which may not capture wind turbine noise. The guidance states:

"*The conversion requires, as variable, the statistical distribution of annual wind speed at a particular height, which depends on the type of wind turbine and meteorological*

conditions at a particular geographical location. Such input variables may not be directly applicable for use in other sites. They are sometimes used without specific validation for a particular area, however, because of practical limitations or lack of data and resources. This can lead to increased uncertainty in the assessment of the relationship between wind turbine noise exposure and health outcomes."

15.11.7. Infrasound / Low frequency noise is then discussed. Low frequency noise (LFN) are noise frequency levels between 200hz and 20hz and Infrasound is below 20hz. I note that LFN is of significant concern to local residents.

15.11.8. The *EPA Guidance Note for Noise Assessment of Wind Turbine Operations at EPA Licensed Sites (*NG3) (EPA, 2011) found that there was no significant infrasound from wind turbines. *Community Noise* (WHO, 1995) states that there is no reliable evidence that infrasound produce physical or psychological effects. The UK Health Protection Agency in 2010 found that infrasound is inherent in modern society and in the natural world and can be created by the individual running or swimming. Aural pain, injury and damage arises from 140dB, depending on frequency [120dB is the threshold for pain]. UK Institute of Acoustics in 2009 found that separation distances of residences from wind turbines meant that infrasound was not detectable by humans. LFN again was not significant due to separation distances.

15.11.9. Amplitude Modulation, the noise fluctuations in blades passing the turning rotor, can be categorised as 'normal' or 'other'. Normal is considered the blade swish. Other is described as a 'thumping' or 'whoomphing', depending on wind speed and direction and atmospheric conditions. This can last for hours and arises from transient stall, when the blades rotate. Research has shown that this is a rare, operational condition that occurs intermittently and infrequently. It cannot be identified at planning stage. It can be mitigated. The development, when operational, did not give rise to Amplitude Modulation. Observers has stated that predicted noise surveys do not bear out the experience of noise when wind farms are constructed and that predicted noise surveys underestimate the noise generated and the frequency of Amplitude Modulation that gives rise to noise nuisance. This shows the necessity for clear noise limits, penalties for infraction and the need for a proper complaints procedure.

15.11.10. International research is cited to state that there is no evidence that human health is affected by wind farms (Section 11.3.4 of the Remedial EIAR). This is disputed by Observers, who list numerous studies stating otherwise.

15.11.11. The Derragh wind farm is operating under a similar noise condition**. PL.04. 245082** has Condition 7 which requires that the cumulative noise levels should not exceed the greater of 5 dB(A) above background noise levels or, (b) 43 dB(A) L90,10min when measured externally at dwellings or other sensitive receptors. It is was not operating in 2019 when noise monitoring was undertaken.

15.11.12. Noise monitoring was carried out to assess background noise levels. Noise sensitive locations within the 35dB LA90 noise contour were considered for noise monitoring. Three were chosen – C04, C18 and C23. Monitoring took place from April to June, 2019. This timeframe is disputed by an Observer. There are a number of tables that give comprehensive information on noise in relation to windspeeds, which take into account the specific turbine used and the nature of the blade: Tables 11-12; 11-13; 11-24; 11-25 and 11-26.

15.11.13. I prepared the next two tables to enable easy comparison of before and after at the windspeed of 7 metres per second, for the measurement of LA90, 10 min at a height of 10 metres.

15.11.14. Table 1: Background Noise Levels at 7 m/s Pre-Commencement

Location	Distance from Turbine	Background Noise Level at windspeed of 7m/s Day	Background Noise Level at windspeed of 7m/s Night
C04 (A)	T3 is 638m	29.0	24.8
C18 (B)	T6 is 712m	32.0	27.7
C23 (C)	T10 is 764m	30.9	27.5

15.11.15. The envelope noise levels demonstrated that at 8 m/sec, the noise level was 30.8 dB in the day and the night time level was 27.1 dB.

15.11.16. The next table provides the information at the same wind speed post construction of the development. It includes the cumulative impact of Derragh wind farm. The survey was carried out between March and May, 2020. No equivalent information was provided for night time noise levels.

Table 2: Operational Noise Levels at 7m/s

Location	Distance from Turbine	Operational Noise Level at windspeed of 7m/s Day	Operational Noise Level at windspeed of 7m/s Night
C04 (A)	T3 is 638m	36.6	Not provided
C18 (B)	T6 is 712m	32.8	Not provided
C23 (C)	T10 is 764m	33.6	Not provided

15.11.17. The Remedial EIAR finds that the operational noise levels at all windspeeds (3 m/s to greater than 8 m/s) comply with both the day time and night time criteria of 40 dB LA90 and 43 dB LA90 respectively.

15.11.18. It states that mitigation for Low Frequency Noise and Amplitude Modulation can be implemented if issues arise.

15.11.19. Traffic arising from construction and decommissioning generates additional noise. Machinery and plant also generates noise. Noise modelling was undertaken for the worst case scenario with all turbines and hardstand being constructed simultaneously. Noise arising from construction at te nearest 5 noise sensitive locations are all less than 50dB Laeq,T. No significant noise was associated with construction of the turbines. The grid connection works were found to be significantly loud during construction, but these were brief, as construction proceeded at 150-300 metres per day. Internal road construction noise was similar to the turbine construction. The borrow pit was located near T5 and the nearest noise sensitive location was over a 1km distance. The haul route included the N22 and junction at Gortanadan Road (at Mors Bar). Works to the transportation route were required at the junction the L-7435 and the Cloontycarthy sawmills. These works lasted for 10

days and exceeded normal construction noise limits. Works were required to the south of the sawmills. Blasting did not exceed vibration limits.

15.11.20. Vibration is not considered an issue due to separation distances, which in excess of 300m are not detectable from normal levels of vibration. No residential unit is less than 600m in this instance.

15.11.21. During operation stage, there will be traffic movements, including the peat restoration works. These will not be significant. At decommissioning stage, noise will be less than 3dB in most cases, save for the road south of the saw mill. Mitigation measures were and will be used to ensure that no significant noise issues arise.

15.11.22. Inspector's Evaluation of Direct Impacts

15.11.23. Direct impacts during the construction phase in relation to traffic were limited. There were impacts for the grid connection works but these were of short duration. There was a slight negative impact during construction of the wind turbines.

15.11.24. The operational phase of the turbines is described as negative, moderate and of long term duration. Maintenance is imperceptible. Decommissioning would be negative, slight and short term in significance. I consider that the local impact during operation is significant in terms of the relative change in the environment, but that the noise levels come within acceptable levels in terms of national and international guidance.

15.11.25. Inspector's Evaluation of Indirect Impacts

15.11.26. No indirect impacts arise.

15.11.27. Inspectors Evaluation of Residual Impacts

15.11.28. These are negative, moderate to significant, and of long term duration.

15.11.29. Cumulative Impacts

15.11.30. The Derragh wind farm was constructed at the same time as the subject site. No cumulative effects arose due to the distance between the sites. The Derragh wind farm is accounted for the in the predicted noise levels.

15.11.31. Inspector's Commentary and Conclusion

15.11.32. Noise during construction at noise sensitive locations was generally below acceptable construction noise levels, but would have been loud relative to background noise. I consider that these impacts were of short duration and so acceptable.

15.11.33. During operation, observers close to the wind farm in Silvergrove state that they could hear the turbines indoors. There is undoubtedly a significant difference in the local noise environment, particularly at night. However, there is now internationally recognised levels for wind farms which should not be exceeded, and the operational noise of the wind farm is below this threshold of 43 dB(A) LA90. The permission associated with the site had a daytime limitation of 40 dB(A) LA90, which was achievable when the wind farm was operating. Therefore, I consider that the noise impact is acceptable.

15.12. Archaeology and Cultural Heritage

15.12.1. Inspector's Analysis and Summary

15.12.2. Archaeological testing took place under licence in 2011 at T6, in response to a further information request on a previous planning application. No archaeological finds were made. Pre-development archaeological testing was carried out under licence in the unforested areas of the site. Twelve test trenches were excavated around T3, T4, T7, T9 and some internal access roads. No archaeological finds were made. No archaeological finds were made in the monitoring of grounds works, either on site or in the grid connection. Walk-over inspections revealed three sites which were subsequently added to the Sites and Monuments Record. There were CO069-094 – Enclosure; C069-095001 and 002, hut sites and CO69-096 field boundary.

15.12.3. The nearest National Monument is a stone circle at Lissacresig, circa 8km northeast from the site. There is a ringfort nearby the stone circle and another stone circle at Carrigaphooca. A fourth national monument is a stone row located at Farranahineey, circa 8km to the south of the site.

15.12.4. There are feature of the Early Medieval Period, sites with religious or ritual associations, the Medieval Period and Post-Medieval Period. The site is not visible from the tower house at Carrignacurra townland (C)O081-017), circa 4 km from the nearest turbine. There are three country houses and a designed landscape, but the site is not visible from these.

15.12.5. There are no protected structures, nor NIAH structures on the site. The site is visible from the Roman Catholic Church at Reananerree, a protected structure (419) and considered of regional importance on the NIAH. The church in Inchigeela is also considered of regional importance on the NIAH.

15.12.6. The site is in the Gaeltacht, but is not considered to impact on the Irish language.

15.12.7. The grid connection is in a trench underground. An analysis of national and recorded monuments within 100 metres of the route was undertaken. No national monuments were found. Seven recorded monuments were found, No impacts arose. No protected structures are along the route, or within 100 metres of it. There is one structure from the NIAH was 72 metres from route. Cultural features, (21 in total) such as bridges, stepping stones and lime kiln were found along the route. Two new features were identified – an overgrown lime kiln and roadside well. Townland boundaries were also considered.

15.12.8. Inspector's Evaluation of Direct Effects

15.12.9. There are no direct effects on the national monuments. The new recorded monuments are clustered around T6. There are 126 no. recorded monuments within 5 km of the site, but only one within 1 km of T4, a ringfort. No direct impacts arise on the national and recorded monuments, protected structures or cultural features.

15.12.10. No direct operational or decommissioning effects arise.

15.12.11. Inspector's Evaluation of Indirect Effects

15.12.12. Visual analysis was carried out to determine the indirect effects on national monuments. The site is visible from the stone circle and ring fort- at Lissacresig, but no interference with any sun alignments occur. The impacts are considered not significant. The site is not visible from the stone row in Farranahineey.

15.12.13. The site is visible from many of the monuments due to its location. The impacts are considered slight or not significant.

15.12.14. The impact on the churches in Reananerree and Inchigeela are considered not significant, given the intervening distance.

15.12.15. Inspector's Evaluation of Residual Effects

15.12.16. Residual impacts are slight or not significant.

15.12.17. Cumulative Impacts

15.12.18. Impacts are considered slight to not significant.

15.12.19. Inspector's Commentary and Conclusion

15.12.20. The chapter is comprehensive. There has been additional archaeology discovered and indirect impacts are limited.

15.13. **Landscape and Visual**

15.13.1. Inspector's Summary and Analysis

15.13.2. The chapter notes that as the wind farm in place, and so is based on reality. The mitigation by design has been implemented, through location and clustering. The actual level of visibility is significantly less than the Zone of Theoretical Visibility would indicate.

15.13.3. The nearest scenic route is S26, 2.4km to the north of the wind farm. [See VP1 and VP10]. S32, on the south side of Lough Allua, has views directly of the site [VP06]. S35 has at Kilbarry Hill, full view of the site [VP04]. S33 have partial views [VP07]. S23 has full views at high elevations [VP11].

15.13.4. The site is located in a 'Mountain Mooreland' landscape type. The Wind Energy Development Guidelines, 2006, consider such landscapes potentially acceptable. The open expanse may be able to absorb a number of wind farms.

15.13.5. The site is in an upland location, which has higher ground to the north, west and southwest, surrounded by Derrynasaggart and Shehy Mountains. The hill of Turnaspidogy sits between the site and Lough Allua.

15.13.6. Eleven viewpoints were chosen. In the previous EIAR, 27 no. were provided but the impact of the wind farm on these locations was generally slight of imperceptible. One view, which was moderate is similar to VP1, which is considered to provide sufficient information.

15.13.7. The construction phase lasted 16 months. There was a short term, imperceptible negative impact.

15.13.8. The operational effects are as per the current 'Sleep Mode'.

15.13.9. The impacts on the landscape character are considered moderate. Topographical screening, commercial forestry and distance mitigate the effects.

