An Bord Pleanála

Inspector's Report ABP-318816-24.

Development	10 year permission for 8 no. wind turbines and associated works
Location	Cush, Co. Offaly.
Planning Authority	Offaly County Council.
Applicant	Cush Wind Limited
Type of Application	Section 37E of the Planning and Development Act 2000, as amended.
Statutory Consultees	Offaly County Council Transport Infrastructure Ireland DAU (Department of Housing, Local Government and Heritage).
Observer(s)	Agnes Doolan, Una Watkins, Patrick and Kathleen Watkins, Patrick and Padraic Watkins, Catherine and Edel Watkins, Abina Guinan, Liam and Michelle Guinnan, Theresa Watkins
Date of Site Inspection	12th September 2024
Inspector	Philip Davis.

Contents

1.0 Introduction

This application, for a windfarm consisting of 8 no. wind turbines on a mix of cutaway bog and grazing land north of Birr, is made by Cush Wind Limited directly to the Board under Section 37E of the Planning and Development Act 2000 (as amended).

The application was accompanied by an EIAR and NIS.

2.0 Site Location and Description

2.1. Overall context

The site for the proposed development is an extensive area of land covering the townlands of Cush, Galros West, Boolinarig Big, Eglish and Ballindown in County Offaly, just under 5km north of the historic town of Birr. The Slieve Bloom Mountains rise around 10km to the east, while the Shannon River is a similar distance to the west. The area is drained by the Rapemills River, which runs east to west across the site, and the Little Brosna. The Lough Boora Discover Park is around 7-8 km to the north-east. Clonmacnoise is around 15km to the north.

The landscape is characterised by undulating post glacial lowlands, with wet grazing land interspersed with peat bogs (mostly worked out with some informal local peat cutting still active), some conifer plantation, and a number of limestone and sand and gravel quarries, often following the lines of eskers. The area is generally sparely populated, with a scattering of farms and dwellings along the third class road network. Farming in the area is generally pasture. The N62 National Secondary Road, a long, straight single carriageway main road, runs north from the N52 at a junction north of Birr, connecting that town to Athlone. The N52 runs east of the site, north-east to Kilcormac and Tullamore.

A number of minor L-roads link this road with the N52 to the east and the R439 to the west and serves farms and peat workings in the area. There is a golf course just south-west of the area in former demesne lands. A number of gravel pits and limestone quarries are south and east of the area. Windfarms, including one under construction at the time of my site visit, are a visible feature of the northern and north-eastern part of the overall area.

2.2. Site

The proposed windfarm is on an extensive irregularly shaped landholding with a site area given as 290 hectares, covering both sides of the N62. The landholding mostly consists of worked peatlands – some regenerating, some newly planted with conifer plantation, and some only recently extracted, along with a number of agricultural fields in grazing use. Grazing land generally follow the alignments of esker ridges, with the former raised bogs in lowerlying areas. A stream, known as the Rapemills (or Boolinuig) River flows across the site to the west (it drains eventually to the Shannon). This watercourse incorporates a number of drains and minor streams running along the cut peatlands. A farm complex at the centre of the landholding accesses directly onto the N62. A 220kV overhead line runs east to west along the south side of the landholding.

In addition to the main site, the red lined area in the submission includes a small area to the south at the N52 and N62 junction (Kennedy's Crossroad), which is required for the creation of a temporary turning head.

There is an extensive area of sand and gravel and limestone quarries to the south of the landholding, following the line of former eskers. To the south-west is an area of woodland, part of a former demesne.

3.0 Proposed Development

The proposed development is described on the site notice as follows:

i. 8. No. wind turbines with a hub height of 114 metres, a rotor diameter of 172 metres and an overall tip height up to 200 metres.
ii. All associated turbine foundations and crane hardstanding areas
iii. A wind farm control building and communications cabling.
iv. Underground electrical access tracks and
v. the upgrade of existing agricultural and forestry tracks.
vi. Construction of internal wind farm access tracks and the upgrade of existing agricultural and forestry tracks; secondary road to provide access for the construction phase.

vii. Upgrade works to 2 no. existing site entrances from the L30033 and L300321 local roads to provide access during the operation phase.

viii. 1 no. guy wired meteorological mast with an overall height of 30 metres.

ix. 2 no. temporary construction compounds.

x. Ancillary forestry felling to facilitate the construction and operation of wind farm infrastructure

xi. Temporary works to public roads along the turbine component haul route, including a vehicle turning area at the junction of the N52 and N62 national secondary roads.

xii. All associated and ancillary site development, excavation, construction, landscaping, spoil deposition and reinstatement works, including the provision of site drainage infrastructure and environmental mitigation measures and,

xiii. A 35 year operational life from the date of commissioning of the entire proposed development.

The application was submitted with an EIAR and Natura Impact Statement in addition to plans and specifications and related technical documentation.

An underground grid connection along existing roads is proposed to connect a transformer on the main grid to the west of the site. This is not part of the application, but details are submitted as part of the EIA process and the Appropriate Assessment.

4.0 Submissions

4.1. Planning Reports (Offaly County Council)

The planning authority submitted a report that was approved by members on the 6th March 2024. I would summarise the key elements and recommendations of the report as follows:

- The report summarises national, regional and local policy on renewable energy and related topics and then discusses in more details relevant policy in the Offaly County Development Plan 2004-2029. Specific attention is given to Chapter 3 of the CDP, on Climate Action and Energy.

- It is noted that permission was granted (**22/444**) for an existing 80- metre meteorological mast on the site. Other relevant previous planning applications are summarised, including two SIDS (a 21-turbine windfarm 0.8 km to the north now under construction, and a permission for a gas fired generating station 9 km to the north (**PL19.PA0015**). Other relevant developments in the wider area include a refusal by the Board in 2007 for 3 no. turbines (**PL19.231866**), a grant by OCC for a 2-turbine windfarm (**10/130**), a grant for an anemometer mast (12/65, granted and constructed), a 10 turbine windfarm refused by the Board (**PL19.242354**), a 9 turbine windfarm granted and now operational (**PL19.244053**), a 4-turbine windfarm granted and operational (**PL19.244903**), an energy storage facility (**17/194**) and an electricity line to facilitate a windfarm – **ABP-304054-19** – granted and operational.
- The NIS is noted – the site is adjacent to an SPA (Dovegrove Callows) and SPA and a number of other EU designated habitats were screened in for AA. There are also NHA's within 10km.
- With regard to the EIA, it is stated that it is considered to be set out in a clear format and generally adequate. The EIA is summarised. Additional information is requested on some EIA issues, most notably land and soils, cultural heritage (the visual impact on Birr Demesne), and noise (low frequency noise).
- The internal consultations are summarised (see 4.1.1 below).
- It is noted that the nearest dwelling from a turbine is 590 metres away, and that the owner of this property has a financial interest in the proposed windfarm.
- Highlights the ratio of rotor diameter to hub height – questions whether the ratio submitted provides the balance of 1.1 to 1.3 which is considered ideal. Notes Figure 53 in the photomontages.
- In terms of cumulative visual impact, notes that a total of 42 no. turbines would be located in the immediate area (Derrinlough – 21 no; Cooghan 9 no. and Meewaun – 4 no. Notes potential of up to 47 turbines taking account of a possible 3 no. additional no. on the site, and two proposed elsewhere

(Leabeg). It is questioned whether the photomontages submitted reflect the true cumulative impact.

- Notes that an application has been made to seek UNESCO World Heritage site status for the Birr Observatory.
- Indicates that the mapping indicating noise sensitive receptors is inadequate due to scaling and accuracy issues.
- Requests that data from the monitoring mast should be shared to minimise the need for such masts in the area.
- Nots Road Design and Area Engineer comments on construction issues.
- Further information required on details of the hydrogeological conditions.
- Notes conclusions of the NIS without comment.
- Outlines concerns about the community gain proposal – while some elements are welcomed, further details are required regarding the breakdown of various funding elements.
- Notes that a standard and Special development contribution are required, including one for long term ecological monitoring. Bonds are also required for restoration of roads used for construction.
- Section 18 of the report outlines in summary the required conditions. These are all generally standard conditions, with the exception for one relating to additional information on amenity trails within the subject site.

4.1.1. **Other OCC Technical Reports**

Municipal District Engineer: Recommended a series of conditions relating to:

- Upgrading of proposed haul routes on public roads and repair of paving following works.
- With regard to temporary haul routes, conditions required in relation to pre-surveys, temporary works, and restoration post-construction.
- Pre-works consultations on internal cable routing.
- Restrictions on construction staff vehicle movements.
- Restrictions on oversized turbine components (nighttime hours only).

- Requirements for site entrances, including maintenance of sight lines and wheel cleaning.
- Surface water disposal.
- Timing of works with regard to bird nesting.
- Requirements for a road opening licence for any works.
- Full details for temporary traffic management.
- Deposit (bonds) required to cover post works repair to public road.

Roads Design: Recommends a series of conditions, including the following:

- General construction management plan details to be agreed in detail, including a bond to ensure completion of works.
- All turbine delivery routes to be agreed in detail, including a pre-condition survey of the road.
- Approval of all materials delivery routes.
- Details of all cable routes to be agreed, including restoration.

Environment and Water Services

Requests that further consideration be given to:

- The geotechnical properties of the site, with particular regard to the construction of turbine bases and hardstanding areas and the design of water crossings.
- The impact of low frequency noise.
- The development of a post-operation land restoration plan.

Architects report

- Highlights a number of protected structures which appear to have been overlooked.
- Notes need to restore proposed temporary turning head at Kennedy's crossroad (N62/N52 junction).

- Notes the scale of the proposed turbines and highlights a number of significant protected structures from further than 2km distance which could be impacted upon.
- Notes that photomontages were taken in summer with full leaf growth – questions whether the assessment is adequate for winter months.
- Questions whether the photomontages from Birr Demesne are appropriate. Notes that they will be visible from the Music Room within the nationally significant property.
- Questions choice of photo location from Emmett Street in Birr town centre (photo 22).

4.2. Prescribed Bodies

Transport Infrastructure Ireland

- Notes requirements under Project Ireland: National Development Plan 2021-2030.
- Notes guidance under Spatial Planning and National Roads Guidelines for Planning Authorities 2012.
- States that TII are seriously concerned that the EIR scoping response does not seem to have been considered in the preparation of the submitted EIAR and therefore not reflected in mitigation measures set out in the EIAR. These include:
- It is not considered that the submission adequately addresses requirements for the undertaking building construction accesses onto a national road (the N62) with regard to design and layout. In addition, a number of inconsistencies are identified in the EIAR and the Stage 1 Road Safety Audit. It is not considered that the submission is in accordance with requirements for a road of the status of the N62.
- It is noted that the documents are inconsistent on the future of the accesses – the EIAR states that they will remain open during the operational phase of the

windfarm while other submissions indicate they will be restored and blocked off after construction.

- It is considered that the application is only acceptable if there is a clear commitment that the temporary construction entrances are completely removed after construction finishes if they are the national road and within the 100kph zone.
- TII is not satisfied that the proposed works at the junction of the N52 and N62 has had regard to TII compliance requirements, and it is not considered that the proposed mitigation measures are adequate for safety.
- It is noted that there is a lack of clarity on the method to be used for the cable crossing of the N62. It is considered that only the use of horizontal directional drilling is appropriate.
- It is noted that it is intended to provide a haul route from Galway Harbour for oversized turbine loads. It is considered that there is insufficient information in the submission for alternative routes.

TII recommends that further information be requested from the applicant for the following matters:

- Additional information on temporary and permanent works required to accommodate the proposed temporary construction accesses off the N62 and the temporary turning head at the N52/N62 junction.
- Additional information required on the proposed cable crossing of the N62.
- Revised documentation and plans required to address the delivery haul route for oversized loads.
- The above to be reflected in an updated EIAR in line with published TII guidance.

Department of Housing, Local Government and Heritage (DAU)

Archaeology

- Four standard conditions (as set out in the OPR Practice Note PN03) are recommended with regard to EIAR mitigation measures, pre-archaeological testing CEMP and the provision of a final archaeology report.

Nature Conservation

The Department agrees with conclusion of the Stage 1 Screening.

With regard to Stage 2, a number of concerns are noted. These concerns apply in particular to the proximity of the River Little Brosna Callows SPA. Concerns are raised with regard to:

- The failure to collate and present in a holistic manner the number of golden plover sight lines and the number of birds recorded on each flight line in the survey (page 71 of the NIS).
- It is noted that the proposed avoidance rates for collisions with golden plover are based on a 92 metre turbine diameter and on very different contextual settings (i.e. UK data).
- Notes that Golden Plover are considered to be in an unfavourable condition in the SPA due to recorded declines.
- It is advised that all flocks of Golden Plover recorded at the site must be assumed to be part of the SPA population unless there is contrary evidence.
- It is stated that there is concern at the lack of analysis of white-fronted goose migratory movement in the area.

With regard to mitigation measures, it is stated in section 4.7.1.9 that turbine curtailment will be implemented. It is stated that the department as a prescribed authority cannot agree or approve changes after approval by ABP. Therefore, any reference to post-consent consultation with or approval by the Department of any aspect of the project must not be taken into consideration by the Board in making a decision.

With regard to the EIA, it is stated that some of the northern section of the site (refers to page 5:56 of the EIAR) may be raised bog, not cutover as stated in the EIAR. FI is requested to ascertain whether raised bog is present and if so if it conforms to the Annex 1 habitat ‘degraded raised bog still capable of regeneration’. It is noted that a spoil deposition area within the site is located directly adjacent to and may overlap the potential raised bog habitat.

4.3. Third Party Observations

Agnes Doolan of 13 Cluain Raighne, Banagher, Co. Offaly

Objects to the proposed windfarm, for the following reasons:

- Questions whether the site notices were erected as required and argues that the public consultation was inadequate.
- States that there are sand martens on the golf course – notes no Passerine survey in the EIAR.
- Argues that the local road network is dangerous and inadequate, and the cumulative impact of developments in the area has exacerbated existing problems.
- Notes that part of the site is outside Area 7 as designated in OCC's Wind Energy Strategy (WES) – notes previous ABP permission for turbines outside WES boundaries.
- Concerns outlined about visual impact on the context of the telescope at Birr Castle.
- Argues that the proposed turbines are of excessive height which will result in noise, shadow flicker and infrasound impacts in the general area. It is noted that the applicant has repeatedly made applications in the area.
- Outlines specific concerns about compliance with noise emission levels – in support of an argument that the applicant cannot adequately address compliance a report by Arups on compliance with Meenwaun Wind Farm is attached. This report concludes that noise from Meenwaun is exceeding consented noise limits.

Una Watkins of Garrysallagh Clebe, Rath

Objects to the proposed windfarm for the following reasons:

- It is argued that it will result in significant damage to local wildlife, by way of fragmentation and degradation of habitats, collision risk and loss of habitat for butterflies and aquatic species. With regard to collision risk, the impacts on Golden Plover and Hen Harrier are highlighted.

- It is argued that the NIS was carried out without sufficient and meaningful consultation and that there is insufficient detail in the site surveys.
- It is questioned whether the environmental benefits of wind energy outweigh the potential emissions from peatland disturbance.

Patrick and Kathleen Watkins of Ballycolin,

Objects to the proposed development for the following reasons:

- The size of the proposed turbines – at 200 metres in total – is highlighted in arguing that, cumulatively with other developments in the area, it will have an unacceptable impact.
- Notes local concerns about noise and light flicker.
- It is questioned whether sufficient information has been provided by the applicant on impacts on dwellings close to the site.

Patrick and Padraic Watkins of Fivealley

Objects for the following reasons:

- Argues that it is not in accordance with the 2019 draft Windfarm guidelines, specifically the requirement that the nearest property must be a minimum of four times the tip height.
- It is argued that there has been an excessive number of windfarms permitted in the area.
- It is claimed that there was insufficient consultation with local residents prior to the application. It is further argued that the applicants should provide compensation to local residents.
- It is argued that there is insufficient information provided on potential noise levels.
- It is argued that there is inadequate control of existing windfarms and so if APB decides to grant permission it is requested that conditions be put in place

to ensure adequate protection/compensation be provided to local residents in the event of breaches of established noise levels or other impacts.

Catherine and Edel Watkins of Fivealley

Objects for the following reasons:

- It is argued that given the size and scale of the proposed development, the consultation and engagement with the local community was inadequate.
- It is argued that it will significantly reduce property values in the area, especially those properties from which it will be visible.
- It is argued that it will significantly impact on local people's quality of life and mental and physical health.
- Concerns outlined on impacts on local habitats.

Abina Guinan of Ballinaguilsha

Objects for the following reasons:

- Notes that her dwelling is identified as H73 in the submitted plans.
- Argues that there has been insufficient consultation with the local community.
- Outlines concerns about the 'near neighbour scheme' proposed by Cush for dwellings within 1 or 2 km of the site.
- Argues that it will devalue her property values due to visual impacts.

Liam and Michelle Guinnan of Ballinquilsha

Objects for the following reasons:

- Submits that there will be an unacceptable visual impact from their dwelling (house H74 on the submitted documents). Also, on other dwellings in the immediate area, including house H73 (owned by a family member) and another property within the family, H75. It is argued that another property they own is not included on the dwelling map but is 1018 metres from the site.

- It is noted that residents in the Ballynaguilsha area (east of the site on the N52) are close to other existing windfarms and there will be cumulative visual impacts.
- It is argued that it is insufficient that the annual contribution scheme of 100 euro per household only applies to those within 1-km.
- It is noted that the proposed wind turbines will be significantly larger than others built in the area – it is submitted that the scale is obsessive.
- It is argued that the photomontages do not represent a true visualisation of impacts.
- It is stated that local residents were unaware of the claimed community consultation meetings.
- It is argued that there are more appropriate sites for windfarms – Option 1 in the EIAR is highlighted.

Theresa Watkins of Balycollin, Fivealley

Objects for the following reasons:

- It is argued that there is a lack of trust in the community in assurances by the applicant and submits that the proposal is premature pending the approval of the draft Wind Farm Guidelines.
- It is argued that the proposed setback of 750 metres is insufficient to prevent shadow flicker. It is argued that the shadow flicker assessment in the EIAR does not reflect 'real world' impacts.
- It is argued that there is insufficient information in the submission on community gain and the provision of access through the lands. It is also unclear as to how community groups can access the annual land fund as stated in the submission documentation and video.
- It is argued that there has been insufficient assessment of the overall cumulative impact of the proposed development with other constructed and proposed windfarms in the area.

- It is argued that some elements of the design are insufficient with regard to self-sustainability measures, such as water protection and integration with other renewables.
- It is argued that failing to address the Earc Luachra Lizard, which Is designated under the Wildlife Acts is a serious omission. It is also claimed that insufficient assessment has been made on the potential impact on Eels.
- Concerns are outlined about the cumulative impacts on local health.
- It is questioned whether the applicant can be held to required conditions due to ambiguities about post construction surveys and the independence of assessors.

5.0 **Planning History**

There is one relevant permission/appeal decision on the site – **22/444** for the retention of an 80 metre meteorological mast on the site. All other applications appeals (summarised below) are in the general facility or relate to energy developments within the County.

Reference	**Description**
ABP-306706-20	10 Year permission for a 21 turbine windfarm. This was granted permission (under SID) and is now partially completed. The turbines permitted have a maximum tip height of 185 metres and a maximum hug height of 110m with a rotor diameter of 150 metre.
22/444	Permission (retention) granted for 80 metre meteorological mast on the site – constructed.
PL10.PA0015	Gas fired generation station granted
PL19.231866	Permission refused on appeal for 3.no turbines
10/130	Permission granted for 2 no. turbine windfarm.

12/65	Anemometer mast (granted and constructed)
PL19.242354	9 turbine windfarm – granted on appeal – now constructed on lands north-east of the site..
PL19.244903	4-turbine windfarm, granted and constructed to the NE of the site.
17/194	Energy storage facility
ABP-304054-19	Grid connection for windfarm to the north of the site. Granted and operational. Part of the route of this grid connection runs through the north-western part of the site.

6.0 Policy Context

6.1. EU, National and Regional policy

EU renewable Energy Directive 2009/28/EC

Promotes and sets out legally binding targets for renewable energy.

European 2020 Strategy for Growth,

Sets out targets for renewables and greenhouse gas emissions.

EU 2030 Climate and Energy Framework

A longer-term framework than the above for cuts in greenhouse emissions and renewable energy.

EU Energy Roadmap 2050

Sets out differing options for achieving above mentioned goals.

European Green Deal

A set of proposals set out by the European Commission in December 2019 to make Europe the first climate neutral continent.

REPowerEU Plan

A recent EU Plan issued May 2022 with an objective to phase out Europe's dependency on Russian energy imports as a matter of urgency.

Climate Action and Low Carbon Development Act – Department of Communications, Climate action and Environment 2015:

This Act sets out a roadmap for Ireland's transition towards a low carbon economy and details mechanisms for the implementation of the National Mitigation Plan (NMP), published in July 2017. The aim of these mechanisms is to lower Ireland's level of greenhouse emissions. In addition, the Act requires a National (Climate Change) Adaptation Framework (NAF) to provide responses to changes caused by climate change.

National Adaptation Framework - Planning for a Climate Resilient Ireland - Department of Communications, Climate Change and the Environment - 2024

Sets out Ireland's first statutory strategy for the application of adaptation measures in different Government sectors, including the Local Authorities. This 'NAF – Planning for a Climate Resilient Ireland' was published on 19 January 2018 and subsequently updated. The Framework aims to reduce the vulnerability of the State to the negative effects of climate change but also seeks to promote any positive effects that may occur.

National Mitigation Plan 2017 (updated January 2021)

Sets out a pathway to achieve deep decarbonisation in line with overall Government policy objectives and EU renewable Energy targets for 2030.

National Energy & Climate Plan 2021-2030

Sets out a detailed statutory set of targets for achieving a 51% reduction in CO2 emissions with net zero at 2050.

Climate Action Plan (2024)

Sets targets for the proportion of renewable energy in the mix – up to 80% by 2030.

National Development Plan 2021-2030

As part of Project Ireland 32040 the NDP sets out an overall investment strategy and budget for the period to 2030. Policy NSO 8 addresses the need for development to be climate neutral and the need to build a climate resilient society by way of a co-ordinated programme of investment in grid scale renewable energy with associated electricity transmission networks.

National Peatlands Strategy (NPWS)

Identifies cutaway bog as possible sites for wind and solar energy proposals (Section 4.6.7).

National Planning Framework.

Sets out a number of objectives for achieving reductions in CO2 emissions, specifically NPO 47 and NPO 55 with regard to renewable energy. National Policy Objective NPO 8 seeks to drive a transition towards a low carbon and climate resilient society. This policy objective will seek to drive investment choices to mirror goals set down within the National Mitigation Plan and National Adaptation Framework incorporating a more renewable energy focused approach prioritising energy sources such as solar, wind and wave.

Wind Energy Development Guidelines for Planning Authorities (DoEHLG,2006).

These set out detailed requirements for the location, siting and design of wind turbines and wind farms in addition to decision making criteria for local authorities.

(Draft Revised) Wind Energy Development Guidelines (DoEHLG 2019).

Guidelines intended to replace the 2006, but not yet adopted.

Eastern Midlands Regional Spatial and Economic Strategy 2019-2031

Sets out an integrated policy to enable the creation of sustainable regions with the capability to be resilient to future climate change. The Regional Policy Objectives (RPOs) contained in the RSES are designed to promote efficiencies in water and energy use and the move towards a low carbon economy. **RPO 7.31** requires Local Authorities to develop Climate Action Strategies (CAS) as well as local climate adaptation and mitigation strategies. The Meath Climate Action Strategy was adopted in September 2019.

6.2. Development Plan

In the **Offaly County Development Plan 2021-2027** the lands are unzoned and indicated in as of ‘low’ and ‘moderate’ landscape sensitivity. The County Wind Energy Strategy (part of the latter plan) indicates the lands as ‘deemed open for consideration for wind energy developments. In such areas the plan states:

These areas are open for consideration for wind energy development as these areas are characterised by low housing densities, do not conflict with European or National designated sites and have the ability by virtue of tehri landscape characteristics to absorb wind farm developments. Notwithstanding this designation, wind farm developments in these areas will be evaluated on a case by case basis subject to criterial listed in Development Management Standard 109 contained in Chapter 13 of Volume 1 of this County Development Plan and the Section 28 Wind Energy Development Guidelines.

I note that one part of the landholding is outside the area designated as 'open for consideration', but all turbines are within the area.

Section 3.2.6 of the County Development Plan on 'Wind Energy' states:

Site suitability is an important factor in determining the suitability of wind farms having regard to possible adverse impacts associated with, for example, residential amenities, landscape, including views or prospects, wildlife, habitats, designated sites, protected structures or bird migration paths and compatibility with adjoining land uses.

The Council Is thereby required to achieve a reasonable balance between responding to overall positive Government policy on renewable energy and enabling the wind energy resources of the Planning Authority's area to be harnessed in a manner that is consistent with proper planning and sustainable development.

The Council recognises that community ownership of wind energy projects enables local communities to benefit directly from local wind energy resources being development in their local areas, ensuring long term income for rural communities.

Other policies in the CDP considered relevant to the site and wind farm developments in general include:

Wind Energy Policies	
Wind Energy Strategy (Addendum)	Focuses on permitting windfarms only in areas identified as 'open to consideration'.
Section 3.2.6 CDP	As quoted above – emphasises site suitability criteria.
DMS-109	Requirements for assessing windfarms – 2006 Guidelines, the Wind energy Strategy map in the CDP and general planning considerations.
Landscape policies	
Section 4.14.1 on 'low sensitivity areas'	These are areas which it is considered can absorb quite effectively appropriately designed and located development in all categories.
Section 4.14.1 on 'moderate sensitivity areas'	These areas, which include cutaway bogs, are considered to be able to accommodate development pressure, but within limitations depending on development type.
BLP 38-41.	Policy to protect and enhance the county's landscape and to ensure a full assessment of larger developments.
Energy/climate/biodiversity policies	
Climate Action Plan	Seeks to align all OCC CDP policies with Government policy objections on climate resilience and creating a carbon neutral economy.
Section 3.8	Sets out objectives on Climate Action and Energy – it is an objective to implement the Councils Wind Energy Strategy with a focus on areas 'deemed open for consideration'. Also, supports actions needed to facilitate European and national objectives on climate action.
BLP 02-04 and 14	Policy to protect, conserve and enhance biodiversity and ecological connectivity, with particular reference to designated habitats and peatlands.

BLP 20 and 23.	Policy to preserve riparian buffer strips and to protect the recreational potential of waterways.
BLP 27 to 30.	Policy to protect and increase investment in 'green corridors'.
BLO-01 (natural capital)	Policy objective to ensure that development occurs within environmental limits
Transport	
Section 8.8 (SMAP 24; 28; 31.	Policy to maintain and protect the safety and capacity of the national road network and to ensure a TTA is carried out as appropriate.
DMS-97	Requirement for safe design of accesses onto the national road network.
Heritage	
Section 10.11	Policy to discourage development that would cause a loss of character to country houses, gardens and demesnes.
Flooding	
DMS-106	Sets out policy requirements to follow the 2009 Flood Risk Management Guidelines in all relevant developments.
DMS-108	Policy that developments on or adjacent to peatlands show consideration for the potential of peatland areas for climate mitigation, ecology and flood protection.

6.3. Natural Heritage Designations

There are no European Designated sites or NHA's on the site or landholding. The closest Natura 2000 site is the **Dovegrove Callows SPA (site code 004137)** some 2km to the south-west. This wetland site is designated for its importance for the Greenland White-fronted Goose. The **Ridge Road SAC (site code 000919**),

approximately 3km to the west is designated for its semi-natural dry grasslands and scrubland facies on calcareous substrates (important for orchids). The site is within the catchment of the Rapemills River which is a tributary of the River Shannon. The Little Brosnan runs past the **All Saints Bog SPA (site code 004103**), designated for Greenland White-fronted Goose, the **All Saints Bog SAC (site code 000566**), designated for semi-natural dry grasslands, active raised bog, degraded raised bog, depressions on peat substrates of the *Rhynchosporion* and bog woodland. **The River Shannon Callows SAC site code 000216** is designated for Molina meadows, lowland hay meadows, alkaline fens, limestone pavements, alluvial forests, and the otter. The **Middle Shannon Callows SPA site code 004096** is designated for Whooper swan, Wigeon, Corncake, Golden Plover, lapwing, Black-tailed Godwit, Black headed gull and wetlands and waterbirds.

There are also a number of proposed NHA's in the area, including Woodville Woods, Dovegrove Callows, Ross and Glenns Eskers, and Lough Coura.

7.0 Applicants Response

The applicant submitted a report addressing issues raised by observers and statutory consultees. This response included a number of Annexes including:

Annex 1: Further information on landscape and Visual Impact Assessment by 'Microworks'.

Annex 2: Supplementary Visualisation Materials.

Annex 3: Information on the Terms and Conditions for the RESS support scheme.

Annex 4: Response to DAU comments on NIS.

Annex 5: Technical Response on traffic and access issues.

I would summarise its response to the submissions as follows:

7.1. Offaly County Council submission

Request for further information on hydrogeology

- The Board is referred to Section 6.2.2; 7.2.2; 7.5.1.3; 7.5.3.16; 7.3.17; 7.3.16/17; 7.4.4.1' 7.5.1.1 and Annex 3.4 of the EIAR Report. It is submitted

that the issues raised by OCC with regard to construction issues are fully addressed.

- The Board is referred to Section 3.4.3; 13.2.4.1; 7.5.1.7 and Annex 13.1 with regard to water crossings.

Low Frequency noise

- The Board is referred to Section 11.3.2.2 and 11.6.2.1 of the EIAR.

Site restoration

- The Board is referred to Section 3.8 and the NIS – it is argued that there is a full assessment of site restoration proposals within the documentation.
- Road engineering conditions
- It is submitted that these replicate the proposed mitigation measures set out within the EIAR and associated documentation. It is argued that residual traffic safety issues can be addressed after permission by way of appropriate conditions and good practice.

Visual impact (photomontages)

- Refers the Board to supplementary comments in Annex I of the response submission. Argues that the photomontages have been produced in accordance with accepted guidance.
- It is argued that the viewpoint locations align with recommended guidance and best practice.
- It is noted that the photos were taken between October 2022 and March 2023, and most were taken when foliage was minimal.
- It is submitted that the planning authority is incorrect to argue that the visual impacts would be significantly greater in the winter months.
- With regard to cumulative visual impacts, it is argued in Annex I of the submission plus additional images provided (viewpoints 33-36) that cumulative impacts do not alter the overall l finding (Annex 9-1 of the EIAR).
- The applicant stands by the conclusions of Chapter 10 of the EIAR.

Turbine design dimensions

- In Section 3 of the Annex to the response, the applicant argues that traditional 'classical proportions' of wind turbines have evolved due to technological changes and turbine design. It is argued that the ration of blade to tower is just one aspect of visual impact and is not considered relevant enough to justify a less efficient turbine choice.
- It is argued the level of vegetation in the area will minimise views of the turbine bases, making the overall ratio irrelevant from most viewpoints.
- With regard to external finishes, it is confirmed (section 3.4.1) that all turbines will be a white, off-white or grey light in accordance with the 2006 Guidelines, unless otherwise directed by ABP.

Noise

- With regard to the contention that the noise sensitive locators, the Board is referred to the 'Dwellings Map' in Annex 12.1 of the EIAR, also Annex 11.4, 11.7 and 11.9 with regard to noise contouring and noise sensitive locations.

Community Gain funding

- The Board is referred to Section 4.5.2.2 of the EIAR, which is stated to set out detail on the Community Investment fund. It is confirmed that the applicant is committed to operating a community benefit fund in accordance with Wind Energy Ireland (WEI) best practice and will be available at a rate of 2 euro per MWh.
- It is noted that details of the Community Benefit Fund is that it must be developed as part of the competitive element of the RESS scheme, which can only be applied for after permission is grated.
- It is acknowledged that an error was made in the EIAR with regard to the commitment for a 1k euro contribution to electricity usage annually. The applicant is committed to providing this for all residents within 2km of a wind turbine.

Birr Castle Demesne telescope (radio telescope impacts)

- The Board is referred to Section 13.4.4.2 and Annex 13.3 of the EIAR. While no submission was received from L0LOFAR, it is considered that likely effects are not significant. It is stated that the RTIA report was submitted to I-LOFAR for comment, but no response was received.

7.2. Department of Housing, Local Government & Heritage Submission

Archaeology

- Acknowledges the recommended conditions – it is stated that the applicant is content to accept such conditions.

Golden Plover impacts

- The Board is referred to Annex 4 of the response document which includes further detail on an assessment of potential impacts on the golden plover. This report restates the conclusion of the NIS (and EIAR) that it can be concluded beyond all scientific doubt that the conservation objectives of the River Little Brosna Callows SPA (designated for the golden plover) will not be adversely affected.
- Annex 4 includes additional survey information on the flight paths of migratory birds within the bounds of the project.

7.3. Transport Infrastructure Ireland

- The applicants refer to Annex 5 of their response document, prepared by Jennings O'Donovan & Partners. This includes revised and updated details on traffic movements and the design of the temporary turning head at the N52/N62 junction.
- For clarity, it is confirmed that the temporary site entrances from the N62 will be used for the construction period only, except in the event of a major turbine component requiring replacement. Operational access will be from the local road network only.
- Annex 5 includes significantly updated proposals for access in line with the request by TII.

Cable crossing of N62

- It is confirmed that Horizontal Directional Drilling will be used.

7.4. Observations

The applicant addresses the individual issues raised by the observers on a person-by-person basis – for simplicity and clarity I will summarise these responses under the overall topic headings.

Site notices and consultation

- It is stated that 8 no. site notices were erected, all provided in line with the requirements of the Regulations.
- It is argued that the applicant carried out a significant and extensive effort to engage with local stakeholders as set out in Chapter 1 and Annex 1.8 of the EIAR.