15.13.10. The impact of the site on the S26, S32, S33 is considered moderate. The impact on S35 is considered slight. There is no impact on S23. Of the 11 viewpoints, 6 were considered moderate, 3 were slight, one was imperceptible and the remaining one, the windfarm was not visible.

15.13.11. There will be limited visual impacts when the wind farm is dismantled.

15.13.12. Inspector's Evaluation of Direct Effects

15.13.13. The findings accord with what is presented.

15.13.14. Inspector's Evaluation of Indirect Effects

15.13.15. No indirect effects occur.

15.13.16. Inspector's Evaluation of Residual Effects

15.13.17. I concur that the residual effects are long term and slight.

15.13.18. Cumulative Impacts

15.13.19. The site is proximate to the Derragh wind farm and in some views, the wind farms read as one. The Derragh farm can be seen in VP02, VP04, VP06 and VP07. There are other wind farms within 20 km radius of the site (27 no. existing, under construction) and permitted. The remaining wind farms are distant. The cumulative impact is considered long term, and slight.

15.13.20. Inspector's Commentary and Conclusion

15.13.21. The Remedial EIAR analysis is a fair reflection of what occurs on the ground. The wind farm is visible across the landscape, due to its upland position but the spatial extent of the wind farm is relatively discrete and is not visually dominating. The Observers are concerned that the wind farm, in conjunction with other wind farms in the vicinity will transform the landscape to an industrial landscape. I do not consider that the extent of wind farms is the area is sufficient to do so. The impacts of the wind farm are long term and moderate.

15.14. Material Assets

15.14.1. Traffic and Transport

15.14.2. Inspector's Summary and Analysis

15.14.3. Turbines entered the country via Ringaskiddy Port in Cork. Loadings were not abnormal, but were oversized. They were transported via the national route until the turning from the N22 to Lynch's Cross Road at Mons Bar and the local road network. An area of forestry was felled to allow access to the site. Site preparation took 303 days and Turbine construction 37 days. A mix of truck, concrete trucks and large articulated lorries were used. Truck movements were of the order of 2,500 movements. Extended articulated lorries were used for turbine delivery (86 movements) and ancillary movements, such as crane delivery, 39. Maximum construction staff were 80 pcu per day.

15.14.4. Operational movements are generally limited, save for the peat restoration phases.

15.14.5. Decommissioning will have a much smaller impact than construction, requiring the removal of turbines and importation of soil.

15.14.6. There was limited impact on local roads during construction, in terms of capacity. During operation, there may be the necessity to swop out a blade or turbine component.

15.14.7. The grid connection required the installation of a trench on 9 km of public road and 4 km of private road. This took 30 working days. A road closure was required for 77 days, requiring a diversion of 6.63km. One way flows were needed at the river crossings. Observers found the traffic impacts significantly adverse.

15.14.8. One section of road at Cloonycarthy required upgrading and this was completed under a Road Opening Licence from Cork County Council.

15.14.9. The largest impact on the local road network was the delivery of the turbines over 28 days, with a average of 3 abnormal loads. A Construction Traffic Management Plan was provided to the council. It included autotracking of the abnormal loads. A new link road through the forestry was required, which was subsequently reseeded. Five smaller areas required clearance. These will be maintained for decommissioning.

15.14.10. A traffic management plan will be submitted for decommissioning.

15.14.11. Inspector's Evaluation of Direct Effects

15.14.12. Observers have stated that the construction traffic significantly impacted on the use of local roads and gave rise to delay and lengthy diversion. Given the standard of the local road network, in width and alignment, this is not surprising. The EIAR describe the impacts as negative, temporary, ranging from imperceptible to moderate.

15.14.13. Inspector's Evaluation of Indirect Effects

15.14.14. No indirect effects were identified. Observers state that changes in the surface water regime in the site has led to increased surface water run-off on local roads in the vicinity of the site, which has increased since the development. In response to complaints, no mitigation measures were offered.

15.14.15. Inspector's Evaluation of Residual Effects

15.14.16. During operation, the traffic impact will be imperceptible. Decommissioning impacts will be less than construction impacts, as there will be no removal of concrete and steel in the turbine bases.

15.14.17. Cumulative Impacts

15.14.18. Reference is made to other wind farms being constructed at the same time. It states that the potential for significant negative cumulative impacts were minimised. Observers indicate otherwise.

15.14.19. Inspector's Commentary and Conclusion

15.14.20. From the information provided on the file, it would appear that the Derragh wind farm was constructed on an overlapping time line as this development. I consider that the cumulative traffic impacts during construction are understated. However, these were of short term duration.

15.14.21. Telecommunications and Aviation

15.14.22. Inspector's Summary and Analysis

15.14.23. Wind turbines can physically block microwave signals, in common with other large structures. The electromagnetic fields associated with the electrical generating and transformer equipment can also interfere with signal. This interference may be experienced by a flicker effect on televisions. It occurs when the wind turbine is directly in line with the transmitter radio path and the turning of the blades may create signal

scattering. This is described as ‘Shadowed’ houses. The interference may depend on wind direction and can be intermittent.

15.14.24. The 2006 and 2019 *Draft Revised Wind Energy Development Guidelines* recommend the installation of deflectors or repeaters, where required.

15.14.25. Consultation was undertaken with local and national broadcasters and mobile phone operators as well as aviation authorities, prior to development. RTE, now 2RN has agreed a protocol, which is in Appendix 14-2. No responses were received by telephone or broadband operators. The Irish Aviation Authority require an aeronautical obstacle warning system, as constructed co-ordinates and notification of crane operations. The Department of Defence requested obstruction lighting to be incandescent or visible to Night Vision Equipment. The turbines have been installed with lighting in accordance with the Department of Defence requirements.

15.14.26. There are no construction impacts on telecommunication and aviation, as these arise during operation. Asides from the protocol in place, no direct or indirect effects have been experienced in relation to telecommunications.

15.14.27. Asides from the necessity for crane notification during decommissioning, no effects are found.

15.14.28. Inspector’s Evaluation of Direct Effects

15.14.29. I do not consider that there has been significant interference with telecommunications. The direct effects of the obstacle lighting system lighting up the night sky is a source of distress to residents, who are concerned about the loss of dark skies and suggest alternative systems where the obstacle warning light only becomes operational when required. I consider the impact to be negative, moderate and long term.

15.14.30. Inspector’s Evaluation of Indirect Effects

15.14.31. No indirect effects are found.

15.14.32. Inspector’s Evaluation of Residual Effects

15.14.33. No residual impacts are found.

15.14.34. Cumulative Impacts

15.14.35. No cumulative impacts are found, as each individual wind farm is responsible for its own impacts on signals.

15.14.36. *Inspector's Commentary and Conclusion*

15.14.37. I note that the obstacle warning system has been agreed with the Department of Defence, in the interest of air navigation safety and that other systems may provide a less constant impact. There may be merit in these alternatives. However, this would require the support of the Department of Defence. In the absence of support, the consequences of failure and air strike in this mountainous terrain outweigh the environment impacts.

15.15. Interaction of Effects

15.15.1. A matrix is provided to assess the interaction of effects, which potentially may exacerbate, ameliorate or have a neutral impact. The matrix provides for the different phases of development – construction, operation and decommissioning. It identifies where interactions occur, which are positive, negative or neutral.

15.15.2. The main positive interactions arise between air and climate and population and human health, biodiversity and ornithology during operation. Landscape and visual and population and human health are considered neutral during operation. The negative interactions arise during construction and decommissioning, which are not dissimilar in terms of process. In the construction and decommissioning phases, negative interactions occur between water, air and climate, noise and vibration, landscape and visual and material assets, which impact on population and human health. Population and human health are affected by noise and vibration during operation.

15.15.3. Biodiversity is negatively affected during construction and demolition by lands, soils and geology, water, air and climate and noise and vibration. During operation, it is affected by water and air and climate. Ornithology is similarly affected during construction and decommissioning. Cultural heritage is affected by lands, soils and geology and landscape and visual during construction and landscape and visual during operation. Material assets are negatively affected during construction and decommissioning.

15.15.4. I consider that the matrix is a fair representation of the interactions. The main operational impact on population and human health is noise, which negative and long

term. The classification of the landscape and visual impact in relation to population of the wind farm as neutral is accepted.

15.15.5. The main impact on biodiversity is during construction and decommissioning, in relation to soils transported via water. Noise may have an impact during operation. The evidence presented is that this has not occurred at construction. Ornithology would be similarly affected.

15.16. Mitigation Measures

15.16.1. Chapter 16 provides a list of mitigation measures. The mitigation measures that were implemented during construction are described. These are comprehensive (89 no.) and appear to have been effective. If permission is granted, the construction mitigation measures will not form part of the permission, as the mitigation measures relating to operation (19 no.) and decommissioning (9 no.), as only these will be relevant, save for monitoring results, which should be kept on record. If permission is refused, then only the decommissioning mitigation measures are relevant.

15.16.2. The main operational mitigation measures relate to habitat and peat restoration, ongoing drainage measures, bird monitoring, noise and shadow flicker and an operation environmental management plan.

15.16.3. At decommissioning, a plan will be prepared in line with practice at the time and will include measures to protect ecology, the importation of soil and traffic management.

15.17. Reasoned Conclusion on Likely Significant Effects

15.17.1. Having regard to the examination of environmental information set out above, to the Remedial EIAR and other information provided by the applicant, and to the submissions from the planning authority, prescribed bodies and third parties in the course of the application, I consider that the information is sufficient to allow the Board to reach a reasoned conclusion on the significant effects on the environment, taking into account current knowledge and methods of assessment. I consider that the information contained in the Remedial EIAR was up to date at the time of submission and where there has been more up to date information publicly available, I have provided it.

15.17.2. I consider that the main significant direct effects during construction, operation and decommissioning of the proposed development on the environment are as follows:

15.17.3. The risk of peat erosion, peat instability and peat slippage during the construction, operational and decommissioning phases through a lack of control over, or mismanagement of the excavation and peat/spoil removal works. Such impacts did not occur during the construction phase, as they were managed and controlled. It is considered that during the operational and decommissioning phases, these would continue to be managed and controlled through the implementation of a range of mitigation measures related to site management in upland blanket bog locations.

15.17.4. The risk of pollution of surface waters during the construction, operational and decommissioning phases through a lack of control of surface water during excavation and construction, and the mobilisation of peat sediments and other materials during excavation and peat reinstatement. The construction of the windfarm project also had the potential to impact negatively on surface waters by way of contamination through accidents and spillages. Contamination of surface waters did not occur as a result of the excavation works during the construction phase. Impacts on surface waters will be managed and controlled during the continued operational and decommissioning phases, by the implementation of a range of mitigation measures related to the management and control of erosion, sediments, accidental spills and contamination, and by drainage management.

15.17.5. The positive environmental impacts of the provision of energy from renewable sources for 19,727 households and the consequential displacement of 887,541 tonnes of carbon dioxide from the atmosphere.

15.17.6. The negative impact on residential amenity arising from the operation of the wind farm in relation to noise at certain wind speeds for a limited number of dwellings, arising from the noise increase locally, although remaining within nationally and international limits.

15.17.7. The risk of Biodiversity impacts arising from habitat loss or fragmentation, changes to the vegetation on the site, loss of foraging habitat and disturbance to birds and bats, aquatic and water dependent habitats and general disturbance during the construction, operational and decommissioning phases. Impacts on biodiversity and

ornithology were managed and controlled during the construction phase would continue to be managed and controlled during the continued operational and future decommissioning phases, by the implementation of a range of mitigation measures which include site management, water quality protection, seasonality and timing of works, and turbine curtailment, along with ongoing monitoring.

15.17.8. Increased vehicle movements and resulting traffic impacts during the construction phase on the road network were mitigated by measures related the timing of deliveries of construction materials and components to the site and would be mitigated during the decommissioning phase by timing, road and bridge condition surveys and the implementation of a Construction Traffic Management Plan.

15.17.9. Air pollution and noise during the construction and decommissioning phases and resulting impacts on nearby sensitive receptors and populations in the vicinity have been and would be substantially avoided because of the limited number of sensitive receptors in close proximity to the development, and the implementation of mitigation measures related to air quality, dust and noise controls.

15.17.10. Visual impacts on the landscape during the operational phase as a result of the installation of tall structures have been mitigated by design. These are tall structures and are therefore highly visible.

15.17.11. In conclusion, having regard to the above identified significant effects, I am satisfied that the works undertaken in the construction phase did not lead to unacceptable direct and indirect effects on the environment. I am also satisfied that, subject to the continued implementation of mitigation measures during operation and decommissioning, the wind farm project will not and would not have any unacceptable direct or indirect impacts on the environment.