Community Benefit Fund

- Refers to comments above on the OCC submission on the operation of any Community and the need to agree community contributions as part of the RESS process.

National and Development Plan policy

- It is confirmed that each of the proposed turbines are located wholly within the area designated as 'open for consideration for Wind Energy Development) in the Offaly County Development Plan 2021-2027.
- With regard to national Guidelines, it is noted that the 2019 Wind Farm Guidelines are in draft and have not been adopted. It is stated that the applicants have had regard to the current draft but focused their assessment on the existing 2006 Guidelines.

Turbine height and design

- The applicant refers to the response to OCC comments on this issue.
- With regard to the separation distance of each dwelling from the turbines, it is noted that in the draft 2019 Guidelines, a set back distance of 4x the

overall tip height (800 metres) applies to 'non-involved dwellings'. It is stated that only two dwellings are within 800 metres, and both are actively involved in the project.

Habitat impacts (sand martens, etc)

- The Board is referred to Chapter 5 of the EIAR, specifically Sections 5.3.3.1 and 5.2.3.5, in addition to Annex 5.2 of the EIAR with regard to impacts on specific species.
- With regard to general habitat issues, the applicant refers to the proposals set out in the EIAR for the total area of the land (some 290 hectares). It is noted that the land take for turbines with be a very small proportion of the overall site. The Board is referred to the mitigation and compensation measures set out in Chapter 5 of the EIAR.
- With regard to the common lizard (*Earc Luachra*) and eel it is submitted that the impacts of these were fully and appropriately assessed in Chapter 5 of the EIAR.
- On general ecology and habitat issues, the Board is referred to the NIS (and additional Annex in the submission) and Chapter 5 of the EIAR. It is submitted that all site surveys for individual species were carried out in accordance with best practice and established guidelines.

Traffic and Road impacts

- The Board is referred to Chapter 13 of the EIAR and additional information submitted with this response and the specific measures to protect the public set out in Section 13.2.5.1 of the EIAR.

Noise and Shadow flicker (human health)

- The Board is referred to the details in the relevant Chapters (11 and 12) of the EIAR and the associated mitigation measures.
- It is stated that both individually, and in combination with other windfarms in the area, the cumulative noise impacts are within best practice standards as set out in the 2006 Guidelines.

- It is noted that the 2019 Wind Farm Guidelines are in draft and have not been adopted. It is stated that the applicants have had regard to the current draft but focused their assessment on the existing 2006 Guidelines.
- With regard to other windfarms in the area, it is submitted stated that Section 11.6.2.1 of the sets out operational phase noise levels in combination with other windfarms in the area.
- With regard to WHO Guidelines, it is stated that Chapter 11 of the EIAR addresses all published criteria and guidelines, including those of the WHO for noise.
- It is acknowledged that there may be low frequency (infrasound) impacts from wind turbines, but it is emphasised that the conclusion of the EIAR is that the proposed development will not give rise to excessive levels and as such is unlikely to have human health impacts.
- It is argued that the shadow flicker analysis in Chapter 12 of the EIAR is in line with published guidelines and represents a conservative estimate of shadow flicker impacts on local residents.

General amenity

- It is noted with regard to submissions that while it is acknowledged that the application does not include a specific amenity trail, the applicant has provided OCC a firm commitment to work with them to increase amenity infrastructure and connectivity in the area.
- The applicant is also stated to be engaging with OFF with regard to longer distance amenity trail provision in the area, specifically linkages with the existing Lough Boora Complex and the Derrinlough windfarm currently under construction.
- It is submitted with regard to property values that the compensation scheme in place addresses any possible devaluation and specific elements that could reduce property values have been addressed under the relevant EIAR headings.

Visual impacts

- The Board is referred to Chapter 9 of the EIAR on visual impacts. It is submitted that all appropriate visual impacts have been identified and addressed in the submitted documentation.

GHG emissions and climate change.

- The Board is referred to Chapter 8 of the EIAR on the calculations of GHG emissions and the long term balance from the project.

Cumulative/combined impacts

- The Board is referred to Chapter 11 of the EIAR on the assessment of cumulative emissions with other windfarms built and permitted in the area.

Accidents and emergencies and flooding

- With regard to objections on the basis of the height of the turbines, the Board is referred to Section 4.5.1.2 on the assessment of major accidents or natural disasters.
- With regard to flooding, the Board is referred to Sections 7.3.3 to 7.3.17 and 7.4.3 with regard to flooding and the overall hydraulic balance of the site. It is also noted that a flood risk assessment was carried out (Annex 7.1 of the EIAR) and a surface water management plan (SWMP is attached in Annex 3.4 of the EIAR.

7.5. Further Responses

No further relevant responses on file.

8.0 **Planning Assessment**

Having inspected the site and reviewed the file documents, I conclude that the core planning and other statutory requirements of the proposed development can be addressed under the following heading and sub-headings:

- Planning Considerations
- Overall planning policy objectives
- Landscape and land-use context
- Amenity and community compensation
- Transport and infrastructure
- Flooding and drainage
- Cultural heritage
- Other planning considerations and conclusions
- EIAR
- NIS

8.1. **Planning Considerations**

8.1.1. Overall planning policy objectives

National, Regional and local policy on renewable energy, as set out in Section 6 above, consists of a range of interrelated policies on achieving low or zero net carbon emissions in Europe by 2050, with ambitious specific targets for renewable energy 2030 set out in the **National Energy and Climate Plan, 2021-2030**. These policies are reflected in regional and local plans on renewable energy. Broadly stated, all these policies are intended to facilitate small, medium and large scale projects which represent progress in reducing overall carbon emissions, subject to a range of other economic, planning, social and environmental objectives.

Specific policy guidance on wind energy is set out in the Wind Energy Guidelines of 2006. A revised draft of updated policies is set out in the **Wind Energy Development Guidelines** *(DoEHLG 2019).* The latter draft guidelines set out more stringent noise standards and setbacks for wind turbines and require mandatory

community engagement for all projects. I have had regard to the latter in my assessment, but at the time of writing this report the 2006 Guidelines are the operative statutory Guidelines and as such my assessment will follow the specific standards and guidance set out therein.

The **Offaly County Development Plan 2021-2027** (OCDP) reflects the above guidance in its specific policy objectives on energy in general and wind energy specifically. The CDP incorporates the county Wind Energy Strategy. It sets out a number of specific areas within the county in which wind turbines are 'open to consideration' (Map no.10 of the Wind Energy Strategy in the OCDP). These areas are primarily lowland areas of degraded or worked bogland, with a relatively small number of dwellings. All the proposed turbines are within an area designated as 'open to consideration', although a small part of the overall landholding lies outside the area indicated on the map. The OCDP sets out a number of specific criteria for assessing such proposals which I have summarised in Section 6 above and will refer to in the relevant sections below. These primarily relate to landscape sensitivity, design, community engagement, impact on protected structures, residential amenity, traffic, flooding, and requirements under EIA and AA.

The site has no specific relevant planning history apart from retention permission for the 80 metre meteorological mast on the lands, but I note that a number of medium and small sized wind energy developments have been granted permission and constructed in the central Offaly area in recent years, all under previous development plans. In particular, the Derrinlough windfarm (**ABP-306706-20**) with 21 turbines permitted by the Board in its decision of August 2021 is now largely complete. This windfarm, on largely cutaway bog some 2-km north of the site has become a prominent feature on the landscape as viewed from a number of points along the primary road network, and from higher ground in and around the site of the current proposal. I note that many of the issues raised in this application were also raised and addressed in this application, although it was submitted during the lifetime of the previous OCC development plan.

Having regard to the location of the proposed development within an area designated in the OCDP as an area 'open to consideration' for wind power projects, and the overall EU, national and local policy context, I conclude that in principle a wind energy development on this site is acceptable subject to normal planning and

environmental considerations as set out in national and local plans, policies and guidance.

8.1.2. Landscape and land use Context

The site is within rolling lowlands intersected by esker ridges on a mix of grazing land and cutaway bog, some of which is rapidly regenerating. There are some remains of the peat extraction use on the lands, including deep cut drains and some sections of bog railroad. The lands are highly varied, with an irregular layout. It is intersected by the N62, which has an almost completely straight route north to south through the area. One minor cul-de-sac third class road runs into the eastern part of the site – this runs west from the N52 at Shanaclood, where there are the remains of a medieval settlement (church and castle). The original bog access roads, from both Shanacloon direction and from Ballyslavin direction to the north-west, are disused and overgrown – in the latter case completely inaccessible. The south-western corner of the site meets a minor third class road and includes part of a farm complex. At Cush, on the northern side of the site and on the western side of the N62, there is a storage shed, apparently still in use. The site also includes a small section of land to the south, at Kennedy's Crossroads – this is required for temporary works to allow a turning area for turbine blads. A high voltage overhead line runs east to west across the southern end of the site, and an underground 38kV line was permitted by the Board across the north-western part of the site, connecting wind farms to the north to the grid at a transformer station in Clondallow, approximately 1.5 km to the west. The site is indicated in the OCC CDP Wind strategy (map no.2) as having wind speeds above 7.5 m/s available for turbines with a hub height of 100 metres.

The site is intersected by a number of deep drains and rivers, part of the Rapemills River catchment, all draining westwards towards the Shannon. It seems that the extensive drainage works carried out to mine the raised boglands on the site is still generally intact and some fragmentary remains of uncut raised bog may still be in place, although these were not identified in the site surveys. Significant areas of the former bog have been planted for conifer plantation or is regenerating as mixed hazel woodland. The site is indicated in the CDP as having a mix of low and medium landscape sensitivity, although the applicant notes that the turbines are in

the 'low' sensitivity area. There are no key amenity routes or views identified in the plan immediately around the site (these are indicated in Map no.6 of the Wind Strategy in the CDP).

The overall landscape and context is quite similar to Derrinlough, to the north, which was granted permission by the Board for a windfarm, although that site is not intersected by the public road, and is significantly further from any major settlement – the most notable of which is Birr. There is just a handful of dwellings along this section of the N62, with a scattering of farms and dwellings on the surrounding road network, with small clusters at Fivealley and Shanacloon on the N52, both between 1 and 2 km from the nearest proposed turbine. There is a former demesne lands, now a golf course, less than 1km to the south-west of the closest proposed turbine. This latter area is heavily wooded, with few clear views towards the site.

The designated heritage town of Birr was largely laid out in the mid 18th century and is noted for its formal layout and many fine buildings from the period, in addition to Birr Castle and its demesne grounds, the latter of which are an important tourist attraction and include a Science Centre, the historic Leviathan of Parsonstown telescope, and a modern radio telescope, part of the LOFAR network. The latter is a European-wide antenna network of Low Frequency Array consisting of around 20,000 small antennas in 52 stations – the Birr station is the westernmost of the system and the only one in Ireland. The planning authority has emphasised the importance of ensuring that the proposed development does not impact upon the setting of the town (in particular views along key boulevards, especially Emmet Street), in addition to views from within the Birr Castle Demesne and the castle itself. The permitted wind turbines that have been constructed in the area do not appear to be visible from any public viewpoint in the town. I note that the current application allows for turbines that are significantly larger than those proposed in the Derrinlough windfarm, and they are closer to Birr, so the potential for an impact is significantly greater.

As noted in Section 8.2.1 above, the area is generally considered to be acceptable in terms of national, regional and local policy. The individual turbines are closer to two dwellings than is recommended in the current draft updated Wind Energy guidelines, but both are occupied by parties to the application. The overall landscape of the area is robust and has a long history of intensive use, particularly

for peat extraction, and this has left multiple scars, in addition to significant impacts on local habitats and the natural water environment. Notwithstanding the specific issues raised by the observers and statutory consultees and the statutory requirements under the EIAR and AA Directives, I would consider that the key planning issues raised by the application are the amenity impacts on local residents, the overall visual impacts on the town and environs of Birr, and the cumulative overall impacts of the proposal with existing and permitted wind energy proposals in the area.

8.1.3. Amenity and community compensation

The OCDP in policies CAEP-26 and CAEP27 encourages developers to carry out community consultation in accordance with best practice, and, wherever possible, to ensure community benefits are derived from large scale renewable developments. The local authority has raised concerns about the lack of detail in the documents on the community scheme, and a number of observers have objected on the basis of being excluded the proposed compensation scheme. The applicants have confirmed that the compensation scheme will be extended out to those within 2km of a turbine. With regard to community compensation scheme, it is noted by the applicant that this is part of the RESS application (i.e. the application to the Department of the Environment, Climate and Communications Renewable Electricity Support Scheme), which can only be made if planning permission is granted. On this basis, the applicant argues that it is inappropriate to draw up the full details of such a scheme at this stage of the design/application process.

With regard to overall community consultation, I am satisfied from the information on file that the statutory requirements under the 2001 Regulations, as amended, have been followed by the applicant. The planning authority appear to consider that the applicant has satisfied requirements set out in the development plan and draft national guidelines for pre-application community consultations, even though it does seem that at least some local residents were not satisfied with the extent of engagement.

With regard to the compensation scheme, I concur with the applicant that it is not reasonable to expect every aspect of this to be agreed prior to a planning permission and RESS application. I recommend that if the Board is minded to grant

permission, that this can be addressed by way of a condition such that such a community support and compensation scheme should be agreed with the planning authority prior to construction commencing.

The observers have raised a number of specific amenity issues including direct views of the turbines, noise emissions and shadow flicker. I am satisfied from the information submitted that the overall design and location of the turbines is such that they satisfy minimum requirements set out in the development plan, the Wind Energy Guidelines 2006, and the current draft Wind Energy Guidelines. Specific details are addressed in the EIAR section below.

The planning authority and applicant have acknowledged that negotiations have taken place over the possibility of public access to the site for amenity purposes if permission is granted. While this would clearly be desirable, it is not confirmed as part of the application, and with regard to the court decision in Ashbourne Holdings Ltd vs ABP & Cork County Council [2001] IEGC 43, also known as the Old Head of Kinsale Golf Course case, it is not open to the Board to set a condition compelling a landowner to permit public access to a site without the landowners consent and agreement.

8.1.4. Transport and infrastructure

The existing lands sprawl on either side of the N62. Access from the N62 is at present from a number of largely disused tracks, with the exception of one to the north, in Cush, which provides access to a storage building. The bog railway which served the north-eastern section of the lands has been largely removed and is overgrown. There is one access from the N52 – from a minor cul de sac third class road which runs from Shanacloon to the townland of Eglish, and terminates at some farm buildings, with a track extending further into the site.

On the western side, a former bog access track from Ballyslavin direction is now entirely overgrown and inaccessible – there is no proposal to reopen this. To the south, a farm access track in Booinarig Big townland runs north into some of the grazing land that forms part of the site.

The application includes two main construction access points opposite each other on the N62 at Cush, with two permanent operational accesses – via the cul-de-sac

at Shanaclooon/Eglish and via the farm track in Boolinarig Big. The applicant clarified that the N62 accesses will be used only for construction purposes, and will be restored and sealed after use, although it is stated that they could potentially be opened up at a future date if oversized loads were required, for example to replace blades. The point at which the accesses are proposed is at a long straight section of road, with is a single lane in each direction with no hard shoulder. Undulations in the road lead to some limited views south, with a slight ridge at the junction with a minor road at Boolinarig south of the proposed accesses.

In addition, works are required in an additional small landholding south of the site, and the N62/N52 junction, where a temporary hammerhead type turning area would be provided at Kennedy's Crossroads to allow oversized loads to make what is now a very tight turn between the roads. It is stated in the application documents that this will be removed and restored after the works are completed. Loads will come from the north – it is stated that turbine blades will be brought by road from Galway Harbour.

TII submitted a number of issues of concern with the proposals, specifically the safety of the proposed construction accesses on the N62. It is clear that given the narrowness of this main road, a very significant amount of active management will be required to ensure safe and satisfactory access for constructing the 8 no. proposed turbines. I will address these in more detail in the EIAR section below, but in planning terms I would consider that there is no in-principle objection to the proposed development on traffic generation or construction access grounds. The site is directly accessible for construction from the national road network (albeit with significant management requirements plus separate permissions/licensing required for oversized loads), and post construction, traffic generation is likely to be very low during the operational period, and likely to be a relatively insignificant contribution to existing traffic in the area. The two operational accesses are existing farm/general access roads which are generally suitable for the low level of operational traffic likely to be generated.

I note that the applicant has confirmed that the internal power lines for the proposed windfarm will cross the public highway through the use of directional tunnelling, so no alterations to the public highway will be required for this purpose.

8.1.5. Flooding and drainage

The site incorporates largely worked out raised peatlands along with grazing farmland on higher ground (mostly naturally well drained eskers). The overall drainage of the area has been significantly altered over the past century or more by way of these and other associated works. I also note extensive quarrying and sand and gravel extraction south and east of the site, some of which seem to have extended well below the natural groundwater level. The site is not within identified flood zones. The Rapemills River is indicated as of 'moderate' status by the EPA. The lands overlie what is indicated as a Regionally Important Aquifer (Karsified).