16.0 **Remedial Appropriate Assessment**

16.1. **Introduction and Scope**

16.1.1. At the Application for Leave for Substitute Consent for the development (**ABP-306272-19**), the Board determined that an appropriate assessment is required.

16.1.2. This application is accompanied by both a Remedial Appropriate Assessment Screening Report, Remedial Natura Impact Statement and Appropriate Assessment

Screening Report and Natura Impact Statement. These documents in this case relates to the same development. The applicant has provided for the construction, operation and decommissioning of the wind farm into the Remedial Natura Impact Statement (RNIS) and the operation and decommissioning into the Natural Impact Statement (NIS). The logic for this is that the wind farm has been constructed, but is not in operation, as it is in 'sleep mode' and therefore that part of the development has not been carried out.

16.1.3. In this case, 9 of 11 turbines have been constructed. I am of the view that an NIS would be required if the applicant sought to construct the additional two turbines. However, this is not the case, in this instance. The applicant is seeking substitute consent only for the wind farm 'as built'. Inherent in retention of the structures is the operation and decommissioning of the wind farms. It would not make sense that a substitute consent application could be granted for the construction of a wind farm, but not its operation. Therefore, for the purposes of this assessment, I will focus on the Remedial documents for a Remedial Appropriate Assessment.

16.1.4. The development that the RNIS describe includes the underground connection to the national grid, which connects through to the administrative area of Kerry County Council to the substation at Coomataggart. The majority of the connection is shared with the Derragh wind farm, which was permitted under **P.A. Reg. Ref.17/5126** and which combined the transmission of electricity from both wind farms. The 2 km of underground cabling underground connection for both wind farms in Kerry has not been challenged, and is a permission that has been implemented (**P.A. Reg. Ref. 15/1164**). While I accept that a grid connection is part of the overall project of the wind farm, for all practical purposes, any decision on the adequacy of the Remedial NIS will not impact on the bulk of the underground connection, as the grid connection will continue for Derragh wind farm. The removal of the 33kV cable to the Derragh wind farm (circa 3 km in length) will involve the extraction of the cables from the cable ducting via cable joint bat and rolling onto cable drums, which does not involve works, from a planning perspective. The focus of the assessment of the RNIS will therefore concentrate on the turbines and only the construction of the underground connection to Derragh wind farm. The haul route for the turbines is briefly reviewed, as it will be necessary for decommissioning. That is the project subject to substitute consent, in

my opinion. This limits the extent of conditions that An Bord Pleanála may wish to apply.

16.1.5. The individual members of the design team that has prepared the RNIS indicted their qualifications and experience and I am satisfied that they have sufficient expertise in their areas. Dr. Flynn concurs with this.

16.1.6. I reviewed the NPWS website (28.09.2023) and no new European sites have been designated since 2020 and the boundaries for existing sites have not been expanded. There has been changes to the Conservation Objectives, which were published in 2022, post-dating the submission of the various appropriate assessment reports submitted by the applicant. However, the information provided in the reports is sufficient to enable me to carry out an appropriate assessment.

16.1.7. In addition, the Inspectorate Ecologist has reviewed all the AA documents and considers the information adequate to inform and address the tests required as part of Screening the need for AA and for AA. Her report is appended to this (my report) and I refer to it as part of this assessment.

16.2. **Appropriate Assessment: Stages 1 and 2**

16.2.1. The requirements of Article 6(3) as related to screening the need for appropriate assessment of a project under part XAB, section 177U and section 177V of the Planning and Development Act 2000 (as amended) are considered fully in this section. The areas addressed in this section are as follows:

- Compliance with Article 6(3) of the EU Habitats Directive
- Screening the need for appropriate assessment
- The Remedial Natura Impact Statement and associated documents
- Appropriate Assessment of implications of the proposed development on the integrity each European site

16.2.2. Compliance with Article 6(3) of the Habitats Directive

16.2.3. The Habitats Directive deals with the Conservation of Natural Habitats and of Wild Fauna and Flora throughout the European Union. Article 6(3) of this Directive requires that any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in

combination with other plans or projects shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. The competent authority must be satisfied that the proposal will not adversely affect the integrity of the European site before consent can be given. The proposed development is not directly connected to or necessary to the management of any European site and therefore is subject to the provisions of Article 6(3). The requirements of Article 6(3) as related to screening the need for appropriate assessment of a project under part XAB, section 177U of the Planning and Development Act 2000 (as amended) are considered fully in this section.

16.2.4. *Screening the need for Appropriate Assessment*

16.2.5. The development is not directly connected with or necessary to the management of any European Site.

16.2.6. The applicant has submitted a report 'Remedial Appropriate Assessment Screening Report Cleanrath Wind Farm' by MKO Planning and Environment Consultants (MKO).

16.2.7. The report provides a description of the development and baseline (prior to construction ecological environment. The company have been involved on the site since 2010 and have extensive knowledge of it. The screening report has been prepared on the basis of the absence of mitigation measures.

16.2.8. The European Sites within a possible zone of influence of the proposed development are identified, within a 15km radius of the site or further if there are potential pathways of connectivity. Ecological pathways considered include hydrological connections between the wind farm development and receiving watercourses / wetlands and also resource connections, where birds associated with SPA sites may utilise the site or pass through on flight paths between other SPA sites. Various bird surveys have been undertaken, to assess if bird species recorded at the site are connected with a European site. From this, the likely zone of impact is derived. I undertook a review using the EPA Appropriate Assessment tool on 28.09.2023 and confirmed that the SACs and SPAs that are identified are:

Table 3: European Designated Sites for Screening Purposes

Name	Site Code	Distance	Qualifying Interests	Connection?

St. Gobnet's Wood SAC	(000106)	4.6 km from Wind farm site 7.5km from Grid Connection Route	Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]	X
Mullaghanish to Musheramore Mountains SPA	(004162)	4.7km from Wind farm site 8.3km from Grid Connection Route	Hen Harrier (Circus cyaneus) [A082}	Y – while outside the 2km core foraging zone, hen harrier observed on site
The Gearagh SAC	(000106)	7.4km by land & 9.4km via surface water from Wind farm site 9.7km from Grid Connection Route	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] Rivers with muddy banks with Chenopodion rubri p.p. and Bidention p.p. vegetation [3270] Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] Alluvial forests with Alnus glutinosa and Fraxinus excelsior	Y – indirect effects

			(Alno-Padion, Alnion incanae, Salicion albae) [91E0] Lutra lutra (Otter) [1355]	
The Gearagh SPA	(004109)	7.6km by land & 9.3km via surface water from Wind farm site 10.1km from Grid Connection Route	Wigeon (Anas penelope) [A050] Teal (Anas crecca) [A052] Mallard (Anas platyrhynchos) [A053] Coot (Fulica atra) [A125] Wetland and Waterbirds [A999]	Y – indirect effects
Mullaghanish Bog SAC	(001890)	9.1 km from Wind farm site 12.4km from Grid Connection Route	Blanket bogs (if active bog) [7130]	X
Bandon River SAC	(002171)	9.9 km from Wind farm site 11.2km from Grid Connection Route	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion	X

			albae) [91E0] Margaritifera margaritifera (Freshwater Pearl Mussel) [1029] Lampetra planeri (Brook Lamprey) [1096]	
Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC	(000365)	11.4 km from Wind farm site 8.3km from Grid Connection Route	Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110] Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea [3130] Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] Northern Atlantic wet heaths with Erica tetralix [4010] European dry heaths [4030] Alpine and Boreal heaths [4060] Juniperus communis formations on heaths or calcareous grasslands	X

			[5130] Calaminarian grasslands of the Violetalia calaminariae [6130]	
Derryclogher (Knockboy) Bog SAC	(001873)	15.4 km from Wind farm site 7.4km from Grid Connection Route	Blanket bog, if active [7130]	X
Kilgarvan Ice House SAC	(000364)	16.4km from Wind farm site 7.2km from Grid Connection Route	Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303	X
Old Domestic Building, Curraglass Wood SAC	(002041)	17.5km from Wind farm site 9.8km from Grid Connection Route	Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303	X
Glanlough Woods SAC	(002315)	18.0 km from Wind farm site 8.5km from Grid Connection Route	Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]	X

16.2.9. The proposed development is distant from European Sites, so no loss of habitat or direct disturbance to species located therein is likely to arise. While there are 11 no. European sites potentially affected, Dr. Flynn and I would concur with the finding that there are only three which might be affected by impacts generated the development, namely, the Gearagh SAC and SPA and the Mullaghanish to Musheramore Mountains SPA. The first two European Sites are connected via surface water and their qualifying interests could be affected by changes in water quality and quantity. The third is the Mullaghanish to Musheramore Mountains SPA, the qualifying interest of which is the Hen Harrier (breeding). This species has been observed infrequently on site previously, although the area is 4.7km from the European Site (core foraging range in the breeding season is 2 km).

16.2.10. The screening report lists a number of impacts that have the potential to result in significant effects on the European Sites. The impacts could arise in construction and operational phases from pollution, via the surface water drainage. In the absence of mitigation measures there could be impacts on the attainment of conservation objectives of the Gearagh SAC and SPA. A precautionary approach is being taken in relation to the Hen Harrier. Due to the potential impacts arising at construction and operation stage, it is necessary to proceed to Remedial NIS.

16.2.11. The report concludes that in the absence of implementation of suitable mitigation, during construction and operation, the proposed development could pose a risk of likely significant effects. An Appropriate Assessment is considered warranted. Dr. Flynn and I would concur with the above assessment, as did the Board at Leave to Grant Substitute Consent stage.

16.2.12. In-combination Effects

16.2.13. The report considered cumulative effects with other projects in the area. There could be a cumulative risk arising. I would concur with this finding.

16.2.14. Screening Determination

16.2.15. The proposed development was considered in light of the requirements of Section 177U of the Planning and Development Act 2000 as amended. Having carried out Screening for Appropriate Assessment of the project, and having regard to the

information presented in the Remedial AA Screening Report, including the nature, size and location of the development and its likely indirect effects, either alone or in combination with other plans or projects, it is considered that potential significant effects could arise and that Appropriate Assessment is required to determine if adverse effects on site integrity can be excluded from the following European Sites, in light of the Conservation Objectives for those Sites:

- the Mullaghanish to Musheramore Mountains SPA
- The Gearagh SAC and
- The Gearagh SPA.

16.3. **Stage 2**

16.3.1. The Remedial NIS sets out the conclusions of the Remedial Appropriate Assessment Screening Report, describes the project, the receiving environment, assesses potential effects and associated mitigation, assesses residual and cumulative effects and provides a concluding statement. It identifies and characterises the possible implications of the development on the European sites, in view of the site's conservation objectives, and provides information to enable the Board to carry out an appropriate assessment of the works undertaken and proposed to be taken. Dr. Flynn and I consider the information sufficient to allow the Board undertake a Remedial Appropriate Assessment.

16.3.2. The Remedial NIS contains a number of appendices, including the following, which informs the findings and mitigation measures:

- Peatland Habitat Management Plan
- Watercourse Course Survey Report
- Hen Harrier Survey Data Appendix
- Hydrological Assessment
- Pre-Construction Otter Survey
- Construction and Environmental Management
- Operation and Environmental Management Plan
- Decommissioning Plan

16.3.3. The Remedial NIS describes the characteristics of the receiving environment. It is informed by a range of studies, which also inform the Remedial EIAR. These included:

- desk studies
- ecological multidisciplinary walkover survey,
- otter survey
- watercourse survey
- Hen Harrier and Hen Harrier Roost survey,
- vantage point survey
- breeding bird survey
- breeding raptor survey
- waterfowl survey
- winter transect survey
- precommencement monitoring bird surveys
- operational monitoring bird surveys, including corpse searches.

16.3.4. Dr. Flynn is satisfied that the methodology employed is conforms to industry best practice.

16.3.5. The Remedial NIS assesses the potential for direct, indirect effects, alone or in-combination with other plans and projects, taking into account the use of mitigation measures to prevent or have prevented impacts.

16.3.6. Mullaghanish to Musheramore Mountains SPA, Site Code:004162

16.3.7. This site is 4.7km from the wind farm. The Species of Conservation Interest is the breeding Hen Harrier - (Circus cyaneus) [A082]. Merlin are also present, but are listed as a Species of Conservation Interest. The conservation objective for the site was updated in 2022 (post application for Substitute Consent). It is to restore the favourable conservation condition of the Hen Harrier and attributes, measures and targets are set out to achieve this objective. The targets are specific to the SPA. The SPA contains over a 1,000 ha of suitable habitat. There were five Hen Harrier breeding pairs in 2005 (2% of the national population) and the current target is 3 breeding pairs or more.

These generally forage within 5km of the roost or centre of territory. Two threats are identified outside the site – silviculture/forestry and grazing. The site synopsis notes that Hen Harriers will forage up to c. 5 km from the nest site, utilising open bog and moorland, young conifer plantations and hill farmland that is not too rank. Birds will often forage in openings and gaps within forests for their prey – small birds and small mammals.

16.3.8. Potential Direct Effects

16.3.9. There are no potential direct effects on the SPA.

16.3.10. Potential Indirect Effects

16.3.11. No evidence of breeding or roosting occurs on the wind farm site. However the Hen Harrier have been recorded on site. The RNIS states (Page 58) that the Hen Harrier was:

"..*recorded on fourteen occasions during Vantage Point Surveys between February 2015 and February 2017. All fourteen observations occurred during winter months between September and February. Only five of the fourteen observations occurred within, or partially within, the height band considered for PCH. All fourteen observations occurred within the Cleanrath wind farm development, predominantly within the north-western section of the site. All observations were of individual birds in hunting or travelling flights*."

16.3.12. Hen harriers were not recorded in the precommencement survey but one was observed twice on 15.05.2020, in the operational monitoring survey, some 2 km from the site.

16.3.13. The Remedial NIS states that there was no breeding or roosting of Hen Harrier within 2km of the site between 2015 and 2017. Significant effects have not occurred during construction. The levels of activity are described as low.

16.3.14. During operation, the report states that here is an abundance of foraging habitat available post construction. In relation to displacement, no significant effects arise, due to the limited use of the site. In relation to collision, a random collision risk analysis model (Band) has been undertaken. The risk is estimated as very low, at 0.003 collisions per year, which is not significant in terms of the international, national and county population.

16.3.15. Decommissioning will be undertaken in accordance with the submitted decommissioning plan. The plan has been informed by guidance from Scottish Natural Heritage Guidance.

16.3.16. The Observers note that the Hen Harrier has expanded its territory and is not confined to the Mullaghanish to Musheramore Mountains SPA. There has been sightings of the Hen Harrier in the site and in vicinity to the site. However, the evidence would indicate that the use of the site or area, is not for roosting or nesting and is of an intermittent frequency, rather than part of the core foraging area. Therefore, I am satisfied that the wind farm, whether on its own or cumulatively with the Derragh wind farm, would not give rise to a displacement affect.

16.3.17. In-combination Effects

16.3.18. Wind farms within a 10km radius of the site were considered, as well as other applications. The Derragh wind farm was subject to Appropriate Assessment and a finding of no adverse effects on the integrity of European Sites was made by the competent authority, An Bord Pleanála. No in-combination or cumulative effects are identified.

16.3.19. Mitigation Measures

16.3.20. The mitigation measures which were employed and on-going measures, what is proposed would remove / reduce any potential disturbance effects and the incorporation of Hen Harrier into general mitigation and monitoring of the site. Mitigation measures included no conifer / tree / hedge felling in the nesting season; removal of brash; noise control measures and the construction phase was overseen by an Ecological Clerk of Works and Project Ecologist. There are extensive mitigation measures in the EIAR that have been incorporated into the Construction, Operation, and Decommissioning Environmental Management Plans, which include ongoing ornithological survey and monitoring.

16.3.21. Residual Effects

16.3.22. No residual effects arise.

16.3.23. The Gearagh SAC 000108

16.3.24. The Gearagh SAC has formed where the River Lee breaks into a complex network of channels (2 to 6 m wide), weaving through a series of wooded islands. The

alluvial woodland which remains today is of unique scientific interest, and qualifies as a priority habitat under Annex I of the E.U. Habitats Directive. Frequent flooding enhances its character. The islands host an oak, ash and birch woodland community. The qualifying interests and Conservation Objectives are as follows:

- Floating River Vegetation [3260]
- The Conservation Objective is to maintain the favourable conservation condition. This includes the hydrological regime and water quality.
- Chenopodion rubri p.p. and Bidention p.p. vegetation [3270]
- The Conservation Objective is to maintain the favourable conservation condition. This includes the hydrological regime - flood duration, flood frequency, flood area and depth and water quality.
- Old Oak Woodlands [91A0]
- To maintain the favourable conservation condition.
- Alluvial Forests [91E0]
- To maintain the favourable conservation condition. This includes the hydrological regime: flooding depth/height of water table.
- Otter (Lutra lutra) [1355].
- To maintain the favourable conservation condition.

16.3.25. *Potential Direct Impacts*

16.3.26. There is no direct impact as the site is outside the European Site.

16.3.27. *Potential Indirect Impacts*

16.3.28. The development could give rise to deterioration of surface water during construction, due to hydrological connections as the SAC is downstream of the development. The speed of surface water runoff could accelerate during operation. Peat restoration measures, including the felling of forestry which could cause pollution, could lead to deterioration of surface water. Decommissioning could also impact on the quality of surface water runoff.

16.3.29. *Potential In-combination Effects*

16.3.30. Wind farms within a 10km radius of the site were considered, as well as other applications. The Derragh wind farm was subject to Appropriate Assessment and a finding of no effects on the integrity of European Sites was made by the competent authority, An Bord Pleanála. No cumulative effects are identified.

16.3.31. Mitigation Measures

16.3.32. Monitoring of surface water from the site demonstrated that the mitigation measures employed during the construction and the short period of operation of the wind farm that the development did not have a significant effect on any watercourse. Ecological surveys downstream of the wind farm and grid connection route show that no water pollution was recorded, which could have potentially arisen from the construction phase of the Cleanrath wind farm development. No significant changes to the water regime occurred. The OEMP will incorporate on-going monitoring.

16.3.33. Similar mitigation measures will be implemented at decommissioning stage.

16.3.34. Residual Effects

16.3.35. There have been no residual impacts during construction and operation to date on the hydrological regime nor water quality. Decommissioning will be subject to the same mitigation measures as during construction.

16.3.36. The Gearagh SPA (004109)

16.3.37. The Gearagh SPA was designated for its nationally important populations of wintering waterbirds, including Wigeon, Teal, Mallard and Coot. Other birds of interest are Mute Swan, Whooper Swan, Gadwall, Shovele, Pochard, Tufted Duck, Goldeneye, Cormorant, Lapwing, Golden Plover and Curlew. A feral Greylag Goose flock is present in the area. A few pairs of Great Crested Grebe and Tufted Duck breed at the site. The Gearagh is a Nature Reserve, a Ramsar Convention site and a Council of Europe Biogenetic Reserve. The conservation objective is to maintain or restore the favourable conservation condition of the bird species listed as SCIs and the wetland habitat at The Gearagh SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.

16.3.38. *Potential Direct Effects*

16.3.39. No direct effects arise.

16.3.40. Potential Indirect Effects

16.3.41. The development could give rise to deterioration of surface water during construction. Peat restoration measures, including the felling of forestry which could cause pollution, could lead to deterioration of surface water. Decommissioning could also impact on the quality of surface water runoff. The OEMP will incorporate on-going monitoring during operation.

16.3.42. *Potential in-combination impacts*

16.3.43. Wind farms within a 10km radius of the site were considered, as well as other applications. The Derragh wind farm was subject to Appropriate Assessment and a finding of no adverse effects on the integrity of European Sites was made by the competent authority, An Bord Pleanála. No cumulative effects are identified.

16.3.44. *Mitigation Measures*

16.3.45. Monitoring of surface water from the site demonstrated that the mitigation measures employed during the construction and the short period of operation of the wind farm that the development did not have a significant effect on any watercourse. Ecological surveys downstream of the wind farm and grid connection route show that no water pollution was recorded, which could have potentially arisen from the construction phase of the Cleanrath wind farm development. No significant changes to the water regime occurred.

16.3.46. Similar mitigation measures will be implemented at decommissioning stage.

16.3.47. In terms of protected species, the White tailed eagle, similarly, has been sighted in the area. While there is no evidence that the area is being used on an extensive basis by the bird, should the circumstances arise, a plan has been agreed to mitigate the impact of the wind farm on the bird.

16.3.48. In relation to bats, the level of the use of the site has been found to be low and this is confirmed in the evidence of corpse searches. Mitigation measures include that the radius of the blades is in excess of 50 metres from the edge of forestry, where bats forage.

16.3.49. *Evaluation of Effects*

16.3.50. I consider that the mitigation measures are extensive, are clearly described, are reasonable, practical and enforceable. The evidence is clear that they have worked effectively to date. I am also satisfied that the measures outlined fully address any

potential effects arising from the operation and decommissioning and that it is reasonable to conclude on the basis of best scientific information, that the proposed development would not be give rise to have an adverse effect on the integrity of *Mullaghanish to Musheramore Mountains SPA, Site Code:004162, The Gearagh SAC, Site Code:000108* and *The Gearagh SPA,* Site Code:004109 and that adverse effects on site integrity can be excluded.

16.3.51. RNIS Omissions

16.3.52. No omissions were identified.

16.3.53. *Remedial Appropriate Assessment Conclusion*

16.3.54. Having reviewed the Remedial NIS and the supporting documentation, and taking into account the evaluation of the Inspectorate Ecologist, I am satisfied that the applicant has provided adequate information in respect of the baseline conditions, clearly identifies the potential impacts, and uses best scientific information and knowledge in assessing those impacts. Details of mitigation measures are provided and they are contained in Appendix 2-9 of the Remedial NIS. I am satisfied that the information is sufficient to allow for complete, precise and definitive findings for the appropriate assessment of the development.

16.3.55. Having regard to the works completed to date during construction and operation and the success of the mitigation measures, and subject to the continued implementation of monitoring and mitigation measures during both operation and decommissioning, I consider that it is reasonable to conclude on the basis of the information on the file, which I consider adequate in order to carry out Stage 2 Appropriate Assessment, that the development, individually or in combination with other plans and projects would not adversely affect the integrity of the European Sites, Mullaghanish to Mushermore Mountains Site no. *004162* or The Gearagh SAC Site no. *000108* or The Gearagh SPA Site no. 004109, or any other European site, in view of the sites' Conservation Objectives.

17.0 **Recommendation**

17.1. On the basis of the above assessment, I recommend that the Board grant Substitute Consent for the wind farm, subject to the reasons and considerations set out below and subject to conditions including requiring compliance with the submitted details and with the mitigation measures as set out in the EIAR and NIS, which relate to the operation and decommissioning of the wind farm.

18.0 **Reasons and Considerations**

In coming to its decision, the Board had regard to the following:

(a) Renewable Energy Directive, Directive (EU) 2018/2001, as amended, as adopted by the EU parliament on 12.09.2023, on the promotion of renewable energy,

(b) the Environmental Impact Assessment Directive (EIA Directive) means Directive 2014/52/EU, as amended, on 16.04.2014 April 2014, on the assessment of the effects of certain public and private projects on the environment,

(c) the EU Habitats Directive (92/43/EEC),

(d) the European Union (Birds and Natural Habitats) Regulations 2011-2015,

(e) Section 15 *of the Climate Action and Low Carbon Development (Amendment), Act 2021*,

(f) Section 177K(2) of the Planning and Development Act, as amended,

(g) The likely consequences for the environment and the proper planning and sustainable development of the area where the development is located and the likely significant effects of the development on European Sites,

(h) the conservation objectives, qualifying interests and special conservation interests for the Mullaghanish to Musheramore Mountains SPA (site code: 004162), the Geragh SAC (site code: 000106) and the Gearagh SPA (site code:004109),

(i) the policies and objectives of the *Cork County Development Plan*, 2022-2028,

(j) the *National Planning Framework - Ireland 2040*,

(k) the *Climate Action Plan, 2023,*

(l) The *Regional Spatial & Economic Strategy for the Southern Region*, 2020,

(m) the "*Wind Energy Development Guidelines - Guidelines for Planning Authorities*", issued by the Department of the Environment, Heritage and Local Government in 1996 and 2006,

(n) the *Draft Revised Wind Energy Development Guidelines* 2019 issued by the Department of Housing, Planning and Local Government,

(o) the submissions made in connection with the Substitute Consent application,

(p) the nature and extent of the proposed works as set out in the application for approval,

(q) the urgent need to provide for renewable energy,

(r) the distance to dwellings or other sensitive receptors,

(s) the impact on residential amenity arising from noise, and

(t) the report and recommendation of the person appointed by the Board to make a report and recommendation on the matter, including the report from the Board's ecologist.