The applicants are not proposing significant permanent alterations to the current drainage status of the lands, apart from the direct turbine foundations. Pollution and habitat issues are addressed in considerable detail in the EIAR and NIS, and I will assess these in detail in the relevant sections below.

8.1.6. Other planning considerations and conclusions

The proposed development will require a development contribution in line with the adopted scheme if the Board decides to grant permission. I would also consider a bond requirement to be reasonable having regard to the need to ensure adequate reinstatement of the public highway and associated lands required for construction, and for decommissioning of the turbines at the end of the permission period.

I do not consider that there are any other specific planning issues to be addressed for this application. All other issues are addressed in the EIAR and AA sections below. I would conclude that in terms of national, regional and local policy, the principle of an 8-no. turbine windfarm on these lands is acceptable, and that the specific issues raised by the statutory consultees and observers can be addressed by way of condition.

9.0 Environmental Impact Assessment

9.1.1. Introduction

The European Union Directive 2014/52/EU, amending Directive 2011/92/EU, on the assessment of the effects of certain public and private projects on the environment, requires Member States to ensure that a competent authority carries out an appraisal of the environmental impacts of certain types of projects, as listed in the Directive, prior to development consent being given for the project. The EIA Directive was transposed into Irish law under the Planning and Development Regulations 2001 to 2018. Part 1 of Schedule 5 of the 2001 Regulations, includes a list of projects for which mandatory EIA is required. Part 2 of Schedule 5 provides a list of projects where, if specified thresholds are exceeded, an EIA is also required. The proposed development falls within the definition of a project under the EIA Directive as amended by Directive 2014/52 and falls within the scope of Class 3 (j) of Part 2 of the Fifth Schedule of the Planning and Development Regulations 2001, as amended.

Energy Industry

(j) '*Installations for the harnessing of wind power for energy production (wind farms) with more than 5 turbines or having a total output of greater than 5 megawatts' require EIA.*

The proposed development with a total of 8 no. turbines with an estimated installed capacity in excess of 50MW exceeds these thresholds and is therefore subject to mandatory EIA. Directive 2014/52/EU amending the 2011 EIA Directive was transposed into Irish legislation on September 1st, 2018, under the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018.

The EIAR was submitted to the Board on January 8th, 2024, and is therefore assessed under the new Directive.

The EIAR submitted with the application consists of two volumes;

➢ Volume 1: Main Text (including non-technical summary)

➢ Volume 2: Annexes, including photomontages

The impact of the proposed development is addressed under all relevant headings with respect to the environmental factors listed in Article 3(1) of the 2014 Directive, which include:

(a) population and human health

(b) biodiversity, with particular attention to the species and habitats protected under Directive 92/43EEC and Directive 2009/147/EC

(c) land, soil, water, air and climate

(d) material assets, cultural heritage and the landscape

(e) the interaction between the factors referred to in points (a) to (d), and

(f) The vulnerability of the proposed development to risks of major accidents and/or disasters.

Compliance with the requirements of Article 94 and Schedule 6 of the Regulations, 2001

Section 94(a) information to be contained in an EIAR (Schedule 6, para. 1)	
A description of the proposed development comprising information on the site, design, size, and other relevant features of the proposed development (including the additional information referred to under section 94(b).	The environmental factors listed in Article 3(1) of the Directive are discussed in Chapter 4 to Chapter 13. Chapter 1 & 2 include an introduction and sets out the background to the proposed development. The alternatives considered by the applicant are discussed in Chapter 3 and a description of the development is provided in Chapter 4. Interactions are set out in Chapter 14. The environmental factors listed in Article 3(1) of the Directive are discussed in Chapter 4 to Chapter 13. Chapter 1 & 2 include an introduction and sets out the background to the proposed development. The alternatives considered by

	the applicant are discussed in Chapter 3 and a description of the development is provided in Chapter 4. Interactions are set out in Chapter 14. Article 3(2) of the Directive requires the consideration of effects deriving from the vulnerability of the projects to risks of major accidents and/or disasters that are relevant to the project concerned. This is addressed in Chapter 4 (Population and Human Health). The potential for 'flooding' is considered in Chapter 7 (water). The EIAR complies with Article 5 of the Directive and Schedule 6 of the Planning and Development Regulations 2001, as amended. A Construction and Environmental Management Plan has been submitted in the Annexes.
A description of the likely significant effects on the environment of the proposed development (including the additional information referred to under section 94(b)).	An assessment of the likely significant direct, indirect, and cumulative effects of the development is carried out for each of the environmental parameters set out in the Regulations. I am satisfied that the assessment of significant effects is comprehensive and robust and enables decision making.
A description of the features, if any, of the proposed development and the measures, if any, envisaged to avoid, prevent or reduce and, if possible, offset likely significant	These are included in each of the technical chapters of the EIAR and the associated appendices. They are brought together in Chapter 14 of the EIAR and in the CEMP.

adverse effects on the environment of the development (including the additional information referred to under section 94(b).	
A description of the reasonable alternatives studied by the person or persons who prepared the EIAR, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the proposed development on the environment (including the additional information referred to under section 94(b)).	Chapter 2 of the EIAR considers alternatives in respect of do nothing, site location, other renewable energy technologies and layout, including grid connection options. It also assesses different transport options to the site (section 3.2.5.6). It provides the main reasons for selecting the proposed option(s) and a comparison of environmental effects. I consider, therefore, that the description of alternatives is reasonable, in the context of the proposed development, and has been completed in a satisfactory manner.
Section 94(b) Additional information, relevant to the specific characteristics of the development and to the environmental features likely to be affected (Schedule 6, Paragraph 2).	
A description of the baseline environment and likely evolution in the absence of the development.	A detailed description of the baseline environment is included in each of the technical chapters of the EIAR and I am satisfied, is sufficient to enable the assessment of likely effects and to enable decision making.
A description of the forecasting methods or evidence used to identify and assess the significant effects on the	Forecasting methods and/or evidence to identify and assess significant effects are included in the EIAR, as required for relevant environmental topics. Technical difficulties are

environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information, and the main uncertainties involved	identified where necessary, and I am satisfied that there are no significant deficiencies that prevent decision making.
A description of the expected significant adverse effects on the environment of the proposed development deriving from its vulnerability to risks of major accidents and/or disasters which are relevant to it.	Article 3(2) of the Directive requires the consideration of effects deriving from the vulnerability of the projects to risks of major accidents and/or disasters that are relevant to the project concerned. This is addressed in Chapter 4 (Population and Human Health) with regard to industrial and other accidents and the proximity of any Seveso sites. The potential for 'flooding' is considered in Chapter 7 (water). The EIAR complies with Article 5 of the Directive and Schedule 6 of the Planning and Development Regulations 2001, as amended. A Construction and Environmental Management Plan has been submitted in the Annexes.
A summary of the information in non-technical language.	A non-technical summary of the EIAR is provided by the applicant and satisfactorily describes the likely environmental effects of the development.
Sources used for the description and the assessments used in the report	Sources used for the description and assessment of environmental effects are included in each technical chapter of the EIAR.

A list of the experts who contributed to the preparation of the report	In compliance with the provisions of Article 5(3), the EIAR tabulates the inputs and qualifications of the study team and contributors under Section 1.8.2. I am satisfied in this regard that the EIAR has been prepared by competent experts to ensure its completeness and quality.

9.1.2. **Alternatives**

Under the provisions of Article 5(1)(d) of the 2014 Directive it is a requirement that an EIAR contain:

> *"(d) a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment*".

Chapter 2 of the EIAR addresses the matter of alternatives in terms of the 'do-nothing option' and alternative technologies, locations, design & layouts, alternative grid connections, alternative haul routes and alternative forestry replant lands.

In a 'do-nothing' option the site would, it is argued, represent a lost opportunity to capture the positive environmental effects arising from the project including the opportunity to harness a significant part of Co. Offaly's renewable energy resource and to contribute to meeting Government and EU targets for the production and consumption of energy from renewables and the reduction in greenhouse gases. It is concluded that a ''no-nothing alternative is not appropriate in the context of a strong policy imperative for the generation of renewable energy at appropriate locations.

With regard to alternative technologies, it is noted that solar energy requires a significantly larger land take and would result in substantial changes to existing land uses and agricultural practices. It is noted that wind energy productive is very cost effective and is a mature cost-effective technology, and on this basis, alternative technologies are considered inferior and not considered an alternative to achieve the objectives of the project.

In assessing alternative locations, the applicants used the Offaly CDP Wind Energy Strategy to identify nearby areas suitable for a similar scaled windfarm. It identified one alternative – an area encompassing 11 no. townlands around 4 km west of the current site. Table 2.1 of the assessment provides a comparative assessment of the constraints and opportunities associated with both alternative locations. It is concluded on this basis that the application site is superior in terms of population density, sensitivity of habitats, landscape impacts, and access, in addition to higher wind speeds.

Section 2.3.4 of the document assesses alternative designs and layouts. I note that one observer requested that the Board consider some alterations to the layout, to move the turbines on the eastern side away from dwellings along the N62. Table 2.2 assesses the main alternative layout (using additional turbines). It is argued that the overall EIAR process was iterative, and the applicants are satisfied that the proposed layout is optimal having regard to all variables and considerations.

For alternative grid connections, the applicants set out three full options, including a 110kV substation on the site with an underground cable within the local road network to connect to Clondallow Substation, one to connect to the Shannonbridge 220/110kV substation, and one to connect to the Derrycarney 110kV substation. Table 2.3 outlines the alternatives with regard to the factors set out in the EIAR. It was concluded that the Clondallow substation involved the shortest connection with the minimal disruption.

With regard to alternative haul routes, it is noted that a number of different ports may be used to import turbine components, but Port of Galway has been selected for assessment as the most likely port of entry. It is concluded that the N62/N52 (accessed via the M6) is the most likely and most appropriate routing for all reasonably likely ports of entry.

With regard to construction materials, it is noted that the selection of construction materials and the choice of local suppliers are set out an illustrated in Annex 2.3 of the EIAR. It is stated that the selection of material suppliers will be subject to a competitive tendering process, therefor it is not possible to determine the precise material haul routes. It is stated that all importation will be set out in an agreed Transport Management Plan.

Section 2.3.7 outlines alternatives for forestry replanting. It is noted that it is proposed to permanently remove 23 hectares of forestry. Alternative landbanks are set out in Table 2.4. It is determined that the alternative sites do not impact the substantive conclusions of the EIAR.

In conclusion (section 2.4) it is submitted that the final project as submitted strikes the best balance between the avoidance of any likely significant environmental effects and the achievement of the objectives of the project.

I consider that the matter of examination of alternatives has been satisfactorily addressed in the EIAR. I consider that the level of detail is reasonable and commensurate with the project. While I accept that the location of the project is influenced by the applicants control of the landholding, the process of site selection within the landholding and the possible alternatives followed a comprehensive and transparent process. It indicates how the proposed development evolved and how it was adjusted to take into consideration the broad range of environmental effects in addition to the potential benefits of the proposed development.

I am satisfied that the process is robust and that the requirements of the Directive are fully complied with.

9.1.3. **Description of the project**

Section 3 of the EIAR provides details and clarifications on the proposed project over and above the description on the planning notice. Key points include:

- The turbines will have a hub height of 114 metres, a rotor diameter of 172 metres and an overall tip height of 200 metres. Turbine colours will be white, off-white or light grey in accordance with the 2006 Guidelines, or as specified by ABP. All turbines will be geared to rotate in the same direction and will have the same cut in and cut out speed. Each will have its own transformer. The application includes a micro-siting allowance of 20 metres for each turbine in accordance with Section 5.3 of the 2006 Guidelines.
- Each turbine tower will be secured to a steel ring foundation on a reinforced concrete or piled base.
- 6.8 km of on-site access tracks will be required, of which 5.4km will be newly constructed. They will be of a floating type – i.e aggregate over a geotextile.

- A crossing of the Rapemills River will be required for works – this will be a clearspan structure to ensure the stream bed is not touched. There will also be three new watercourse crossings, with upgrades on one on a minor tributary of the Rapemills (the West Galros Stream).
- The temporary construction phase entrances will be fenced off and reinstated, but they may be reused in the future in the event of a major component requires replacement.
- Operational traffic will use two upgraded existing entrances.
- The existing temporary mast on site will be removed and replaced with another mast for the lifetime of the windfarm.
- A preliminary Spoil and Peat Management Plan (Annex 3.4) has been prepared with regard to the treatment of such materials excavated. This Plan identifies 3. Spoil deposition areas (Annex 3.2) for excess material not used for reinstatement or landscaping. These will be graded to match the profile of the surrounding land and will revegetate naturally.
- It is estimated that just over 1000,000 m^3 of rock will be required for the work, 9,000 m^3 of concrete and just over 2,000 m^3 of sand (Table 3.5)
- Works are expected to take place in a single phased 15-18 month construction period and it has an expected 35 year life.
- Minor works, including some tree removal, will be required along the proposed haul route. A full list of these is provided in Annex 3.5, with a summary in Table 3.4 of the EIAR.
- The grid connection will be underground, connecting to Clondallow 110kV substation 1.7 km to the southwest. Works within the site are part of the application. A detailed method statement for undergrounding will be prepared by the contractor, which will be reviewed by the appointed Environmental Manager.
- The proposed substation has been designed in accordance with EirGrid specifications, but details may change following further discussions.
- The external electrical apparatus will also incorporate a battery storage system. This will comprise approximately 48 no. battery modules, of approximately 2.6 metres I height, 6 metres in length and 2.2 metres wide.

- Up to 23 hectares of mixed woodland will be felled. A felling plan is included in Annex 3.8. These are considered the minimum felling requirements; some additional areas of forestry may require subsequent felling. These works will be undertaken in accordance with the mitigation measures set out in the EIAR. Replanting works will be in accordance with the felling license.
- Off-site works include the temporary alteration works to public roads along the turbine haul route, including a vehicle turning area at the N52/N62 junction.
- The proposals include some landscaping, which includes the reinstatement and if needed replacement of hedgerows removed for the works. An additional 1,979 metres of hedgerows are proposed to be planted in situ in addition to 914 metres replacement hedgerow.
- Construction details will be set out in accordance with a detailed Construction & Environmental Plan to be prepared in advance of works – a preliminary CEMP is included in Annex 3.4.
- At the end of the operational phase (35 years), either a new application will be submitted for an extension and/or replacement of the turbines, or it will be decommissioned in line with a process similar to the construction phase.

Works required but not part of the current application include:

- A 110kV substation.
- The installation of 5.6km of underground cable to connect to Clondallow.
- The planting of 23 hectares of compensatory forestry on lands in the townlands of Drumagelvin, Drumleek South, Lisdonn and Moy, County Monaghan.

9.1.4. **Consultations**

Third parties raise concerns regarding a lack of consultation and meaningful engagement with the local community.

The application has been submitted in accordance with the requirements of the Planning and Development Act 2000 (as amended) and the Planning and Development Regulations 2001 (as amended), in respect of public notices. I note

that these, the public notices, refer to all of the townlands in which the development is proposed. Furthermore, a number of site notices have been erected at different locations around the site, including at the proposed entrances. In addition, the applicant has carried out a scoping exercise and has consulted with relevant authorities (including Offaly County Council, ABP, NPWS and IFI) and the public. Responses to the scoping exercise are Chapter 1 of the EIAR. A full account of the public consultation exercise carried out is set out in section 1.10. It includes details of information circulated to the public, information events held, and the main queries/concerns raised by the public. Submissions have been received from statutory bodies and third parties and are considered in this report, in advance of decision making.

I am satisfied, therefore, that appropriate consultations have been carried out and that third parties have had the opportunity to comment on the proposed development and engage with the application process in advance of decision making.

Having regard to the foregoing, I am satisfied that the information contained in the EIAR, and the supplementary information provided by the developer is sufficient to comply with Article 94 of the Planning and Development Regulations, 2001.

9.1.5. **Likely significant effects on the environment.**

This section of the EIAR identifies, describes and assesses the potential direct, indirect and cumulative effects of the project under the factors referred to in Article 3(1) of the Directive. My assessment follows the sequence of headings used in the EIAR, which are as follows:

- Population & Human Health
- Biodiversity
- Land and Soil
- Water
- Air Quality and Climate
- Landscape

- Cultural Heritage
- Noise and Vibration
- Shadow Flicker
- Material Assets
- Interaction of the foregoing

In accordance with section 171A of the Act, this assessment includes an examination, analysis and evaluation of the application documents, including the EIAR, the associated drawings, documents/appendices and the submissions received and identifies, describes and assesses the likely direct and indirect significant effects (including cumulative effects) of the development on the environmental parameters set out in the Regulations and the interaction of these. Each topic section is therefore generally structured under the following headings:

- Issues raised.
- Examination, analysis and evaluation.
- The Assessment: direct and indirect effects.
- Conclusion.