Remedial Environmental Impact Assessment

In compliance with Section 172 of the Planning and Development Act, 2000, as amended, The Board completed a Remedial environmental impact assessment of the development, taking into account:

(a) the nature, location, scale and extent of the development,

(b) the Remedial Environmental Assessment Report and associated documentation submitted in support of the application,

(c) the submissions from the applicant, the planning authority, the observers and prescribed bodies in the course of the application,

(d) and the Inspector's report, which includes a report from the Board's ecologist.

The Board considered that the Remedial Environmental Impact Assessment Report (REIAR), supported by the information submitted by the applicant, identifies and describes adequately the direct, indirect, and cumulative effects of the development on the environment. The Board is satisfied that the information contained in the REIAR complies with the provisions of EU Directive 2014/52/EU amending Directive 2011/92/EU.

The Board agreed with the summary and examination, set out in the Inspector's report, of the information contained in the REIAR and associated documentation submitted by the applicant and submissions made in the course of the application. The Board is satisfied that the Inspector's report sets out how these were addressed in the assessment and recommendation (including environmental conditions) which are incorporated into the Board's decision.

The Board considered that the main significant direct and indirect effects of the development on the environment were and are, and will be mitigated as follows:

During Construction:

- Risk of pollution of surface waters
- Risk of peat instability and peat erosion
- Risk to biodiversity indirectly from pollution of surface waters from suspended solids.

These were, and continue to be mitigated by the implementation of measures set out in the REIAR which include specific provisions relating to construction environmental management mitigation measures.

- Positive impacts on population and human health on the local economy from increased spending and jobs during the construction period and from community benefit payments.

Any adverse impacts on population and human health were be mitigated by the measures to reduce impacts from material assets, air & climate, noise & vibration to acceptable levels.

During Operation:

- Risk of pollution of surface waters during peat reinstatement and indirect risk to biodiversity
- Risk to protected species
- Noise
- Shadowflicker
- Landscape and visual effects from the turbines

These are to be mitigated by the implementation of measures set out in the REIAR which include specific provisions relating to a peat management plan, operational environmental management mitigation measures, including for the White Tailed Eagle and bats as submitted during the application process. Landscape impacts have been mitigated by the design and siting of the turbines. Noise impacts can be mitigated by condition.

- Positive environmental impacts would arise during the operational phase from the generation of renewable energy for 19,272 households and consequential reduction in Green House Gas emissions and continuation of the community benefit scheme over the life time of the development.
- Potential for adverse effects on **Biodiversity and Ornitholgy** arising from the development and cumulatively with other projects, plans and activities in the area with respect to peat habitat, terrestrial invertebrates, aquatic habitats and species, and salmonids, and other fish related to water quality. Collision risks are considered low. These potential adverse effects can be mitigated and monitored.
- Potential for adverse impacts on **Population** arising from noise. These potential adverse effects can be mitigated and monitored.

There will be permanent loss of 9.5 hectares due to the construction footprint. This will be offset through peatland habitat reinstatement and enhancement plan of 4.13 hectares and the replacement planting of 12.32 hectares of coniferous forestry.

- Potential for adverse impacts to **Land and Soils** from slope failure risk, excavations, rock blasting, storage and disposal of excavated materials and drainage. Mitigation by design has taken place to avoid areas of deep peat.
- Potential impacts on **Water**, which left unmitigated, could have an effect on receiving watercourses, particularly the risk of sedimentation of sensitive catchments. These potential impacts have been mitigated by siltation and erosion controls, temporary settlement ponds, buffer zones to rivers/ streams, avoidance of deep peat/ steep slopes, surface water monitoring and forestry clearing in accordance with guidelines and which will continue to be mitigated for during peat reinstatement .
- Potential impacts on **Landscape character and visual amenity** from the proposed turbines focused mainly at the site and its immediate surrounds. From the north, a number of residences are likely to experience open views of the turbines. More sensitive viewpoints will not experience significant effects. Visually, the turbines coalesce with existing turbines.

During Decommissioning:

- Risk of pollution of surface waters
- Construction traffic movements
- Noise.

These would be mitigated by the implementation of measures set out in the REIAR which include specific provisions for decommissioning, including a traffic management plan.

The Board completed a Remedial environmental impact assessment in relation to the construction, operation and development of the windfarm project and concluded that any impacts on the environment that occurred during the construction phase were temporary and short to medium term in duration following the implementation of Remedial mitigation measures. Subject to the continued implementation of the mitigation measures as set out in the Remedial EIAR, and subject to compliance with the conditions set out below, the effects of the windfarm project on the environment, by itself and in combination with other plans and projects in the vicinity, were, and

would be acceptable. In doing so, the Board adopted the report and conclusions of the Inspector and Ecologist.

Appropriate Assessment:

The Board agreed with and adopted the screening assessment and conclusion carried out in the Inspector's and Ecologist's report that the Mullaghanish to Musheramore Mountains SPA (site code: 004162), the Gearagh SAC (site code: 000106) and the Gearagh SPA (site code:004109), are the only European Sites in respect of which the proposed development has the potential to have a significant effect.

The Board considered the Remedial Natura Impact Statement and associated documentation submitted with the application for approval, the mitigation measures contained therein, the submissions and observations on file, and the Inspector's and Ecologist's assessments. The Board completed an appropriate assessment of the implications of the proposed development for the affected European Sites, namely the Mullaghanish to Musheramore Mountains SPA (site code: 004162), the Gearagh SAC (site code: 000106) and the Gearagh SPA (site code:004109), in view of the site's conservation objectives. The Board considered that the information before it was adequate to allow the carrying out of an appropriate assessment. In completing the appropriate assessment, the Board considered, in particular, the following:

i. the likely direct and indirect impacts arising from the proposed development both individually or in combination with other plans or projects,
ii. the mitigation measures which are included as part of the current proposal, and
iii. the conservation objectives for the European Sites.

In completing the appropriate assessment, the Board accepted and adopted the appropriate assessment carried out in the Inspector and Ecologist's report in respect of the potential effects of the proposed development on the integrity of the aforementioned European Sites, having regard to the site's conservation objectives.

In overall conclusion, the Board was satisfied that the proposed development, by itself or in combination with other plans or projects, would not adversely affect the integrity of the European Sites, in view of the site's conservation objectives.

Proper Planning and Sustainable Development/Likely effects on the environment:

Having regard to Europe's critical need to provide for renewable energy rapidly, to provide for energy security, and the Renewable Energy Directive, as regards the promotion of energy from renewable sources, it is considered that exceptional circumstances arise to grant substitute consent.

It is considered that subject to compliance with the conditions set out below the windfarm project would accord with European, national, regional, and local planning and related policy. Following mitigation measures, the effects on the environment or the community in the vicinity from the development would come within acceptable standards, would not give rise to a risk of pollution, would not be detrimental to the visual or landscape amenities of the area, would not adversely impact on the cultural, archaeological and built heritage of the area and would be acceptable in terms of traffic safety and convenience.

Following the implementation of mitigation measures during construction, the windfarm project did not have a long-term impact on ecology and biodiversity.

The windfarm project was, and would, therefore, be in accordance with the proper planning and sustainable development of the area.

19.0 Conditions

1. The development shall be retained, operated, and decommissioned in accordance with the plans and particulars lodged with the application, and as received by the Board on 19.02.2021, except as may otherwise be required in order to comply with the following conditions. Where such conditions require

details to be agreed with the planning authority, the developer shall agree such details in writing with the planning authority and the development shall be retained and completed in accordance with the agreed particulars.

Reason: In the interest of clarity and to ensure the protection of the environment and European sites.

2. This permission shall be for a period of 25 years from the date of the first commissioning of the wind farm project.

   Reason: To provide an appropriate time frame for the operation of the development.

3. The mitigation and monitoring measures outlined in the plans and particulars relating to the operation of the development, including those set out in Chapter 16 of the EIAR and Appendix 2 to 8 of the NIS, shall be implemented in full or as may be required in order to comply with the following conditions. Within 3 months of the date of this order, details of a time schedule for implementation of mitigation measures and associated monitoring shall be submitted to the planning authority for their written agreement.

   Reason: In the interest of protecting the environment, the protection of European Sites and in the interest of public health.

4. All operations on site shall be carried out so as there is no discharge of polluting matter to waters.

   Reason: To protect water quality.

5. A water quality monitoring programme shall be put in place downstream of the areas where reinstatement of peatland is to take place. This programme shall

be submitted to and agreed in writing with the planning authority, prior to commencement of the peat restoration works.

Reason: To protect water quality.

6. The developer shall ensure that all peat related mitigation measures are monitored throughout the entire life cycle of the project and are implemented in full for the decommissioning works.

   Reason: In the interest of protection of the environment.

7. A revised OEMP shall be submitted to the planning authority for written agreement within 3 months of the date of this order. The ongoing water quality monitoring programme shall be detailed in this OEMP. This will include for monthly monitoring in the first three years of operation and quarterly thereafter. The results shall be made available to the planning authority on an annual basis and on request.

   Reason: To protect water quality.

8. The relative rated noise levels (LA rated 10 min.) resulting from wind energy development and taking into account the cumulative impact of noise levels resulting from other existing and approved developments, shall not result in noise levels, when measured externally at nearby noise sensitive locations, which exceed:

   i. Background noise levels by more than 5 dB(A) $L_{90\ 10min}$,or 40 dB(A),$L_{90\ 10\ min}$ at standardised 10m height above ground level at windspeeds of 8m/sec or greater,

   ii. 40 dB(A) L90 10min at all other standardised 10 m height above ground level wind speeds.

Reason: In the interest of residential amenity.

9. An annual noise monitoring report shall be prepared by a competent person on behalf of the operator of the wind turbines for each calendar year, or part of a calendar year where the development commences during the calendar year that the wind turbines are operational. This report shall be submitted to the planning authority for recording purposes within 3 months of the end of the previous calendar year and held by the operator for inspection by the planning authority as required at any time. All annual reports shall be published on a website maintained by the operator but accessible to the public as soon as they are submitted to the planning authority.

   The operator shall undertake noise monitoring at additional noise monitoring locations, which may include the relocation of existing noise monitoring equipment locations, as may be required at the discretion of the planning authority, in response to complaints relating to non-compliance.

   In the event of a complaint being received in relation to a noise sensitive location which was not included in the noise impact assessment submitted with the planning application, the planning authority may require the operator to undertake an assessment of the background noise level for that additional noise sensitive location, and the planning authority may impose noise limits based on a listed noise sensitive location previously approved where a similar background noise level is experienced.

   The operator shall provide any such additional background noise assessment as may be required by the planning authority within 1 month of such a request being made, and they shall install any such additional noise monitoring equipment as may be required by the planning authority within 3 months of such a request being made. Details of the additional or relocated noise monitoring locations shall be included in all subsequent annual noise monitoring reports.

   Reason: To monitor the compliance of the development in respect of noise of the wind energy development on the amenity of noise sensitive locations in the vicinity of the site

10. (a) A noise compliance monitoring programme shall be submitted for agreement with the planning authority within 3 months of the date of this order. All results shall be submitted to the planning authority within 1 month of the completion of any survey. The developer shall carry out any additional noise mitigation measures as may be required by the planning authority.

    (b) A designated employee shall interface with the planning authority or member of the public in relation to complaints or queries in relation to noise. Contact details shall be provided to the planning authority within one month of the date of this order.

    Reason: In the interest of residential amenity and to monitor the compliance of the development in respect of noise of the wind energy development on the amenity of noise sensitive locations in the vicinity of the site.

11. There will be no shadow flicker at any existing nearby dwelling or other relevant existing affected sensitive property and the necessary measures outlined in the EIAR submitted with the application, such as turbine shut down during the associated time periods, should be taken by the wind energy developer or operator to eliminate the shadow flicker.

    Reason: In the interest of residential amenity

12. The developer shall retain the services of a suitably qualified and experienced Civil Engineer and Ecologist for the duration of the decommissioning works in order to prevent damage to the integrity or stability of the peatland environment.

    Reason: In the interest of protecting the environment.

13. A) Annual and adaptive monitoring for use of Lough Allua and the wind farm area by white-tailed sea eagles will be undertaken by a competent qualified ornithologist for the first 5 years and thereafter, every 5 years for the operational life of the windfarm, unless otherwise required arising from the adaptive monitoring programme. This monitoring will be undertaken over a sufficient

observation period, and at suitable vantage points, which allow detection of roosting or overflying eagles, based on best practice and appropriate times of the year or on the basis of reliable reports of roosting eagles in the vicinity of the site. Monitoring will be carried out in conjunction with other wind farms in the vicinity of the Cork and Kerry border. The results of monitoring will be reported to regional staff of the National Parks and Wildlife Service.

B) The precautionary management plan for eagle protect submitted on 19.02.2023, shall be implemented, including of carcass removal of any fallen animals.

Reason: To protect the white-tailed sea eagle.

14. The developer shall review usage by birds and bats of the wind farm site and document bird and bat casualties through an annual monitoring programme, which shall be submitted by the developer and agreed in writing with, the planning authority prior to commencement of development. This programme shall be developed in consultation with the National Parks and Wildlife Service and shall cover the entire period of the operation of the wind farm.

Reason: To ensure appropriate monitoring of the impact of the development on the birds and bats of the area.

15. In the event that the windfarm causes interference with telecommunications signals, effective measures shall be introduced to minimise interference with telecommunications signals in the area. Details of these measures, which shall be at the developer's expense, shall be submitted to, and agreed in writing with the planning authority within 6 months of the date of this Order, following consultations with the relevant authorities.

Reason: In the interest of protecting telecommunications signals and of residential amenity.

16. All signage relating to the site shall be in Irish and English.

    Reason: The location of the site within the Gaeltacht area.

17. The developer shall confirm to the planning authority's satisfaction that the cable route crossings at the bridges CH2 and CH8 (as identified in the Remedial EIAR) have not interfered with the heritage value and structural stability of the bridge, within 3 months of the date of this order.

    Reason: To preserve the integrity of the bridges.

18. Prior to commencement of decommissioning works, a transport management plan for the shall be submitted to, and agreed in writing with, the planning authority. The traffic management plan shall incorporate details of the road network to be used, including over-sized loads, and detailed arrangements for the protection of bridges, culverts, or other structures to be traversed, as may be required. The plan should also contain details of how the developer intends to engage with and notify the local community in advance of the removal of oversized loads. All works to the public road network shall be at the developer's expense.

    Reason: In the interest of traffic safety

19. On full or partial decommissioning of the wind farm, or if the wind farm ceases operation for a period of more than one year, the wind monitoring masts, the turbines concerned and all decommissioned structures shall be removed, and foundations covered with soil to facilitate re-vegetation, all to be complete to the written satisfaction of the planning authority within 24 months of decommissioning or cessation of operation.

    Reason: To ensure satisfactory reinstatement of the site upon full or partial cessation of the project.

20. Standard financial contribution (for repair of public roads after decommissioning).

21. Standard bond condition (to ensure satisfactory reinstatement of the site after decommissioning).

22. The Community Benefit scheme, as set out in the EIAR, shall be adhered to for the life of the development. The benefit shall be index-linked to the index scheme as set out in the planning authority's Section 48 Development Contribution Scheme.

    Reason: To ensure that the community living in proximity to the wind farm, benefits from its operation.

I confirm that this report represents my professional planning assessment, judgement and opinion on the matter assigned to me and that no person has influenced or sought to influence, directly or indirectly, the exercise of my professional judgement in an improper or inappropriate way.

Mary Mac Mahon
Senior Planning Inspector

23 October, 2023

20.0 **Appendix 1 – Report from Ecologist**

Report to Inspector

(Appendix to main report)

ABP- 307939-20

Development	Substitute consent for the Cleanrath Windfarm Development, Co. Cork
Type of Application	Substitute Consent
Topic: **Appropriate Assessment** **EIA: Biodiversity and Ornithology**	Adequateness of information for purpose of Appropriate Assessment and Environmental impact assessment: Biodiversity and Ornithology (recommendation)
Ecologist	Maeve Flynn BSc. PhD. MCIEEM
Senior Planning Inspector	Mary MacMahon

Contents

Introduction

20.1. Scope of 'Report to Inspector'

20.1.1. This report to the Inspector and available to the Board is a written record of my review and examination of the submitted information provided by the applicant as it relates to Biodiversity, Ornithology and the requirements for Appropriate Assessment (including screening). In my capacity of Inspectorate Ecologist, I have the relevant expertise to provide a professional opinion as to the adequacy of the information for the Inspector and the Board to undertake Appropriate Assessment (AA) and Environmental Impact Assessment (EIA) of the substitute consent sought for Cleanrath Windfarm.

20.1.2. I have also considered the scientific observations on nature conservation submitted by the Development Applications Unit on behalf of the (now) Department of Housing, Heritage and Local Government but submitted under the heading of the Department of Tourism, Culture, the Gaeltacht, Sport and Media in October 2020.

20.1.3. I have reviewed and examined the following documents including relevant appendices and figures (plans and particulars):

- Remedial AA Screening Report
- Remedial NIS (rNIS)
- Remedial EIAR (rEIAR) with particular focus on Chapters 6 Biodiversity, Chapter 7 Ornithology)
- Construction and Environmental Management Plan
- Operational Environmental Management Plan

20.1.4. The documents have been reviewed with respect to the following current best practice guidance:

- CIEEM (2019) Ecological Impact Assessment Checklist (as relevant to Irish legislation -see Appendix II).
- EC (2018) Managing Natura 2000 sites. The provisions of Article 6 of the Habitats Directive 92/43/EEC

- EC (2021) Assessment of plans and projects in relation to Natura 2000 sites. Methodological guidance on Article 6(3) and 6(4) of the Habitats Directive 92/43/EC
- EPA (2023) Guidelines on the information to be contained in environmental impact assessment reports.

20.2. Expertise and technical content of Ecological Reports

20.2.1. The Biodiversity and Ornithology chapters of the rEIAR and the rNIS and associated AA Screening reports were prepared by suitably qualified and experienced Ecologists from McCarthy Keville O'Sullivan (MKO). I also note that ecological surveys were undertaken by Dixon Brosnan ecological consultants to inform the EIS for the project that was granted planning permission by the Board in 2017 and that these surveys also informed the approach and baseline for the current application. The scope structure and content of the rEIAR and the rNIS is in accordance with good practice guidance, including industry specific guidance such as that produced by Scottish Natural Heritage (now Nature Scott) for windfarms and birds and bats.

20.2.2. Scientific information on surveys, nature conservation sites, species, and habitats is adequate and up to date (at the time of submission) and included desk study, habitat survey and detailed surveys for invasive species, breeding birds, breeding raptors, wintering birds, flight activity surveys, Hen Harrier roost surveys, mammals, including bats. I am satisfied that the ecological surveys were undertaken in line with published good practice methods and at the optimum seasonal periods providing a robust baseline for the impact appraisal as part of the rEIAR and the rNIS.

Consideration of the Likely Significant Effects on a European Site

20.3. Article 6(3) of the Habitats Directive

The requirements of Article 6(3) as related to Appropriate Assessment of a project under part XAB of the Planning and Development Act 2000 (as amended) are considered in this section.

20.4. Screening for Appropriate Assessment

20.4.1. The first test of Article 6(3) is to establish if the proposed development is directly connected with or necessary to the management of a European sites and where this is not the case, then whether the development (either alone or in combination with other plans and projects) could result in (likely) significant effects to a European site in view of the sites conservation objectives.

20.4.2. The project is not directly connected with, or necessary for, the management of any European Site and consequently is subject to the Appropriate Assessment Screening process. No part of the development is within or immediately adjacent to a European site however, ecological connections between the windfarm development and European sites have been identified. The screening report for Appropriate Assessment prepared by the applicant concluded that it cannot be excluded beyond reasonable scientific doubt that the development either individually or in combination with other plans and projects will not, or did not have a significant effect on three European Sites in view of their conservation objectives and Appropriate Assessment is required in relation to the following (see Table 1 below):

- The Gearagh SAC
- The Gearagh SPA
- Mullaghanish to Musheramore Mountains SPA

20.4.3. The potential impact mechanisms that were identified include deterioration of surface water resulting from construction and or operational phases of the development and potential ex-situ disturbance or mortality effects on Hen Harrier. In the absence of mitigation or further detailed assessment, these impacts may have, or could lead to the adverse effects which could undermine the attainment of the conservation objectives set for these European Sites.

20.4.4. Seven other European Sites were considered in the screening report but excluded on the basis of objective information, with sites lying outside of any likely zone of impact due to distance and lack of impact pathways.

Table 1 Summary of European sites, conservation objectives and likely significant effects

European Site	**Conservation Objectives**	**Likely significant effects (in absence of mitigation or further assessment)**
The Gearagh SAC (000108)	To maintain the favourable conservation condition of the following which are defined by site specific attributes and targets (NPWS Version 1 Sep 2016): 1355 Otter *Lutra lutra* 3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation 3270 Rivers with muddy banks with Chenopodion rubri p.p. and Bidention p.p. vegetation 91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles 91E0 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae)	Catchment area effects: Indirect effects on aquatic qualifying interest features due to deterioration of surface water from construction, operation and decommissioning phases
The Gearagh SPA (004109)	To maintain or restore the favourable conservation condition of (NPWS V 1 2022-replacing generic conservation objectives Version 9 document): Wigeon *Anas penelope* Teal *Anas crecca* Mallard *Anas platyrhynchos* Coot *Fulica atra* Wetland and Waterbirds (wetland habitat)	Catchment area effects: Indirect effects on supporting wetland habitat due to deterioration of surface water from construction, operation and decommissioning phases (impacts on the individual SCI bird species was excluded)
Mullaghanish to Musheramore Mountains SPA (004162)	To restore the favourable conservation condition of hen harrier *Circus cyaneus* (defined by site specific attributes and targets, NPWS 2022 Version 1)	Windfarm site within wider possible forage range of Hen Harrier associated with SPA:

		Indirect effects on the Hen Harrier population, ex-situ habitat loss, displacement, mortality through collision

20.5. Screening Determination (recommendation)

20.5.1. Having regard to the information presented in the AA Screening Report(s), including the nature, size and location of the development and its likely indirect effects either alone or in combination with other plans and projects, the source pathway receptor model and sensitivities of the ecological receptors, I consider that the applicant has identified potential significant impacts and that Appropriate Assessment is required in order to determine if adverse effects on site integrity can be excluded for the Gearagh SAC, the Gearagh SPA and Mullaghanish to Musheramore Mountains SPA in view of the conservation objectives of those sites.

20.5.2. I consider that the information is adequate for the Board to make a robust screening determination based on objective information presented in the AA Screening report.

20.6. The Natura Impact Statement (overview)

20.6.1. A remedial NIS has been prepared by qualified and experienced Ecologists from MKO to inform Appropriate Assessment.

20.6.2. Scientific information was collated from desk study, field survey and information from the National Parks and Wildlife Service resources (www.npws.ie).

20.6.3. Updated surveys undertaken to inform the rNIS included Otter survey (2018 and 2020), watercourse surveys including water quality at 11 sites (May 2020), surveys for Hen Harrier (two full breeding and non-breeding seasons 2015-2017), pre-commencement monitoring surveys (2018) and operational monitoring surveys (2020). I am satisfied that the methodology employed is best practice with the approach to Vantage Point surveys conforming industry best practice. Surveys for bird casualties during the brief operation period of the windfarm (fatal collisions with wind turbines) were conducted between January and May 2020 using trained dogs, a standard and effective method widely used at windfarm site as part of ongoing bird collision monitoring.

20.6.4. The rNIS outlines the methodology used for assessing potential impacts on Otter, freshwater and woodland habitats qualifying interest features of the Gearagh SAC and also wetland habitat that comprises a special conservation interest of the Gearagh SPA. It identifies and assesses the potential for adverse impacts on qualifying interest features, mitigation measures are detailed and described, and possible in-combination effects assessed in view of conservation objectives of the sites.

20.6.5. The Inspector and the Board should note that conservation objectives for the Gearagh SPA have been updated since the documentation was submitted (See Table 1) but no site-specific attributes and targets have been set and the approach to assessment presented by the applicant is unaffected.

20.6.6. The potential for adverse effects on Hen Harrier that may be associated with the Mullaghanish to Musheramore Mountains SPA, ex-situ through habitat loss, displacement or collision, is assessed and no potential for adverse effects on the SPA population has been predicted. Hen Harrier survey over the various time periods did not record breeding or roosing within the windfarm site and the windfarm is at the at the further end of likely foraging range in relation to the SPA. Hen Harriers were recorded (infrequently) flying within the potential collision risk zone during vantage point surveys and the collision risk has been calculated at a ratio of 0.003 birds/year (1 bird every 333 years) taking account of 99% avoidance factor. This is considered insignificant by the applicant at county, national and international population levels (rNIS Appendix 4 Collision Risk Assessment). Mitigation measures proposed relate to site management during construction and ongoing ornithological survey and monitoring during the lifetime of the operational windfarm.