Population and Human Health

Issues raised

Issues raised in respect of population and human health relate to impacts on residential amenity, including those arising from construction noise and vibration, loss of hedgerows/vegetation, nighttime deliveries, shadow flicker, operational noise, devaluation of property, and adequacy of community benefit fund (to offset negative effects). Most issues raised are addressed in more detail in the specific relevant sections for noise, vibrations, etc., and in the planning appraisal with respect to community benefit.

Examination, analysis and evaluation

Chapter 4 of the EIAR provides an overview of impacts on Population and Human Health in the context of published guidance. It is noted that potential impacts on health and other environmental factors such as noise or air pollution is addressed in

subsequent chapters of the EIAR. The developer stated that there was 'an extensive public consultation process', and appointed a Community Liaison Officer in February 2022, with a second round of door-to-door consultation in October 2022. The Section relies primarily on census data to identify local population numbers and the local labour market. It is noted that the county of Offaly has a population from the most recent census of 83,000, with 35,000 'at work'. Failte Ireland data combines counties – the area is within the overall East/Midlands region for tourism – so there are no local area specific breakdowns available. It is noted that the CDP promotes tourism in the area by way of the extension of greenways, peatways, blueways and other trails, as well as the provision of small-scale complementary facilities.

The primary amenity or tourism attractions in Offaly are identified as Clonmacnoise, Birr Castle , Tullamore Dew visitors centre, the Slieve Bloom Mountains, the River Shannon, the Grand Canal and the Clara Bog Nature Reserve.

The EIAR focuses on the immediate area of Birr and around the site for its more detailed focus on local community and recreational assets. It is noted that Birr Castle and its demesne is one of the most significant historic houses in the country. It is noted that there is not a high level of accommodation assets within Birr, with just two hotels in the town.

It is concluded that the construction phases of the projects will be beneficial in terms of employment and local investment, with a minor beneficial effect on local businesses. The overall conclusion based on the assessment summarised below is that the project will have no likely significant adverse effects and no mitigation measures are required.

Likely significant impacts and mitigation measures

Summary of potential effects:

Project Phase	Potential Direct, Indirect and Cumulative Effects.
Do nothing	No change to function of the site. No changes to land use or for potential impacts on population or human health apart from ongoing agriculture operations.

	Opportunity lost to capture part of Offaly's renewable energy resource, generate local employment and diversify local economy
Construction	It is stated that there will be a total investment of around 85 million euro on the project, with local project spend in the region of 21 million euro. It is anticipated that there would be minor beneficial effects for the construction period due to construction contractors using local accommodation. **Tourism**: The overall effects on tourism are considered to be negligible and not significant – it is considered that while Birr castle is considered of medium level of sensitivity, the magnitude of adverse effects is considered low. It is noted that the landholding is owned by a number of private landowners. Legal agreements with these landowners ensure a series of measures designed to minimise any land use effects, particularly disruption to agriculture. The final CEMP (a preliminary CEMP is submitted with the application) is considered sufficient to ensure full mitigation of any impacts on existing activities on the lands. It is stated that the project is not identified to be a likely source of pollution during construction or operational phases, and there is a limited likelihood for significant natural disasters to occur at the project site. It is noted that there are a number of proposed and permitted developments in the area, and there is potential for cumulative effects should the construction phases overlap. It is assessed that none of these are of a sufficient scale or nature to be likely to result in

	cumulative socio=economic, population or human health effects.
Operation	It is estimated that up to five full time equivalent engineers and technicians based in Offaly will be needed to provide operational support to the project. Further employment will be created directly and indirectly for maintenance and inspection. It is noted that Chapter 9 assesses the landscape impacts, and it is concluded that there is no evidence that any landscape impacts would adversely affect the visitor appeal of the area. It is noted that the developer is in discussions with the County Council about possible access to the site. The Developer is committed to a Neighbour Scheme which will offer electricity bill payers living within 1km of a turbine an annual contribution of 1000 euro towards electricity (I note that this has been amended to 2km in the applicant's response to submissions). The project would also provide an annual business rates payment of c.900,000 euro to the County Council. It is noted that a substantial investment will be made to involved landowner. It is concluded that this would result in a likely positive effect of moderate or major importance to the study area. It is noted that noise and shadow flicker impacts are assessed in chapters 11 and 12. It is noted that ice fall is likely to be a negligent risk factor for residents due to the distance from the site, and it is not considered that there would be any EMF (electromagnetic) interference due to the undergrounding of infrastructure. It is concluded that cumulative effects with other existing, permitted or currently proposed developments do not

	have a likelihood to result in in-combination population and human health effects during the operation phase.
Decommissioning	It is concluded that decommissioning impacts are the same as construction phase impacts.

Mitigation

It is concluded that allowing for the implementation of embedded mitigation measure set out int eh EIAR, no likely significant adverse effects have been identified arising in the construction or operational or decommissioning phase that would require specific mitigation measures.

Residual effects.

No significant residual adverse construction, operational or decommissioning effects are assessed as likely to occur.

The Assessment: Direct and Indirect Effects

I have examined, analysed, and evaluated Chapter 4 of the EIAR, the associated documentation and submissions on file in respect of effects on population and human health. I am satisfied that the applicant has presented a good understanding of the baseline environment, and that the key impacts in respect of likely effects on population and human, have been identified.

A number of observers have raised concerns about the impact of the proposed development on human health, but all these issues are more adequately addressed under the noise and shadow flicker sections below. The EIAR in this chapter addresses primary social economic issues and public safety. I would further note that the assessed impacts on tourism relate primarily to the visual impact of these turbines and the cumulative impact with other permitted and constructed windfarms in the area – the section below on Landscape will address these in more detail. But I do concur with the conclusion of this section that notwithstanding any specific viewpoints that may be impacted upon, the overall operational impact on tourism is likely to be negligible. The immediate area around the proposed windfarm is not a key area for tourism – there are no major walking or cycling routes in the immediate

vicinity (although the Council do have a longer term policy of promoting long distance routes through former peatlands). It is unfortunate that proposals for permitting access to the windfarm were not part of the proposal – there is certainly potential for the use of the former peat tracks and bog railway routes to be used for leisure purposes, but it would be *ultra vires* to require this by way of condition.

With regard to risks associated with major accidents and/or disasters, the EIAR notes that the site is not regulated or close to any site under the **Control of Major Accident Hazards involving Dangerous Substances** (e.g. Seveso sites). Should a major accident occur, the potential for sources of pollution on the development are limited and of low environmental risk. Under the section on 'Lands Soils and Geology' section below it is concluded that there is low potential for geological hazard or peat slides.

I further note that a significant number of issues with regard to construction impacts has been left to further agreement with the CEMP. This leaves a certain amount of uncertainty in assessing fully impacts on local agriculture or access but having regard to the necessity to leave some of these issues to agreement with the Council and TII prior to works commencing, I consider that this is reasonable, and I do not consider that it would impact upon the final conclusions of the assessment. As I have outlined in the Planning Assessment section above, the issues raised in regard to access safety relate to the details of the design aspects of the entrances and turning areas – in other respects the site is well connected to the national road network and so suitable for construction access. Operational access will be via existing (improved) accesses.

Conclusion

I would conclude that the information provided in the EIAR is sufficient to allow the impacts of the proposed development to be fully assessed. I am satisfied that the impacts identified on population and human health would be avoided, managed or mitigated by the measures forming part of the proposed scheme. I do not consider that there are any residual effects that have not been adequately identified in the EIAR. Apart from a standard condition relating to final agreement on a CEMP and to the details of a community benefit fund, I do not recommend any specific conditions relating to the socioeconomic or safety impacts of the proposal.

I am, therefore, satisfied that the proposed development would not have any direct, indirect or cumulative significant effects on population and human health.

Biodiversity

Issues Raised

General concerns were raised by local residents about the impact on hedgerows and local wildlife, including possible sand marten activities in the area, in addition to impacts on bird species associated with SPA's in the overall area. Statutory consultees raised a number of concerns relating to the relationship between the site and EU designated habitats – these are addressed in detail in the Appropriate Assessment.

Examination, Analysis and evaluation

The EIAR Biodiversity section was written by 6 named authorities in ecology and ornithology. The direct consultation list is attached in Section 5.1.6 of the Report. In addition to desk studies a series of direct studies were carried out on the terrestrial habitats, including bat, bird and fisheries (summarised section 5.2). The EIAR notes the proximity of EU designated sites and identifies source-receptor pathways, but notes that they are fully assessed in the NIS accompanying the application. It notes the conclusion of the NIS that '…*it can be concluded, beyond all reasonable scientific doubt…. Would not have an adverse effect on the integrity of any European Site*'.

The rationale for identifying ecological connectivity to EU designated sites is extended in the EIAR to NHA's and pNHA's in the area – 18 of such are identified within 20km of the project area. It is concluded, on the same basis of the NIS, that no effect is likely on the identified NHA's.

Baseline

It is stated that no Annex I habitats are identified on the site. The list of habitats identified in the field survey are as follows:

- Mixed Broadleaved woodland (approximately one third of the western part of the site)
- Amenity grassland (adjacent to the golf course and part of the grid connection route).

- Bog woodland
- Buildings and artificial services (farm buildings and the road network)
- Conifer plantation (mostly Sitka spruce over peat)
- Cutaway bog (the main use of the northern section of the site)
- Cutover bog with recently felled woodland (south and centre of the site)
- Cutover bog with scrub (north east of the site)
- Dense bracken (centre of the site and on the periphery of one field)
- Depositing/lowland rivers (The Rapemills river)
- Drainage Ditches – present throughout the site
- Dry meadows and grassy verges -widespread through the site.
- Hedgerows – present throughout the site
- Hedgerow with treeline – present throughout the site.
- Hedgerow with treeline and dense bracken
- Improved agricultural grassland – one of the dominant habitats.
- Improved agricultural land x cutover bog – one section of the north-west of the site.
- Improved agricultural grassland with dense bracken. – a feature of a number of firebreaks.
- Improved agricultural grassland and scrub. Two areas identified.
- Mixed broadleaved/conifer woodland - dominates the western portion of the site.
- Recolonising bare ground – mostly the former agricultural access tracks.
- Scattered trees and parkland -= just south of the Rapemills.
- Scrub – one stand t the south of the site.
- Scrub with hedgerow
- Scrub with immature woodland (mostly willow)
- Spoil and bare ground (mostly agricultural tracks.
- Stone walls and other stonework – mostly on the residential dwellings along the grid connection.

- Treeline [along the N52]
- Wet grassland south of the Rapemills river.

It is noted that there are desk top records for 15 no. Annex 1 species (Table 5.9), with records for 21 no. red listed species and 26 no. amber listed species. It is noted that there is the potential of all the above and other bird species to be present within or nearby the project site. Annex 5-2 of the EIAR provides figures showing flight lines for primary target species – Table 5.9 summarises the cumulative numbers recorded passing through the site during March 2020 to March 2023 inclusive – these are the species considered at risk of turbine collision.

Nine species of 'rare and/or protected mammals' are identified from the records (Annex 5-6), including otter and pine marten, in addition to four invasive species. Pine martens were spotted during field surveys. In addition, the area is considered to have a high bat suitability (a variety of bat species). 12 recorded bat roosts are located within 10km of the site (none within the site).

It is stated that no reptiles or amphibians were recorded in surveys, but the site is considered suitable for amphibians.

A number of butterfly species were recorded during the surveys, with one marsh fritillary recorded in 2021. A dedicated habitat suitability survey for the latter was undertaken in June 2022, with no suitable habitat identified (details in Annex 5-8).

With regard to fisheries and aquatic ecology, a desktop study is shown in Annex 5.4. A number of records for otter were widespread, although old (1980). More contemporary records were identified downriver on the Rapemills watercourse. Water sampling did not identify any rare or protected macro-invertebrate species in samples taken. Note of the survey sites achieved 'good' water quality status under the EU Surface Waters Regulations 2019 (i.e. Water Framework Directive). No rare or protected macrophytes or aquatic bryophytes were identified, and no examples of Annex 1 riverine habitats were identified. DNA sampling did not identify any evidence for freshwater mussels. Brown trout were recorded in the area, but the waters on the site are not considered potential salmonid habitats due to past disturbance and low water quality. Lamprey have been identified on the lower Rapemills, in addition to low numbers of the European eel.

Potential effects

Project Phase	Potential direct, indirect and cumulative effects
Do nothing	Ongoing land management practices likely to continue, general biodiversity of the site likely to remain as is, with some maturing of scrubland. Opportunity to capture part of county's renewable energy resource would be lost.
Construction	The EIAR (Section 5.5.2) outlines the potential construction phase effects. These are primarily due to habitat loss and disturbance to facilitate the construction of turbines and associated infrastructure, including the excavation of cabling trenches, along with indirect effects – e.g. From dust, changes in water run-of, pollution, etc. I note that while the EU sites are acknowledged in the EIAR, the focus of its assessment on potential effects is on wildlife within the site and non-EU designated habitats and species in the area. It is concluded that the project is not located within any nationally designated site. One is adjacent to the grid connection – Dovegrove Callows pNHA. Table 5.6 outlines details but concludes there are no effects. Five other pNHA sites are addressed with regard to indirect effects – these are designated for bats or birds (snipe). It is concluded that there are no potential significant effects. With regards the habitats & flora on and close to the site, it is noted that there will be direct permanent habitat loss, which will extend through the operational life of the site. There will be no loss of Annex I habitats, and no

	identified rare or threatened plant species within the study area. It is noted that the removal of conifer woodland would provide a positive benefit to biodiversity. It is stated that no riparian habitats will be loss (water quality issues are detailed in Section 5.3.7). It is noted that biosecurity measures will be in place to prevent the spread of invasive or non-native plants via plant machinery or vehicles. With regard to birds, no nests of protected species have been identified on site, but their presence cannot be ruled out – the timing of the construction works, and general good practice is intended to ensure no accidental nest removal takes place. It is stated that habitat loss during the works are potentially of importance for IEF (Important Ecological Features) birds – it is stated that the only IEF species close enough to the project footprint are breeding Eurasian woodcock, but it is considered unlikely as no confirmed breeding was detected over three years of surveys. In overall terms, I tis concluded that there are no direct effects from habitat loss. With regard to disturbance, displacement, it is stated that potential effects are likely to be greatest during the breeding seasons. Potential effects are considered unlikely, but a buffer system is in place to avoid disturbing three identified species: Eurasian woodcock, northern lapwing and peregrine falcon. In conclusion it is stated that while significant effects are not likely, the risk of construction disturbance will be further mitigated by avoiding sensitive areas and through the implementation of appropriately defined buffer zones – these are set out in detail in section 5.5.2.

	With regard to indirect effects, it is stated that if the project led to pollution of wetland habitats and/or dewatering, it could result in indirect habitat loss. For terrestrial mammals, it is stated that direct effects could happen through disturbing breeding or resting/hibernating sites. It was noted that a suspected badger sett was recorded c.32 metres from the grid connection. A number of species including deer, hares, pine marten or hedgehogs could be vulnerable to direct disturbance. Indirect effects on terrestrial mammals may include the reduction of habitat availability, and the disturbance from noise and vibration. It is stated that for badger, pine marten, red squirrel and Irish hare, so no significant effects are likely. For bats, direct effects during construction include vegetation removal and the modification of structures. No confirmed bat roosts were recorded within the works footprint, therefore direct effects are considered unlikely. Indirect effects on bats could arise from noise and lighting. Vegetation removal also has the potential for significant indirect effects on three species of bats. Direct effects on amphibians are identified as the destruction of breeding sites and mortality from construction traffic. Indirect effects include loss of foraging habitats. It is concluded that it is unlikely that any significant adverse effects will occur for common frog or the smooth newt. For Fisheries and Aquatic, direct effects would include the loss of natural watercourses. Direct effects are considered unlikely as there are no works proposed on watercourses. Indirect effects would primarily relate to

	pollution effects from the release of suspended solids or hydrocarbons. Acidification of watercourses can also occur doe to conifer plantation
Operational effects	Key direct effects of the operation of the proposed windfarm are considered to be collision impacts for bats and birds. Indirect effects include surface water run-off, operational activities and displacement effects from turbines and lighting. **Designated sites** – There are no anticipated direct effects on any EU designated sites, although figures are given for theoretical collision figures for species associated with NHA's in the overall vicinity. On this basis, it is considered that significant, negative, long term effects on Woodville Woods, Lough Nahinch, and Pallas Lough pNHA's would occur due to collision of snipe, mallard, teal and widgeon. No significant direct effects are expected for otters (Royal Canal pHNA). **Habitats and Fauna**: It is not expected that there would be direct or indirect effects from the operation of the windfarm. **Birds**: There are a significant number of potential direct effects on birds set out, including from disturbance/displacement/barrier effects and direct collision. These can potentially affect the Eurasian woodcock (disturbance from noise) and the blackheaded gull, kestrel, snipe, golde3n plover, teal, wigeon, cormorant, hen harrier, lapwing, mallard, peregrine falcon and whooper swan from collision risk. The EIAR provides a summary of known information and studies on each species as it relates to an Irish context. For the most part, collision risk is considered not likely to be

	significant at the national or regional level for all these species at a county/regional scale. Indirect effects are not considered likely to be significant. **Terrestrial mammals**. Woodland removal for operational reasons likely to be significant, but it is noted that no mammal breeding or resting sites were recorded close to the proposed turbines, therefore it is concluded that it is unlikely that there will be any direct significant effects. Some minor indirect effects are anticipated to hibernating hedgehogs from vegetation removal, especially works to preserve bat buffers around turbines. It is not considered that these are significant effects. Section 5.5.3.5 provides an overview of potential direct effects on the five species of **bat** known to forage in the area. It is noted that mitigation impacts are required to reduce potential direct effects – this primarily involves vegetation removal. Without this, the impact on Leisler's bat is considered to be likely to have a significant effect. The main indirect effect on bats is considered to be from lighting, but it is considered that this is of minimal significance. **Amphibians**: It is considered that there would be no direct or indirect effects on the common frog or smooth newt. **Fisheries and Aquatic**. No direct effects are anticipated as there are no IEF aquatic habitats on the site. Indirect effects (described in Section 5.5.2.7) are considered possible in the absence of mitigation to prevent the release of suspended solids or hydrocarbons.
Decommissioning	It is considered that decommissioning effects are generally similar to construction effects.

Cumulative	The EIAR in Section 5.5.5 and Table 5.12 outlines other developments in the area with which there are potential cumulative effects. These include the nearby Derrinlough Wind Farm (under construction at the time of my site visit), which is 3 km to the north, Cloghan Windfarm, 4km to the north, Meenwaun Windfarm 2 km to the north east, a number of other windfarms within 20 km, and the temporary Met mast on the site. Construction Phase: As there are no hydrological connections with the site with the exception of the Meenwaun Windfarm (within eh same groundwater body), it is considered that there are no cumulative construction effects on freshwater ecology. For operational phase works, it is stated that there are likely significant cumulative effects on birds due to displacement, collision and the barrier effect. The EIAR concludes that there low to no significant cumulative effects for the identified windfarm for any IEA species of birds. This is largely due to the separation distance between the site and these windfarms, and the separation distance between the existing farms. The EIAR makes reference to the EIAR's for these windfarms, where available. It is noted that the temporary mast will be removed before works commence, so there will be no cumulative impacts. With regard to cumulative collision risk, the potential risk for each windfarm has been summed together – Table 5.13 outlines these theoretical figures for each species. It is concluded that in the case of each species, the combined figures would be unlikely to be significant at county or regional scale.

	Bats: The 6 wind farms located within 20km of the site are assessed for the potential for collision and bariotrauma for bats (i.e. mortality due to bats being caught in the low pressure area behind a turbine blade). The EIAR for these sites are summarised. It is concluded that without mitigation, the additive effects of the project in combination with other wind farms are likely to have a cumulative effect on some local bat populations, including high collision risk species such as Leislers bat. There is a residual cumulative risk for some other species.

Mitigation.

Mitigation measures with regard to protecting downstream EU designated sites are addressed in the NIS. The EIAR refers to chapter 7 of the EIAR and the CEMP in Annex 3.4 for a detailed outline of proposed mitigation measures. These include the use of best practice methods for clear felling and protecting surface water quality, the use of buffer zones and the use of sediment traps and other methods to protect water courses, ongoing inspection and surface water quality monitoring, control of earthworks and spoil deposition areas, pre-emptive site drainage management, in addition to such measures of the timing of site construction works with regard to nesting, roosting, feeding and hibernation, as appropriate.

For the operational period, there will be the replacement of hedgerows and treelines and other habitat creation processes, in addition to feathering blades during low wind periods. A number of buffers zones will be created around turbines specifically to discourage foraging bats from going near the rotating turbines. Enhancement measures such as the creation of new habitats, replacement planting, enhancing the riparian zone of Rapemills River and the provision of bat roosts and bird nesting habitat is incorporated into the design. A total of eight no. hibernacula for reptiles are to be created, plus an additional 8 no. for hedgehogs. Details of ongoing monitoring is set out as part of the long term management of the site.

Residual effects:

These are set out in tabular form in Table 5.16.

EIAR conclusion

The EIAR concludes that assuming that the mitigation measures set out in the Chapter are adopted in full there are not likely to be any residual significant effects on important ecological features.

The Assessment: Direct and Indirect Effects

A number of observers raised general concerns about the overall impact of the proposed development on wildlife and local habitats, specifically the possible presence of the *Earc Luachra* (a name ascribed variously to the common lizard and the smooth newt). The applicant states that the section of the EIAR addresses all relevant issues with regard to these species, including the lizard and newt (which were not identified on the site, but the latter could be present in some areas). I note that the proposal includes the provision of 8 no. hibernacula which would be potentially of use for these species.

The DAU outlined a number of issues, specifically with reference to the Golden Plover. The applicant maintains that these were addressed fully in Annex 5-1 of the EIAR and in the NIS. The Board is referred to Annex 4 of the response document which includes further detail on an assessment of potential impacts on the golden plover. This report restates the conclusion of the NIS (and EIAR) that it can be concluded beyond all scientific doubt that the conservation objectives of the River Little Brosna Callows SPA (designated for the golden plover) will not be adversely affected and that Annex 4 includes additional survey information on the flight paths of migratory birds within the bounds of the project. I will address these issues in more detail in the NIS below.

In overall terms, assessing the impacts of the proposed development is somewhat complex given the highly varied nature of the site and the proposed works. A number of detailed design proposals have contradictory impacts – such as the creation of tree-free buffer zones around the turbines which could impact on bird species, while being in place to reduce mortality from foraging bats. The removal of

conifers, while generally a positive for biodiversity and water quality, will in the short run impact on some bird species.

The site is a highly disturbed landscape, featuring a mix of grassland, cutaway bog, some residual areas of bogland, conifer plantation, scrub, regenerating woodland, and other habitats including possibly fragmentary sections of largely untouched raised bog. The proposed intervention (construction and operation) will have a series of generally low significance effects on a wide range of habitats and species across the landholding but will also on overall balance be positive when assessed from the current baseline of a highly degraded series of habitats, in particular as the alternative to the windfarm would appear to be a continuation of conifer plantation on available cutaway bog. The main water feature, the Rapemills River (and its tributaries) is generally of good water quality, primarily due to agriculture and residual impacts from draining and mining the raised bogs. While ideally the potential for rewetting the extracted areas should have been explored, the creation of buffer zones around the river should at least prevent further degradation, and on balance is likely to result in longer term improvements against the current baseline, notwithstanding possible minor short term impacts from conifer removals.

There are a number of pNHA's within 20 km of the site, but in all such cases there are no specific pathways for pollution nor indirect impacts on those designated habitats. It can be concluded that the windfarm would not negatively affect those designated sites.

I note that the DAU is generally satisfied with the information provided and the conclusions reached in the EIAR – a number of specific issues with regard to migratory birds and the golden plover relate to the European designated sites and habitats were addressed in the subsequent response by the applicant, which I consider to be part of the EIA. I do not consider that there are any significant *lacunae* in information or analysis provided in order to ensure a comprehensive analysis and conclusion to the EIA process.

Conclusions

I am satisfied from the information submitted that the overall construction effects will be low in the short term, with generally positive long term effects on biodiversity from the baseline. Having regard to the examination of environmental information in

respect of biodiversity, in particular the EIAR and associated technical reports, and the submissions from the planning authorities and prescribed bodies, I conclude that that the main significant direct and indirect effects of the development on biodiversity are direct loss of scrubland and regenerating cutaway peat, the potential for increased loading and pollution of waterbodies during construction and operation, with the risk of adverse effects on downstream water quality dependent habitats and species, the potential for significant direct and indirect effects on mobile species during construction and the risk of collision by bat species during operation. Furthermore, I considered that these impacts will be mitigated by the application of best practice construction methodologies, as set out in the project documentation, the application of proposed site- and species-specific mitigation measures and with the implementation of the mitigation measures set out in the EIAR, such that no significant adverse effects arise.

Land, Soils & Geology

Issues raised

OCC raised a number of concerns about information submitted on peat stability and the construction of internal construction roads.

Examination, Analysis and Evaluation

The Land, Soils and Geology section of the EIAR was based on a desk study of publicly available databases, a walkover survey, and geotechnical and peat stability assessments, including a total of 170 no. peat probes, in addition to trenching. In addition to the main section, Annex 6.1 includes a peat stability assessment carried out by Fehily Timoney & Company, and Annex 3.4 includes a peat and spoil management plan. The applicant consulted with the GSI and the Department of Agriculture, Food and the Marine during the scoping of the EIA.

Baseline Geology

The project site is largely cut peat, over shallow well drained mineral soils. This overlies gravels and limestones, with some small pockets of tills. Esker ridges extend across the site, consisting of glaciofluvial gravels. Peat probes indicate that

peat depths range from 0 to 5 metres in depth across the site, with an average depth of 2.1 metres. The maximum depth of peat at one of the turbine sites is 4.3 metres. Two turbines are on shallow peaty soil. Figure 6.5 of the EIAR indicates near surface geology at the turbine sites and other building sites.

It is indicated that there are no known areas of soil contamination within the project site, and no record of mines in the immediate area. The underlying bedrock is not exposed due to peat, glacial, and soil overburden. The underlying limestones are not considered likely to be karsified and there are no known karst features within the site.

Peat stability was assessed based on a Factor of Safety (FoS) of 1.3 based on BS6031L1981 'Code of Practice for Earthworks (BSI, 2009). There are no indicators of historic peat failures on the site. It is noted that there is no peat present along the grid connection route and the haul route. Peat sheer strength is considered typical of well drained peat. The study indicates that the project site has an acceptable margin of safety f or peat stability.

The grid connection intercepts part of the Kilcormac Esker, which is a Geological Heritage Area (site code OY018). This part of the route is along a public road. Two other GHA's are in the overall area, but 4km from the site and so are not affected.

Potential effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	Present land uses of regenerating cutaway bog, conifer plantation and agriculture likely to continue.
Construction	It is indicated that the project will involve the removal of peat, soil, subsoil and possibly some bedrock to facilitate the construction of turbines, access tracks, and associated works. Most of the new access roads are to be floating structures over geotextiles. Overburden will be largely used within the site, with some excess material to be stored permanently at 3 no. dedicated spoil deposition areas, which can accommodate up to 86,500 square metres of material. These would be

	graded and seeded after works. The overall effect is determined not to be significant due to the materials on the site being classified as 'low to medium importance, the minimal volume of material to be extracted relative to the size of the site, and the absence of any designated sties of geological heritage within the site. It is acknowledged that contamination of soils/peat by leakages or hydrocarbons are a possible direct effect – negative direct, moderate, short term, likely effects are anticipated without mitigation measures as set out in the draft CEMP. Total permanent development footprint amount to c. 8.54 hectares. This represents a total land use change of 1.8 hectares of agricultural lands, 1.6 hectares of cutover bogs and 23 hectares of forestry. It is considered that the impacted agricultural loss of land is not significant or material, and existing agricultural activities can readily co-exist. 23 hectares of existing forestry (17%) will be lost. Compensatory planting will take place subject to the felling licence conditions. It is concluded that there will be no likely significant effect on land or on land use given the nature of the work and relatively small proportion of land to be used. The peat stability risk assessment is indicated to show that there is an acceptable margin of safety subject to condition and so there is a negative, moderate, direct, unlikely effect on peat stability.
Operation	The operational phase is considered to have few or any effects on land or soil. The only identified possible effects are from minor accidental leaks of fuel or oil during maintenance, or the risk of spills or leaks from electrical transformers.

	The possibility of health effects or of a major risk are considered unlikely with a low risk of peat movement occurring. It is considered that in the light of the proposed control (mitigation measures) the residual risk of a landslide is negligible/none.
Decommissioning	Decommissioning effects are considered to be similar to those with construction but of a substantially reduced magnitude (i.e. imperceptible to slight).
Cumulative	It is considered that as all assessed effects are assumed to be direct and within the vicinity of the site, there is no pathway for the project to act in combination with other existing, permitted and proposed developments.

Mitigation measures.

Detailed mitigation measures for construction and operational phases are set out in section 6.5 and in Annex 3.3 (CEMP). They include standard measures for preventing/reducing erosion of subsoil and stabilising spoil storage heaps, in addition to preventing contamination from works vehicles.

Residual effects.

The residual effect with respect to soil/subsoil erosion are contamination are considered to be imperceptible. With control measures, the risk of peat instability is considered imperceptible.

EIAR conclusion

The conclusion of the EIAR is that the project (including grid connection, haul route works and forestry replanting), will not result in any likely significant effects on lands, soils and the geological environment. Where effects are considered likely to occur, the implementation of best practice construction techniques and appropriate mitigation measures will ensure that residual effects are imperceptible. It is considered that any residual effects are slight and not likely to be significant.

The Assessment: Direct and Indirect Effects

The applicant has provided a comprehensive analysis of the existing baseline environment. None of the submissions or observations have raised significant issues with regards to the assessment of the impacts on soils and geology.

The lands are primarily either cutaway bog, conifer plantation (largely on drained/cutaway bog), or relatively low quality agricultural land on peaty/mineral soils. The works are largely confined to a small area of the overall site. Most access roads are either existing bog/agricultural roads, and new roads will be mostly constructed on floating geotextiles. There are no identified geological outcrops of geological importance, although the cable route will intersect one identified esker, but this route will be along an existing road.

I note that there is substantial quarrying in the area, including very close to the site to the south. These quarries appear to be of glacial gravels with some excavation of limestone. The EIAR does not assess these in any significant detail, but I do not consider that there is any potential cumulative impacts with these works and they are not functionally connected. I would concur with the conclusion of the EIAR that impacts are confined to the boundaries of the site so there are no cumulative impacts with the permitted and existing windfarms in the area.

The applicant has submitted a detailed peat stability study. There are some substantive areas of peat on the site, up to 5 metres in depth in some parts, although it has been drained for some years so is considered quite stable. Although the landscape in the area undulates gently, there are no substantive slopes or hills, and no evidence of any peat instability in the area, despite intensive peat mining. I am satisfied, on the basis of all available information and the information provided by the applicant, that the risk of a significant peat slide is negligible if the submitted mitigation measures are fully implemented.

In overall terms, I am satisfied that the EIAR conclusions are correct and valid and that any impacts on soils or geology are slight and will not be significant. The mitigation measures set out are in line with best practice. I have examined, analysed, and evaluated Chapter 8 of the EIAR and the associated appendices. I am satisfied that the applicant provided sufficient survey data to enable assessment of likely effects on the environment.

Having regard to the detailed assessment carried out, the location of the development in an area which is at low risk of peat failure, the modest footprint of the development, and subject to the detailed and full implementation of proposed mitigation measures, I am satisfied that subject development will not give rise to significant direct, indirect, or cumulative effects on land, soils, or geology of the site.

Ground and Surface Water

Issues raised

A number of submissions raised concerns at downstream impacts on water quality and habitats and at the impact of dewatering for turbine foundations.

Examination, analysis and Evaluation

The EIAR study is based on a desk study of available databases (EPA, GSI, NPWS and the OPW), in addition to a detailed drainage mapping and a Flood Risk Assessment (FRA) (attached in Annex 7.1) in addition to a Geotechnical assessment (as with the previous chapter). As part of the Scoping, Irish Water, the OPW, the Department of Agriculture, Food and the Marine, and the GSI were consulted – none of these responded to the submitted EIAR.

Baseline

The site is within the Lower Shannon Catchment and mostly within the sub-catchment of the Rapemills River, with the grid connection extending into the Little Brosna River sub catchment. The Rapemills rises approximately 8km to the east of the site and flows in a westerly direction through the site. The Little Brosna flows approximately 1km to the southwest of the Dallow substation, which is where the grid connection will terminate.

In addition to the Rapemills River, the site is intersected with channelised minor streams and bog/field drains. The forest areas are drained by mound drains, typical of commercial conifer plantations. There are no records from the OPW River Flood Extents mapping of recurring flood events within the project site or along the grid connection. The closest mapped recurring flooding event is on the Little Brosna, approximately 5km downstream of the closest part of the grid connection. One of the proposed turbines (T2) is located within a 100 year flood zone. A copy of the

relevant National Indicative Fluvial Map for the area is shown in Figure 7.5 of the EIAR.

Existing EPA water quality data of the Rapemills, Little Cloghan and Little Brosna, range in Q-values from around 2-5, 'poor to high'. Testing upstream and downstream of the site (Tables 7.13-1.14) indicates generally good status in most, with one test of moderate status, with relatively low nitrate and phosphorous levels. Under WFD Compliance, the Rapemills has been assigned an overall 'Moderate Status, with an 'at risk' result. The Little Brosna is assigned a 'Good' status and is 'not at risk'.

The groundwater is located mostly within the unbedded limestones underlying the project area. The overlying peat and marl ensure low permeability and so likely limited and slow recharge. In addition to underlying limestone aquifers there is a shallow water table within the peat layer across the site, mostly of perched rainwater. There are no known karst features within the site, with one possible karst spring upstream (Tobernapoula Spring). The aquifers are defined as Locally Important with a small section to the east indicated as of Regionally Importance. Due to low permeability the groundwater vulnerability is mainly moderate, with some high vulnerability rating on the agricultural lands to the east. There are no groundwater source protection areas in the immediate area of the site or grid connection route.