20.6.7. The Planning Inspector and the Board should note that conservation objectives for this SPA were updated with a new version (2022) to *restore* the favourable conservation condition of Hen Harrier as defined by site-specific attributes and targets. I attach the updated conservation objectives with this report and provide a summary in Table 2. I consider that the information provided by the applicant is adequate to enable a full and complete assessment by the Board in view of the updated conservation objectives.

Table 2: Summary of site-specific conservation objectives for Mullaghanish to Musheramore Mountains SPA 004162

NPWS (2022) Conservation Objectives: Mullaghanish to Musheramore Mountains SPA 004162. Version 1. To **restore** the favourable conservation condition of hen harrier in Mullaghanish to Musheramore Mountains SPA, which is defined by the following list of attributes and targets:			
Attribute	**Measure**	**Target**	**Implications of proposed development**
Population size	No. of confirmed breeding pairs	Maintain numbers at or above 3 confirmed breeding pairs	Windfarm site is at a distance considered to be outside the **core** foraging range of the SPA population. It is located within maximum foraging range for the species associate with the SPA. Collision risk modelling shows very low risk 0.003 birds/ year which is not significant at the SPA population level Development will not undermine targets set
Productivity rate	No. of fledged young per confirmed pair	7. Maintain at least 1.0–1.4 fledged young per confirmed pair	None- no breeding hen harrier at windfarm site or within 2km. Target is specific to fledged young within the SPA
Spatial utilisation by breeding pairs	percentage	Restore the spatial utilisation of the SPA	Target is specific to the SPA, development will not undermine

		by breeding pairs to 100%	achievement of this target
Extent and condition of heath and bog and associated habitats	Hectares, condition assessment	Restore the extent and quality of this resource to support the targets relating to population size, productivity rate and spatial utilisation	Target is specific to the SPA, development will not undermine achievement of this target
Extent and condition of low intensity managed grasslands and associated habitats	Hectares, condition assessment	Restore the extent and quality of this resource to support the targets relating to population size, productivity rate and spatial utilisation	Target is specific to the SPA, development will not undermine achievement of this target
Extent and condition of hedgerows	Hectares, condition assessment	Maintain at least the length and quality of this resource to support the targets relating to population size, productivity rate and spatial utilisation	Target is specific to the SPA, development will not undermine achievement of this target
Age and structure of forest estate	Percentage	Achieve an even and consistent distribution of age-classes across the forest estate	Target is specific to the SPA, development will not undermine achievement of this target
Disturbance to breeding sites	Level of impact	Disturbance occurs at levels that does not significantly impact upon breeding hen harrier	No Hen Harrier breeding sites identified within 2km of the windfarm site. Target is specific to the SPA, development will not undermine achievement of this target

20.7.1. Having reviewed the NIS and the supporting documentation including appendices and the response received to DAU submission I am satisfied that together this provides adequate information in respect of the baseline conditions, clearly identifies the possible impacts and any potential adverse effects and uses the best scientific information and knowledge to determine those effects in view of the conservation objectives of the European sites. Details of mitigation measures to exclude adverse effects are provided and have been implemented/will be implemented via the CEMP and OEMP.

20.7.2. I consider the mitigation measures as detailed to be standard, best practice and have been effective in achieving their aims at the construction stage and will be effective in any future repowering of the windfarm. Detail is provided on sediment control, timing of works, concrete and hydrocarbon control, an emergency response plan and control of invasive species. The effectiveness of mitigation measures is examined as part of an assessment of residual effects in view of the site-specific conservation objectives, attributes and targets (where they are defined) and an in-combination assessment with other plans and projects is presented.

20.7.3. The applicant concludes that there have not been and will not be adverse effects on European Sites associated with the wind farm project (alone). No adverse effects as a result of the development in relation to disturbance, displacement or mortality of faunal species has been identified. Taking mitigation measures into account, the applicant determined that the development will not result in any adverse residual effects on European Sites and has not contributed and will not contribute to any cumulative effect when considered in combination with other plans and projects.

20.8. Conclusion on scientific information to inform the Appropriate Assessment

20.8.1. I am satisfied that the scientific information submitted will allow the Board to come to complete, precise and definitive findings as part of the Appropriate Assessment of the implications of the construction works already undertaken and future operation and decommissioning of the windfarm, grid connection and all ancillary works on site integrity of The Gearagh SAC, The Gearagh SPA and Mullaghanish to Musheramore Mountains SPA.

20.8.2. I consider that the applicant has demonstrated that adverse effects on the integrity European sites can be excluded and there is no reasonable doubt remaining as to the absence of such effects.

Likely effects on the Environment: rEIAR biodiversity and ornithology

20.9. Chapter 6 Biodiversity describes and evaluates habitats and representative flora, and fauna including fisheries and addresses the impacts that may have occurred during the construction phase and potential impacts of the development during operation and decommissioning on the biodiversity of the site and the surrounding area. Chapter 7 Ornithology, describes and evaluates impacts on the bird species likely to be affected by the development.

20.10. In Appendix II, I provide a summary checklist for assessing the adequacy of the information submitted for rEIAR Chapters 6 Biodiversity and Chapter 7 Ornithology based on the Chartered Institute of Ecology and Environmental Management (2019) Ecological Impact assessment (EcIA) checklist.

20.11. Biodiversity

20.11.1. Following examination and review I am satisfied that the biodiversity assessment submitted as part of the rEIAR is adequate to undertake EIA. Ecological data has been collected since 2015 to support the initial planning application and more up to date surveys and monitoring have been undertaken to supplement this knowledge. Key Ecological receptors have been identified, potential impacts quantified in terms of magnitude, duration and severity.

20.11.2. A mosaic of peatland habitats occurs across the windfarm site with areas of dry heath, wet heath and Blanket Bog conforming to Annex I habitat definitions and these habitats have been assigned County Importance. An area of bog woodland not corresponding to Annex I habitat and of local importance has been lost to access roads. The construction of the Cleanrath wind farm has resulted in the permanent loss of 4.13ha of the peatland habitat mosaic within the wind farm site. As part of mitigation, a habitat restoration and enhancement plan has been prepared with peatland reinstatement areas defined.

20.11.3. Protected species listed on Annex II and Annex IV of the EU Habitats Directive and under the Wildlife (Amendment) Act likely to be affected have been identified and surveyed including Otter, Kerry Slug (under license: DER/KERRY SLUG 2018-88), bats, badger and invasive species. Impacts on fisheries and water quality including implications for Fresh Water Pearl Mussel are also assessed.

20.11.4. The assessment of Bats showed low levels of bat activity at the site, however there is a risk of direct mortality of collision prone species including Leislers and Pipistrelle species. A single Leislers bat corpse was recovered at the site during ongoing monitoring when the turbines were in sleep mode. The applicant determined that there is potential for long term slight impacts on bats during any operational phase in the future. Mitigation measures including buffer areas around wind turbines (from trees and woodland edge) and post construction monitoring with adaptive mitigation measures is proposed with a curtailment programme incorporated to reduce any residual impacts on bats to a non-significant level.

20.12. Ornithology

20.12.1. The assessment of the development on avian receptors was focused on the identification of target species and key ornithological receptors (KORs). This includes species listed on Annex I of the EU Birds Directive, species listed as special conservation interests of SPA sites, species protected under the Wildlife Acts and birds of conservation concern (red and amber listed birds). Extensive surveys were undertaken at the windfarm site and in the wider area involving various survey methodologies and I am satisfied that these are adequate and best practice. Operational monitoring began in January 2020 and continues at the site in line with the conditions of the pervious planning permission.

20.12.2. The evaluation and impact assessment follows the industry standard using Percival (2003) *Birds and wind farms in Ireland: a review of potential issues and impact assessment* and the collision risk model follows Scottish Natural heritage guidance / Band Model.

20.12.3. Key ornithological receptors (KORs) included the following bird species. These species are examined in detail for likely significant effects in terms of habitat loss, displacement and Collison with wind turbines: Golden Plover, Hen Harrier, Chough, Merlin, Peregrine, Kestrel, Sparrowhawk, Snipe,

20.12.4. A notable species recorded but not considered as a KORs includes one observation of White-tailed eagle from c. 7km from the windfarm development. This species is the subject of a submission by the Department and is considered further in Section 4 below.

20.12.5. Detailed assessment of impacts on KORs undertaken by the applicant shows no effect significance of greater than Low (as per Percival 2003 criteria) or slight as per standard EPA criteria. Taking account of the assessments undertaken including collision risk modelling, mitigation, and ongoing monitoring (including adaptive management) significant residual effects on KORs are not anticipated to occur or have not occurred.

20.13. Mitigation and Monitoring

20.13.1. Chapters 6 and 7 clearly identify mitigation measures and how the measures have/will address any significant effects and provide detail on how they will be implemented. A CEMP and OEMP have been prepared which set out the framework of how mitigation and monitoring measures have and will be implemented. The measures include details specified in industry specific guidelines such as NRA/TII and Inland Fisheries Ireland for the protection of watercourses, avoidance of sensitive habitats and reinstatement of habitats as presented in the habitat restoration and enhancement plan.

20.13.2. Mitigation measures are detailed for habitats and watercourses, breeding and wintering birds, bats, otter, Kerry slug and the prevention of spread of invasive species. I am satisfied that these measures have been effective in avoiding significant effects in terms of the works that have been undertaken to date and that further measures combined with adaptive monitoring will ensure that significant effects on biodiversity will be prevented.

Response to DAU Submission

20.14. Nature conservation observations submitted by the Development Applications Unit are primarily concerned White tailed eagle and Leislers Bat and conditions have been recommended for any planning approval.

20.14.1. White-tailed eagles are a raptor species that have been reintroduced to Ireland and are expected to expand their range in the future where suitable habitat exists. Unfortunately, there have been fatalities at windfarms as identified in the submission, with three bird fatalities recorded at Sillahertane windfarm. The Department has recommended the attachment of two conditions related to this species as a precautionary measure should the species take up regular use of Lough Allua, some 2.5 km south of the windfarm site at its closest point. The recommendations relate to regular monitoring to determine use of Lough Allua, and the wider area by White- tailed eagle and management of the windfarm site to make it less attractive for the species foraging (for carrion) relating to management and removal of any fallen animals (sheep).

20.14.2. The applicant submitted a detailed response to these observations and recommendations and has proposed a variation on the recommended conditions and more detail on how the conditions could be implemented.

20.14.3. I consider that the applicants response takes full consideration of the issues identified and presents a detailed and implementable evidence-based approach to monitoring for this species, includes for adaption of monitoring and management of fallen animal carcases at the site and provision for curtailment where necessary.

20.14.4. Monitoring of bird activity at the windfarm site has been committed to for years 1,2,3,5, 10 and 15 in line with best practice. The applicant has indicated that it could amend its monitoring programme to facilitate annual monitoring for white tailed eagle but offers a course of action that is capable of adapting the survey effort over the lifetime of the windfarm taking account of any future levels of white-tailed eagle activity in the area. A review of the survey scope would be undertaken after year 5.

20.14.5. In relation to additional surveys at Lough Allua, the applicant has suggested that such off-site surveys should be based on the results of the operational surveys at the windfarm site with any increase in eagle sightings triggering the requirement for additional adaptive surveys at Lough Allua.

20.14.6. In general, I consider the approach proposed by the applicant to be reasonable. The Board may want to consider if the gaps in time between surveys of year 5, 10 and 15 may require consideration with regard to this species.

20.14.7. The use of the windfarm site by Bats- particularly Leilsers bats is referred to in the observation with a recommendation for ongoing monitoring of bat fatalities by trained dogs. This approach is incorporated into the applicants' proposals for ongoing operational monitoring.

Conclusion

20.15. Following review and examination of the material submitted as part of the application for substitute consent for the Cleanrath windfarm (including grdi connection), my findings and recommendations are as follows:

20.16. Appropriate Assessment

20.16.1. I consider that the information presented to inform AA Screening and AA of the development conforms to the requirements for best available scientific information in terms of the surveys and assessments undertaken, the scientific information available on protected sites at the time of preparation of the application and mitigation and monitoring measures already implemented and proposed.