Summary of Potential Effects

Project Phase	**Potential Direct, Indirect and Cumulative Effects**
Do Nothing	No change likely to land use patterns. Maturation of conifer plantation and future harvesting likely to have negative impacts.
Construction	It is stated that a 50 metres exclusion area will be applied to all watercourses for construction and operational purposes, with the exception of where a watercourse) need to be crossed (three crossings identified, one of the Rapemills).

	The below assessment predicts all impacts pre-mitigation. It is stated that tree felling (around 23 hectares of forestry) has the potential by way of drainage and surface water discharge to have indirect, negative, slight, temporary, likely effect on surface water quality. Construction earthworks, by way of drainage and surface water discharge routes, can have an indirect, negative, significant, short term, likely effect on surface water quality. There are no borrow pits proposed, but during some excavation works (i.e. turbine bases), there will be some draw down of groundwater – it is stated that this will be very localised and minor as this is primarily on perched groundwater. The effect is predicted to be direct, negative, slight, brief, unlikely. Dewatering is anticipated to have an indirect, negative, moderate, short term, likely effect on surface water quality, mostly by way of overland flow and via the site drainage network. The accidental release of hydrocarbons or other materials can be a pollution risk to groundwater and/or surface water. It is assessed that negative impacts on groundwater are unlikely due to the nature of the groundwater environment and impermeable subsurface, with indirect, negative, moderate and short term likely effects to surface water quality. The potential release of cement based products in the surface wate system via the site drainage network is considered to be indirect, negative, moderate, short term, likely. There are no proposals to alter natural watercourses, with three crossings of watercourses identified. These

	impacts are assessed as direct, negative, slight, long term and likely. Pre-mitigation hydrologically anticipated effects on designated sites (pNHA and SAC/SPA) are assessed as indirect, negative, slight, short term, unlikely. There is just one turbine (T1) within 1km of a potential down-gradient well. The potential effect on down gradient wells (including possible unmapped wells associated with individual dwellings) is assessed as indirect, negative, imperceptible, short erm, unlikely. An overall effect on the WFD status of waterbodies is set out in Annex 7.3. In summary, the pre-mitigation effects are assessed as direct, negative, imperceptible, brief, likely.
Operation	It is stated that a 50 metre exclusion area will be applied to all watercourses for construction and operational purposes, with the exception of where a watercourse) need to be crossed (three crossings identified, one of the Rapemills). It is stated that tree felling (around 23 hectares of forestry) has the potential by way of drainage and surface water discharge to have indirect, negative, slight, temporary, likely effect on surface water quality. Construction earthworks, by way of drainage and surface water discharge routes, can have an indirect, negative, significant, short term, likely effect on surface water quality. There are no borrow pits proposed, but during some excavation works (i.e. turbine bases), there will be some draw down of groundwater – it is stated that this will be very localised and minor as this is primarily on perched groundwater. The effect is predicted to be direct,

	negative, slight, brief, unlikely. Dewatering is anticipated to have an indirect, negative, moderate, short term, likely effect on surface water quality, mostly by way of overland flow and via the site drainage network. The accidental release of hydrocarbons or other materials can be a pollution risk to groundwater and/or surface water. It is assessed that negative impacts on groundwater are unlikely due to the nature of the groundwater environment and impermeable subsurface, with indirect, negative, moderate and short term likely effects to surface water quality. The potential release of cement based products in the surface wate system via the site drainage network is considered to be indirect, negative, moderate, short term, likely. There are no proposals to alter natural watercourses, with three crossings of watercourses identified. These impacts are assessed as direct, negative, slight, long term and likely. Pre-mitigation hydrologically anticipated effects on designated sites (pNHA and SAC/SPA) are assessed as indirect, negative, slight, short term, unlikely. There is just one turbine (T1) within 1km of a potential down-gradient well. The potential effect on down gradient wells (including possible unmapped wells associated with individual dwellings) is assessed as indirect, negative, imperceptible, short erm, unlikely. An overall effect on the WFD status of waterbodies is set out in Annex 7.3. In summary, the pre-mitigation effects are assessed as direct, negative, imperceptible, brief, likely. It is noted that increased run-off due to the replacement of natural service with lower permeability surfaces

	(approximately 8.65 hectares) would have a direct, negative, imperceptible, permanent, likely effect on existing drainage and run-off volumes. Leakages during operations are considered unlikely, but would have a direct, negative, slight, long term/unlikely impact. Most works are in Food Zone C (i.e. minimal flood risk). Flood risk impacts are considered indirect, negative, imperceptible, long term, likely. The potential hydrogeological effects if piled turbine foundations are used, are considered negative, moderate, direct, short term and likely.
Decommissioning	These are considered to be generally similar to construction phase impacts, but the overall negative effects will be much lower due to reduced groundworks and excavations required.
Cumulative	It is noted that nearby windfarms are completed or near completion, so there should not be cumulative impacts from construction, and operational impacts are minor so should not have a cumulative effect (i.e. neutral effect). Other identified permitted or ongoing works in the vicinity are minor and localised in nature an so significant hydrological cumulative impacts will not occur.

Mitigation

A series of standard mitigation effects for all elements of the works are set out in Section 7.5, which reflect the CEMP submitted with the EIAR (Annex 3.4). These are primarily mitigation by design and avoidance, along with ongoing surface water quality monitoring (including visual monitoring of drains) to identify issues as they arise.

Residual effects

It is considered that the proposed mitigation measures will address all significant residual effects., or are likely to be negative, indirect, likely, long term, but imperceptible effects.

EIAR conclusion

It is concluded that the project presents no likelihood for significant effects on surface or groundwater quality following the implementation of the proposed mitigation measures. The project can be constructed, operated and decommissioned without affecting the WFD status of any waterbody or adversely affecting the achievement of WFD Status.

The Assessment: Direct and Indirect Effects

The consultees and observers did not raise specific issues on water impacts, with the exception of those with the potential for direct impacts on designated habitats or specific species.

The overall site is robust in term of ground and water quality. The water quality of the Rapemills is generally assessed as good, although local drainage patterns have been radically altered over the years as part of the peat cutting and conifer plantation operations. Ongoing water quality issues with the river are mostly associated with run-off from the conifer plantations and cutaway bog. The relatively impermeable peat or mineral soil subsoil level and absence of exposed rock or karstic features ensures that any groundwater impacts are likely to be localised and relatively moderate in effect. I note that from aerial photographs groundwater does appear to be exposed in at least one abandoned quarry in the vicinity. There is sufficient separation distance from the site that I do not consider that this would have a cumulative impact. The separation distance from other windfarms in the vicinity is such that cumulative impacts are likely to be negligible.

The overall impact of the construction and operation of the windfarm is highly dependent on the implementation of a detailed range of mitigation measures to protect both ground and surface waters from contaminated run-off at all stages of the lifecycle of the works. The applicants have proposed a 50 metre buffer around

all watercourses – with the exception of one crossing required of the Rapemills River. The applicant has set out a detailed range of mostly standard construction and operational good practice mitigation measures for such works, which apart from the construction of the turbines and underground grid connection also involves a substantial amount of conifer woodland felling. Ongoing visual inspections and water monitoring is part of the proposed CEMP. There is sufficient attenuation between subsoils and groundwater to ensure that with standard best practice measures impacts on groundwater beyond the site will be negligible.

I am satisfied from the details provided that the overall water environment of the site and area around is sufficiently robust that these generally standard mitigation measures are sufficient to protect the ground and surface water quality of the natural watercourses and groundwater bodies on the site and will ensure negligible impacts off-site. The works will not endanger the WFD classification of the watercourses and will not prevent the achievements of statutory improvements required. I therefore do not recommend any conditions or alterations over and above the requirement for an approved CEMP for the works.

Conclusion

Having regard to the examination of environmental information in respect of water, in particular the EIAR and the technical appendices to the report, I conclude that the main significant direct and indirect effects of the development on are the potential for contamination of ground and surface water during construction and operation, alterations to surface water flows, changes to hydro-morphology (water crossings) and increased risk of flooding (on site and downstream). Further, I conclude that that these impacts will be mitigated by the design of the proposed development, which includes measures to avoid impacts on water bodies (layout) and alterations to surface water flows (drainage design, FFLs), and by the proposed use of standard construction methodologies, which have been demonstrated to mitigate effects on hydro morphology and water quality.

Air Quality and Climate

Issues raised

No significant issues were raised by the applicants with respect to air quality and climate.

Context

The EIAR comprises a desk top evaluation of existing environmental conditions and assesses it within the context of national and EU policy on air quality and climate action. The assessment includes an embodied energy assessment of the wind turbines and associated works, in addition to the loss of forest.

Summary of potential effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do nothing	Air quality to remain at present. CO2 emissions and NOx emissions to rise due to increased use of fossil fuels for electricity generation
Construction	Dust emissions are considered to have the greatest likelihood of effects during the construction phase. The key impacts are anticipated to be from earthworks and excavation activities and the construction of hardstanding areas. The movement of vehicles is likely to be the greatest source of dust that could affect sensitive receptors. It is noted that no demolition works are proposed. The likelihood of dust effects from earthworks are considered, prior to mitigation, to be low. With human health, the likely affect is assessed as negligible. The effect of construction is assessed as to be primarily on human health, with the impact on ecology considered high. The EIAR assesses climate risks (in this case, risks from weather effects), to be negligible, although it is noted that the contractor will be obliged to ensure coverage of spoil heaps, etc., to prevent accidents during times of inclement weather.

Operation	Traffic effects are stated to have been scoped out of the operational phase as they are considered insignificant (based on SEIA published calculations). It is considered that operational impacts will result in significant reductions in air pollution due to the production of approximately 187GWh per annum, displacing existing fossil fuel emissions. The total NOx emission savings over the 35 year lifespan will amount to 899 tonnes of NOx, which is equivalent to 15% of total NOx emissions from power generation in 2020. This Is assessed as a slight positive, long term effect on air quality. As regards climate, the impact on CO2 emissions is assessed as positive. The risk of climate instability to the project is assessed generally as low – referring to the EPA's '*Critical Infrastructure Vulnerability to Climate Change'* Report (EPA 2021). It is noted that mitigation measures are in place to reduce the risk of extreme hot or cold or lightning strikes.
Decommissioning	The impacts on air quality are considered to be imperceptible, temporary and negative for air quality. The life cycle assessment is included within the overall lifecycle assessment for the turbines.
Cumulative	It is assessed that as there are no projects of comparable scale in the near vicinity, operational cumulative effects would not be significant, although in the long term would be beneficial with respect to NOx. Climate impacts are not considered applicable (refers to published guidance).

Mitigation and monitoring

Overall mitigation measures and monitoring for the constructive period are standard construction control measures.

EIAR conclusion

The EIAR concludes that during the construction phase, appropriate mitigation measures will be in place to minimise any likely adverse effects on air quality and climate. During the operational phase the project will result in a long term positive effect on both air quality and climate. The projection of the renewable electricity will have a net positive annual effect on GHG emissions and will contribute to the target of reducing such emissions in Ireland by 2030.

The Assessment: Direct and Indirect Effects

I have examined, analysed, and evaluated Chapter 10 of the EIAR and the associated CEMP. I am satisfied that the applicant has provided sufficient data to enable assessment of likely effects on air quality. The site lies in a rural area and will introduce construction work to the largely agricultural landholding that forms the application site. Likely direct and indirect effects will arise from the increase in traffic, plant and equipment during construction, construction works (e.g. excavation and movement of rock/soils) and comprise an increase in associated vehicular emissions and dust on the public road/in the vicinity of the site.

The overall climate impact of the proposed turbine can reasonably be described as a net benefit nationally, as it would result in a significant step towards achieving national targets in reducing CO2 emissions from electricity production by 2030, in addition to reducing other pollutants from fossil fuel plants currently in use and permitted.

Localised air pollution is likely from the construction of the windfarm, including from vehicular movements and dust arisings from overall construction and the storage of spoil and other materials. The EIAR and associated documentation, including the CEMP, outlines measures to reduce dust emissions from all stages of the works, including decommissioning. I concur with the conclusion of the EIAR that these effects will be low and highly localised. The effect on ecology of uncontrolled dust emissions is potentially high, but I am satisfied that this can be mitigated successfully by way of standard best practice operations on site. I do not recommend any conditions on air or climate beyond standard conditions on the final agreement of a full CEMP.

Conclusion

Having regard to the examination of environmental information in respect of air quality, in particular the EIAR, and subject to the compliance with the mitigation measures set out in the EIAR and application documents, I am satisfied that whilst there will be short term effects on air quality and dust during construction, effects will not be significant. During operation the development will have a long-term positive effect on air quality by reduced emissions associated with the use of fossil fuels and carbon offsetting, with the potential for positive cumulative effects with other wind energy development in the county.

Landscape

Issues raised

Offaly County Council raised a number of issues relating to visual impacts – these relate to the size of the turbines, the choice of location for visualisations and the potential for the turbines to be visible from the vicinity of Birr Castle. A number of observations raised concerns about the views from their dwellings and the overall impact on the landscape. It is noted that the proposed turbines are larger than those permitted in existing and permitted windfarms to the north of the site.

Examination, analysis and evaluation

The EIAR in Chapter 9 provides an overview of the desk top study, fieldwork and appraisal used to analyse the landscape impact of the proposed turbines and associated infrastructure. A set of photomontages from 32 identified viewpoints are included in the analysis. Figure 1 in the photomontages set indicates the viewpoints and also shows the location of existing windfarms within the visual envelope of the site.

The landform of the area is described (9.3.1.1) as an open, relatively uniform landscape dominated by cutover and cutaway bog. The Shannon and associated water features are the prominent feature of the west of the study area. To the east are the uplands of the Slive Bloom. The overall area is intersected by eskers, which create localised areas of elevation. The lands and area around it are characterised by exploited peatland in different stages of rewilding, in addition to improved

agricultural land in pastoral production. There is a substantial are of Sitka spruce within the site and around it. There are a number of partially intact bogs to the south of the study area. Field sizes are varied across the site. In terms of the DoEHLG Wind energy Guidelines 2006, the landscape is characterised as 'Flat Peatland' and 'Hilly and flat farmland'. It is noted that the nearest residential dwelling to any of the proposed turbines is c.590 metres, with another at 800 metres. Both these are owned by individuals involved in the project.

The EIAR notes a number of key landscape policies set out the Offaly County Development Plan – the key policies are summarised in section 9.3.2.2 of the EIAR, including mapping from the CDP indicating the location of the site with regard to landscape designations. It is further noted that the Tipperary County border is less than 4km from the site at its nearest point. The nearest landscape character area in the Tipperary County Development Plan 2022-2027 is LCA 7 – 'Borrisokane Lowlands' and the 'Shannon Callows'.

Figure 9.7 indicates the Zone of Theoretical Visibility (ZTV) of the tip height of the proposed turbines. These theoretically extend up to 10km from the site. It is stated that in practical terms the nature of the landscape (low hills and eskers) reduces clear views. Key transport receptors are noted to be the N62 and N52 national secondary roads, and a number of regional roads. It is stated that the chosen viewpoints were chosen to represent the key community receptors within the ZTV, specifically the settlement of Birr, Ferbane, Shannonbridge, and small villages.

With regard to recognised views in development plans and other relevant sources such as touring maps and guidebooks, Table 9.3 sets out selected relevant views, their source and relevance. It is further noted that the main tourist attractions within the ZTV includes Clonmacnoise, Lough Boora Parklands, the Grand Canal Way, and Birr Castle. Table 9.7 sets out key identified views, either from designated scenic views, amenity/heritage features, or major route. A total of 32 views are selected, and these are indicated in the attached visualisations.

It is noted that with existing windfarms built or permitted in the area there is a potential for significant cumulative impacts. Table 9.8 sets out the criteria for assessing these cumulative impacts. Table 9.14 summarises the Visual Impact Assessment for the representative viewpoint locations. Annex I sets out the full assessment.

Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative effects
Do nothing	No change to current landscape. Regeneration and growth of cutaway bog and conifer plantation to continue.
Construction	The access road construction will have a modest impact as it will take advantage of the existing road/track network. Temporary met mast is on this site – it will be replaced with a permanent 30 metre mast. Minor land alterations as a result of haul routes. Stockpiling of materials will have a impact (see CEMP in Annex 3.4), prior to reseeding and growth. Overall considered to be of high-medium magnitude within the site and immediate surrounds, Medium and low magnitude thereafter.
Operation	The proposed turbines will be a defining character of the local landscape. The scale of the landform and landscape elements and nature of the land use is stated to mitigate the impact. It is noted that wind turbines are already a feature of the landscape character. The magnitude is deemed to be high to medium within the site and immediate environs, reducing to Medium for the remainder of the study area. Beyond 5km It is stated that it will be Low and Negligible. **Amenity & Heritage Locations**: Highest impacts at Meelick Quay (VP10). The magnitude is considered low. Impact from Clonmacnoise (VP1) considered low to negligible due distance.