20.16.2. I consider that the scientific information and assessment presented in the remedial NIS is adequate to ensure that all aspects of the project can be assessed by the Board and to provide for complete, precise, and definitive findings for the purpose of Appropriate Assessment.

20.17. Remedial EIA: Biodiversity and Ornithology

20.17.1. I consider that the information and assessment provided by the applicant in remedial EIAR and responses to third party observations is adequate, conforming to best professional practice in terms of survey methodology, reporting and assessment and that the Board can be confident that obligations under the EU Habitats Directive, Birds Directive, European Communities (Birds and natural Habitats Regulations (2011-2021) and the Wildlife (amendment) Act can be met, and that a finding of no significant effects on biodiversity or ornithology as part of the remedial EIA can be reached.

Signed:

Maeve Flynn BSc. PhD, MCIEEM
Inspectorate Ecologist

16th October 2023

Appendix I

Conservation Objectives for : Mullaghanish to Musheramore Mountains SPA [004162]

A082 Hen Harrier *Circus cyaneus*

To restore the favourable conservation condition of hen harrier in Mullaghanish to Musheramore Mountains SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population size	Number of confirmed breeding pairs	Maintain numbers at or above 3 confirmed breeding pairs	The attribute 'confirmed breeding pairs' is based on standard survey methods (see Ruddock et al., 2016). The target for this SPA is informed by the first two national surveys of 1998–2001 (Norriss et al., 2002) and 2005 (Barton et al., 2006). For further information on this and all other attributes, please refer to the conservation objectives supporting document for breeding hen harrier (NPWS, 2022) for further details
Productivity rate	Number of fledged young per confirmed pair	Maintain at least 1.0–1.4 fledged young per confirmed pair	At the SPA level, the productivity rate can be highly variable in any given year. Generally, the setting of a minimum level of productivity to ensure a stable and/or increasing population at a given site ought to be informed by robust estimates of: post-fledging survival; adult survival; and immigration and emigration rates. Setting a single precise and robust rate is constrained by a lack of comprehensive Irish data. In order to frame this uncertainty, a threshold of 1.0–1.4 fledged young per confirmed breeding pair is set for this attribute. If population size of the SPA is not favourable, then the upper end of this productivity rate range is to be met. In order for estimates to be sufficiently representative of the SPA, they need to be of sufficient sample size and ideally over multiple years in order to account for inter-annual variability
Spatial utilisation by breeding pairs	Percentage	Restore the spatial utilisation of the SPA by breeding pairs to 100%	Optimal resilience depends on breeding pairs utilising the SPA to the maximum extent possible. The spatial distribution of breeding pairs is expressed by the proportion of the SPA being used by them. Breeding pairs predominantly use the area within 5km of their nest site or centre of territory, though they can travel further (e.g. Irwin et al., 2012; Arroyo et al., 2014). Thus, the core area used by confirmed pairs can be broadly and generically estimated by calculating the portion that lies within 5km of all recorded nest sites. Ideally, the breeding population should be well dispersed around the SPA. The target range for this attribute for this SPA is informed by the first two national surveys of 1998–2001 and 2005
Extent and condition of heath and bog and associated habitats	Hectares; condition assessment	Restore the extent and quality of this resource to support the targets relating to population size, productivity rate and spatial utilisation	Open heath and bog occur in mosaics and often with other semi-natural habitats (e.g. scrub). These habitats can provide important nesting and foraging resources for the breeding population providing they are in suitable condition. Based on the habitat mapping of Moran and Wilson-Parr (2015), the estimated total extent of these habitats in this SPA is 1,022ha. Qualitative aspects were not assessed by Moran and Wilson-Parr (2015), but some important aspects to consider are the habitats' structure, soil integrity and overall open habitat coherence

Extent and condition of low intensity managed grasslands and associated habitats	Hectares; condition assessment	Restore the extent and quality of this resource to support the targets relating to population size, productivity rate and spatial utilisation	Low intensity managed grasslands occur in mosaics and often with other semi-natural habitats (e.g. scrub). These habitats can provide important foraging resources for the breeding population providing they are in suitable condition. Based on the habitat mapping of Moran and Wilson-Parr (2015), the estimated total extent of these habitats in this SPA is 688ha. Qualitative aspects were not assessed by Moran and Wilson-Parr (2015), but some important aspects to consider are the habitats' structure and overall open habitat coherence
Extent and condition of hedgerows	Hectares; condition assessment	Maintain at least the length and quality of this resource to support the targets relating to population size, productivity rate and spatial utilisation	Hedgerows can be an important foraging resource for hen harrier throughout the year by providing food and refuge for prey animals i.e. small mammals and birds. Moran and Wilson-Parr (2015) quantified the hedgerow resource in this SPA with an estimated total linear extent of 103.1km, with two structural hedgerow types namely 'intact and dense' and 'boxed and moderate' accounting for 23.9km of that total. These combined types account for 23% of the total hedgerow resource of the SPA
Age structure of forest estate	Percentage	Achieve an even and consistent distribution of age-classes across the forest estate	This attribute aims to define optimal forest age-class composition required to reduce the forest demographic bottleneck, as set out in NPWS (2015) and Wilson et al. (2006)
Disturbance to breeding sites	Level of impact	Disturbance occurs at levels that does not significantly impact upon breeding hen harrier	The impact of any significant disturbance on the SPA's breeding population will ultimately be manifested in the targets which relate to population demographics (i.e. population size, productivity rate) and the spatial utilisation of the SPA by breeding pairs. Factors such as intensity, frequency, timing and duration of a potentially disturbing activity need to be taken into account to determine its significance on breeding hen harrier in the SPA

Appendix II

Checklist for Biodiversity/Ecological Impact Assessment (EcIA)

(Based on CIEEM (2019) *EcIA Checklist*[1]and amended to Irish context)

Cleanrath Windfarm (ABP 307939-20) rEIAR Chapters 6 Biodiversity and Chapter 7 Ornithology

Biodiversity and Ecological impact Assessment Criteria		Yes No n/a	Paragraph reference number (s) Biodiversity CH6	Paragraph reference number Ornithology Ch7
Pre-app/scope	1. Where pre-application advice has been received from a statutory body (e.g. DAU /NPWS, IFI), and/or relevant NGO it has been fully accounted for in the EcIA.	Y	6.4.2	7.2.2
	2. The scope, structure and content of the EcIA is in accordance with published good practice[i], [ii] , [iii] and/or industry specific guidance[iv]	Y	6.3	7.1.2
Surveys, Sites, Species and Habitats	3. Adequate and up-to-date[v] : a. Desk study has been undertaken b. habitat survey has been undertaken[vi] c. more detailed ecology surveys have been undertaken (where necessary e.g. habitat specific and/or species specific)	Y	6.5-6.5 6.4.1 6.6.1 6.4.3	7.2
	4. All statutory and non-statutory sites likely to be significantly affected are clearly and correctly identified (e.g. SAC, SPA, NHA, pNHA, National parks, Nature reserves, local biodiversity areas).	Y	6.5.2, Table 6.3	7.3 Table 7-8
	5. All protected species[vii] likely to be significantly affected are clearly and correctly identified, and adequate surveys have been undertaken to inform the baseline.	Y	6.5.3-6.5.6, Bats 6.6.2.1 Non volant mammals 6.6.2.2 Marsh Fritillary 6.6.2.2.3 Kerry Slug 6.6.2.2.4 Freshwater pearl mussel 6.6.2.2.6	7.6 7.7 Tabel 7-11 7.8 (KOR sensitivity determination)
	6. Any invasive non-native plant species present are clearly and correctly identified.	Y	6.6.1.5	n/a
	7. Where separate detailed surveys are required, these have been undertaken in full and results submitted with the application (or lack of such surveys is justified).	Y	6.6	7.4 (2015-2017) 7.5 (2018-2020)
Impacts and Effects	8. The assessment is based on clearly defined development proposals along with relevant drawings/plans **Or** 9. The residual ecological effects are not significant at any geographical scale irrespective	Y	Chapter 4 6.1.1	Chapter 4 7.1.1

[1] https://cieem.net/resource/ecological-impact-assessment-ecia-checklist/

	of the detailed development proposals, and the assessment is based on a worst-case-scenario.			
	10. The report describes and assesses all likely significant ecological effects (including cumulative effects) clearly stating the geographical scale of significance (where relevant); Cross reference with AA Screening Report/ NIS (as relevant).	Y	6.7 6.10.1	7.9.2- operational 7.9.3 decommissioning 7.11
Mitigation, Compensation and Enhancement	11. The mitigation hierarchy has been clearly followed: e.g. Avoidance, minimization, mitigation by remedy, compensation.	Y	6.11	7.12
	12. The report: a. Clearly identifies the proposed mitigation and any compensation measures and explains how these will adequately address all likely significant adverse effects. b. Includes, where necessary, proposals for post-construction monitoring. c. Recommends how proposed measures may be secured through planning conditions/obligations and/ or any necessary licenses.	Y	6.11	7.12 7.13 (monitoring)
	13. A summary table of proposed mitigation and compensation measures has been provided.	Y	Chapter 6 And CEMP	
	14. The need for any mitigation/derogation licenses required in relation to protected species is clearly identified; any approved derogations licenses are included with the application.	Y	n/a	n/a
Competence/ Good Practice	15. Any limitations of the ecological work have been correctly identified and the implications explained.	Y	6.4.4.5	7.2.6.2
	16. All relevant key timing issues (e.g., site vegetation clearance or roof removal) that may constrain or adversely affect the proposed timing of development have been identified.	Y	6.11	7.12.1
	17. All ecological work and surveys accord with published good practice methods and guidelines. **OR** 18. Any deviation from such guidelines is made clear and fully justified, and the implications for subsequent conclusions and recommendations made explicit in the report.	Y	6.4.3	7.2
	19. All ecologists and surveyors have the necessary (demonstrated) competencies to carry out the work undertaken and/or hold appropriate species licenses (where relevant)	Y	3.6.3.1	7.1.3
Conclusions	20. The report clearly identifies where the proposed development complies with relevant legislation and policy, highlighting any possible non-compliance issues, and highlighting circumstances where a conclusion cannot be drawn as it requires an assessment of non-ecological issues (such as socioeconomic ones)	Y	6.2	7.1.2
	21. The report provides a clear summary of losses (and any gains) for biodiversity	Y	6.12.3	7.15.3

	22. Justifiable conclusions based on sound professional judgement have been drawn as to the significance of effects on any designated site, protected or priority habitat/species or other ecological feature, and a justified scale of significance has been stated.	Y	6.13	7.16

References and links

[i] Guidelines on the information to be contained in environmental impact assessment reports. Environmental Protection Agency, 2023.
Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR) (epa.ie)

[ii] CIEEM (2017) Guidelines for Ecological Report Writing: https://cieem.net/resource/guidelines-for-ecological-report-writing/

[iii] CIEEM (2018) Guidelines for Ecological Impact Assessment: https://cieem.net/resource/guidelines-for-ecological-impact-assessment-ecia/

[iv] *For Example*: TII Guidelines for Assessment of Ecological Impacts of National Roads Schemes (2008), https://www.tii.ie/technical-services/environment/planning/Guidelines-for-Assessment-of-Ecological-Impacts-of-National-Road-Schemes.pdf and other TII documents: https://www.tii.ie/technical-services/environment/planning/

EirGrid: Ecology Guidelines for Electricity Transmission Projects. http://www.eirgridgroup.com/site-files/library/EirGrid/Ecology-Guidelines-for-Electricity-Transmission-Projects.pdf

[v] CIEEM (2019) Advice note on the Lifespan of Ecological Reports and Surveys: https://cieem.net/resource/advice-note-on-the-lifespan-of-ecological-reports-and-surveys/

[vi] The Heritage Council, A Guide to Habitats in Ireland, (Fossitt, 2000): https://www.npws.ie/sites/default/files/publications/pdf/A%20Guide%20to%20Habitats%20in%20Ireland%20-%20Fossitt.pdf

also
https://www.heritagecouncil.ie/content/files/best_practice_guidance_habitat_survey_mapping_onscreen_version_2011_8mb.pdf

[vii] Checklist of protected and threatened species in Ireland (2019). Wildlife Manuals, No. 116. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, https://www.npws.ie/sites/default/files/publications/pdf/IWM%20116%20Checklists%20Protected%20and%20Threatened%20Species%202019.pdf

Also: IWM 116 Checklists Protected and Threatened Species Version 3.1 1 February 2023.xlsx