	Low to negligible from Shannon Harbour (Grand Canal) due to intervening vegetation. All other significant sites, notably Birr Castle, are considered to be fully screened by vegetation. **Scenic Designations**: These are indicated in the visualisations. VP27 is considered high to medium sensitivity, with a 'slight' significance. VP15 is considered to have a moderate to slight significance. VP4 is considered to be moderate to slight. All others are indicated as slight or imperceptible. **Major Routes**: VP3, PP13, VP14, VP18, VP22, VP29 & VP62 are representative of transient views along the main corridor. The highest significance is considered to be 'moderate, negative and long term' (VP13 and VP18, where the N62 passes between the proposed turbines. Others are considered moderate or medium-low, or of lower significance. **Centres of population:** VP22 is from the centre oof Birr. Considered medium sensitivity. VP3 is from Ferbane centre. The latter magnitude is considered medium-low, resulting in moderate—slight significance. **Local Community Views**: 12 no. identified views within 5km of the central study area. These are considered of medium-low sensitivity due to the limited number of receptors. VP17 and VP12 features High-medium impacts.
Decommissioning	Similar to construction phase.
Cumulative	Annex 9.1 includes a full viewpoint annex, with regard to other existing wind farms in the area. It is considered that there is a balance between the increase in clutter and intensity of development against the containment of

	a number of medium-large wind energy developments. It is considered that the cumulative impact is Medium.

Mitigation

For the construction phase, no specific mitigation measures are considered to be required. The management and reinstatement of excavations will ensure that any adverse effects caused are minimised.

For the operational phase it is not considered viable to screen such large turbines. Landscape and visual mitigation measures have been incorporated into the design and layout. Electricity lines will be underground. It is stated that the colour will be industry standard off-white/light grey semi-matt non-reflective finish. For decommissioning phase, it is noted that some of the access tracks may remain in situ.

EIAR conclusions

It is stated in Section 9.6 that it is considered that there will not be any significant landscape or visual effects arising from the project, but there is potential for localised moderate visual impact.

The Assessment: Direct and Indirect Effects

I have examined, analysed, and evaluated Chapter 9 of the EIAR, all of the associated appendices and annexes and submissions on file. I have also inspected the site and the surrounding area. I am satisfied that the applicants understanding of the baseline environment, by way of desk survey, field research and route screening analysis, is comprehensive and that the key impacts in respect of likely landscape and visual effects have been identified.

Furthermore, I am satisfied that the conclusions of the report are generally appropriate, with the main identified direct and indirect effects arising from the introduction of these very large structures to the rural environment, and the potential for landscape and visual effects. I am satisfied that the proposed development will have a significant impact on the landscape character of the development site but, beyond this, given the location of the site in a largely flat landscape and the

prevalence of features within the wider landscape, effects on landscape character outside of the immediate area of the site will not of moderate significance.

With regard to visual effects, I am satisfied that the most significant visual effects of the development occur within 1km of the site, in particular from the N62, which runs on a very straight alignment through the middle of the site. Driving north, turbines are already visible, and the proposed turbines will be very significant features on the landscape. From more distance locations, views will be possible from some elevated areas, mostly along esker ridges, but at distance, located in an open/expansive landscape and not dominant. Cumulative effects will also arise when the turbines are viewed from these more elevated locations, where the development will be seen alongside or in the same landscape (i.e. when looking in different directions), to existing and/or proposed turbines.

In submissions, third parties and prescribed bodies have raised a number of issues in respect of landscape and visual effects. They particularly highlight direct views from the rear of existing dwellings with potential impacts on property values. I cannot rule out that from some dwellings there will be clear views of the moving turbines, but these will be from a significant distance, there will be screening from vegetation between these dwellings and the turbines, and I would also note that the area is very much a working agricultural landscape with a past history of large scale peat extraction and there is an existing large overhead power line running across the site..

The Council highlighted a number of concerns, including the choice of locations for visualisations and the time of year chosen – it is claimed that the photographs were taken in summer with maximum vegetation, and so may understate the impact in winter. The photos were taken in late October, when there was already some visible leaf loss, although no doubt there would be some impact after full leaf loss. I am satisfied that in terms of providing a reasonably accurate assessment and prediction of the visual impact, I consider that the choice of viewpoints and the overall timing of the photographs is reasonable. I am satisfied that from the materials provided, it is possible to reasonably visualise the potential impacts, although of course a conclusion on whether it is reasonable is somewhat subjective.

The very large size of the turbines ensures that they will be quite visible even from a long distance if the viewer is sufficiently elevated in the landscape. I am satisfied

that from the perspective of sensitive locations on designated scenic routes or from Clonmacnoise or key viewpoints on or around the Shannon, the distance and topography ensures that the conclusions are correct, and the impact will be low to negligible and hence acceptable. OCC raised specific concerns about views from Birr and Birr Castle. I note that the upper part of at least one turbine will be visible from a key viewpoint within the historic town of Birr – VP22. This is at a key point entering or leaving the town centre and there are a number of attractive 19th Century buildings in the area. The moving turbine blades will be intermittently visible from some public areas and probably from upper floors in some dwellings. I would consider this to be one of the more serious negative visual impacts from the turbines.

The EIAR concludes that due to the mature tree cover along its southern edge, the turbines will not be visible from within Birr Castle Grounds. OCC raised concerns that it may be visible from upper floors in the castle. This Castle is in private hands and is only open to the public for selected tours. I was not able to establish if turbines are visible from higher up in the castle, but I would consider it likely. I am satisfied, however, that any sight of the blades from any point within the grounds or around the Leviathan would be very slight or negligible due to natural screening.

I note that the EIAR did not specifically address the impact of the temporary works to the main road for construction access. I consider that the visual impact of the removal of hedgerows to provide turning areas and access would be quite significant, but for a relatively short period.

I note that the turbines are larger and have somewhat different proportions to the turbines permitted north of the site. This will have a somewhat discordant impact from some perspectives, but I am satisfied that the distance between the sites are such that the cumulative impact will not be significant.

Conclusion

Having regard to the examination of environmental information in respect of landscape and visual effects in the EIAR, the associated technical appendices, the submissions from the Offaly County Council and from the public, I consider that the main significant direct and indirect effects are significant effects on the landscape character of the site, with the introduction of substantial wind energy development,

significant visual effects for sensitive receptors within 1km of the site, particular where there are open views of the development site, reducing with distance from the development site, and cumulative landscape and visual effects in particular. Effects will be mitigated by reinstatement of temporary construction areas, replacement hedgerow and woodland planting within the site, natural and manmade features within the development site and wider landscape. However, local residual landscape and visual effects will remain. Having regard to research of public perception of wind farm development, I am mindful that such effects will not always be considered as negative and that effects are not of such significance to warrant refusing permission.

Cultural Heritage

Issues raised

OCC raised a number of concerns regarding the visual impact of the turbines on Birr Castle and the heritage town of Birr. Otherwise, consultees and observers did not raise new issues.

Examination, analysis and evaluation of the EIAR

Chapter 10 of the EIAR assessed the site and overall cultural heritage context using a desk top study and field inspection.

Section 10.4 provides an overview of the known historical background of the locality from the Mesolithic period onward. It is noted that peat bogs are a potentially rich source of archaeology, but there are no specific records of finds on this stie. There are no recorded ancient monuments or building s on the NIAH on the site. There are a number of recorded ancient monuments in the overall area – indicated on Figure 10.3.

These include four RMP's within 1km – a holy well (no visible features remaining), a mass rock, and two structures that were identified within cut bogland to the north. One feature is within 100 metres of the grid connection, a ringfort for which no features are now visible. It is noted that from toponym analysis (townland names), that some additional forts or other features may have existed in the area. There are no national monuments in State care within 5km of the site or within 100 metres of

the grid connection. There is one registered national monument within 5km at the site – a motte and bailey c. 5km to the southwest.

Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	There would be no impact on cultural heritage.
Construction	It is considered that there will be a likely permanent, direct and imperceptible construction phase effect on any previously unrecorded archaeological remains on the site which may be discovered during the construction phase. It is likely that there will be a permanent, direct and imperceptible construction phase effect on any townland, parish or barony boundaries. It is assessed that there will be no direct or indirect effect on any recorded monuments or other statutorily protected archaeological features. There are no likely direct or indirect construction phase effect on the architectural resource.
Operation	There are no protected structures within 1km of the site – there are approximately 391 within 5km of the site (mostly in Birr). It is assessed, on the basis of an analysis of photomontages that there will be a likely long term , reversible and slight – not significant operational visual effect on some of these structures. It is assessed that there will be a likely long-term, reversible and imperceptible operational phase effect on Birr Castle and demesne. It is considered that the grid connection and temporary haul route works at the N52/N62 junction will have no likely operational effects on the cultural resource.

Decommissioning	It is assessed that there are no likely decommissioning phase effects on cultural heritage.
Cumulative	It is considered that there would be a long-term, reversible and slight cumulative visual effect on the archaeological and cultural heritage resource with regard to other windfarms in the area.

Mitigation and monitoring.

It is indicated that archaeological monitoring of all excavations, including the grid connection and temporary haul route will be carried out under licence to the DoHLGH. Archaeological monitoring of all excavations of townland, parish and barony boundaries will be carried out. Written and photographic records will be created of any such boundaries.

EIAR conclusions.

The assessment has concluded that there will be a likely residual long term, but reversable and slight—not significant or imperceptible effect on the cultural heritage of the area. In general, most effects are considered to be reversable and will vary from imperceptible to moderate.

The Assessment: Direct, and Indirect Effects

I have examined, analysed, and evaluated Chapter 10 of the EIAR, all the information provided in respect of archaeological, architectural and cultural heritage, and to the submission made by the Department. I am satisfied that the understanding of the baseline environment, by way of desk and site surveys, is comprehensive and that the key impacts in respect of likely effects on cultural heritage have been identified. Notably, the site is largely devoid of above ground features of cultural heritage interest and features identified on the site, although it cannot be ruled out that excavations will discover remains. The closest recorded ancient monument, on cut away bog north-east of the site, is to be removed from the register as it is no longer considered extant.

The potential for sub-surface archaeological features has been clearly identified by the applicant, and pre-development archaeological testing is proposed and in response to the submission the applicant has indicated a commitment to adhering to the Department's recommendation. This matter can be addressed by condition.

The overall visual impact on protected structures and other features of historical importance, in particular around Birr, will be relatively minor but significant. The upper parts of the turbine will be visible from some of the 18th Century public areas around Birr and probably from within those buildings. Birr Castle and Demesne is an exceptionally important site, but I am satisfied that the impacts will be non-permanent (i.e. for the lifetime of the turbines, and generally imperceptible. As noted in the Landscape Section, I cannot rule out that there may be some sight of the turbines from upper rooms in the castle, but these are likely not to be of great significance due to the distance and intervening vegetation.

With regard to features of cultural heritage in the wider landscape, having regard to inspection of the site and the wider area, the location of these features which are largely removed from the development site, the detailed landscape and visual impact assessment carried out, the nature of the development site situated in a largely flat landscape with landscape features significantly limiting distant views across the landscape, I am satisfied that the conclusions of the EIAR are accurate, and that moderate visual effects will arise from the small number of identified cultural features in the immediate area of the site and the wider landscape context for individual sites and features of cultural heritage will change. The local context for these features will not be demonstrably or significantly affected by the development.

Conclusion

Having regard to the examination of environmental information in respect of cultural heritage, it is considered that the main direct and indirect effects comprise the potential for direct adverse effects on sub-surface archaeology, and the landscape and visual effect of the development on the setting of features of cultural heritage (indirect and cumulative effects), with greatest effects on features in the immediate area of the site. The potential for adverse effects on sub-surface archaeology can be mitigated by condition and landscape visual effects will be mitigated by the distance of the development from these features, the character of the landscape in

which the site is situated and landscape features which will screen the visual effects of the development and protect the local setting of these features.

Noise and Vibration

Matters raised

A number of local residents raised concerns on ultrasound impacts from the turbines and associated electrical apparatus. A number of submissions also questioned the accuracy of some of the noise contour maps, in particular the identification of receptors.

Examination, analysis and evaluation of the EIAR

Chapter 11 of the EIAR addresses noise and vibration. It assesses the likely effects of all phases of the works on the nearest noise sensitive locations. It uses proprietary noise calculation software in accordance with ISO 9613.

For noise arising from construction works, construction traffic and vibration, British Standard (BS) and TII standards are referred to (section 12.3.2.1). For operational noise, the EIAR refers to the 2006 Wind Energy Development Guidelines, and the noise limits set out in the document and BS 5228 '*Code of Practice for noise and vibration control on construction and open sites*', in addition to the ETSU Guidance ETSU-R-97, and the relevant Good Practice Guide from the Institute of Acoustics. Account is also taken of the draft Windfarm Guidelines and the WHO Noise Guidelines for the European Region 2018. Table 11.4 and 11.5 sets out threshold levels for significant effects.

It is stated with regard to Low Frequency Noise that the EPA document Guidance Note for Noise Assessment of Wind Turbine Operations at EPA Licensed Sites (NG3) (EPA, 2011), that there is no significant infrasound from wind turbines, and the WHO states that 'there is no reliable evidence that infrasounds below the hearing threshold produce physiological or psychological effects'.

A number of dwellings were identified for installing noise monitoring equipment to establish a noise baseline. These are indicated in Figure 11.6. Table 11.12 sets out derived levels of background noise for various wind speeds.

The EIAR identifies no limitations in respect of the noise and vibration impact assessment, and I am satisfied that no significant limitations are evident.

Potential Effects

Summary of Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do nothing	The noise environment in the vicinity of the subject site and at noise sensitive locations will remain largely unchanged.
Construction	**Turbine locations**: It is considered that no items of plants or machinery would be expected to give rise to noise levels that would be considered in exceedance of acceptable levels. It is assessed to be negative, temporary and slight to moderate. Vibration effects are considered not to be perceptible at any sensitive receptors **Site entrances:** The likely effects are considered to be negative, temporary and slight to moderate. Vibration effects would not be perceptible. **Spoil deposition**: It is considered that noise from laying out spoil would be negative, temporary and slight. Vibration would not be perceptible from any sensitive receptors. **Forestry Planting**: This is not assessed as likely to give rise to significant noise or vibration effects. **Grid Connection**: Where the underground works are within 100 metres of a dwelling, the noise and vibration effects which may be experienced are not likely to be significant or of such a magnitude that vibration damage could take place. **Temporary N52/N62 Junction**. There will be some low level vibration in the laying of hardcore. These are not assessed as likely to exceed the acceptable levels as set out in Section 11.3.1.2. **Traffic movements on the road network**: Based on the CEMP and details in Chapter 13 (material assets), it is considered that the peak number of HGV movements

	during the day would be during turbine foundation construction. There would be up to 160 movements per day. Predicted noise levels would be just below the construction noise criteria of 65 Db. This would occur for 8 days of the construction period. Vibration effects and assessed as not to be significant.
Operation	A worst case scenario for noise levels from the turbines is set out in Tables 11.19 and 11.20. It is assessed that the predicted noise levels at all the selected locations with the highest noise levels at 9m/s are within criteria for both daytime and night time periods. There is no substation proposed, but there is a small electrical control building near the site entrance. This building will be enclosed and will not emit any significant noise to the surroundings. The noise effects are neutral, imperceptible, and long term.
Decommissioning	These are considered similar to the construction effects. They are not considered significant in relation to the nearest noise sensitive locations.
Cumulative	Predicted noise levels in a worst case scenario are set out in Tables 11.20 to 30. A cumulative noise contour map is set out in Annex 11.9. It is not anticipated that cumulative impacts with nearby windfarms would fall outside the standard criteria for daytime and nighttime.

Mitigation.

Section 11.6 addresses mitigation measures. These include detailed standard construction noise and vibration control measures, with further details set out in the CEMP.

With regard to the possibility of low frequency noise being detected, section 11.6.2.1 sets out a commitment for an appropriate detailed investigation by an independent acoustic consultant. Post construction operational noise monitoring will be undertaken – details are enclosed in Annex 11.10.

Residual effects

It is considered that residual construction noise effects are assessed as likely, negative, slight and short term. Residual operational noise effects is likely to be not significant, slight and long term. *EIAR conclusions.*

It is concluded that the noise impact of the development is not assessed as likely to be significant.

The Assessment: Direct and Indirect Effects

I have examined, analysed, and evaluated Chapter 11 of the EIAR, the associated documentation and submissions on file in respect of noise and vibration. I am satisfied that, having regard to the background noise environment, location of the proposed development relative to noise sensitive locations, predicted noise levels from construction plant/equipment and construction traffic, subject to the proposed standard best practice mitigation measures and binding noise limits and hours of construction, no direct, indirect, or cumulative significant adverse effects are likely on NSLs during construction works. The turbines are located generally some distance from sensitive noise locations, of which most are located on the main road network surrounding the landholding. The assessment has concluded that there would be no significant noise and vibration impact during the construction, although road noise levels would be very close to guideline levels during the concrete pour sequence. The site access is on the N62 and is some distance from any dwellings. I am satisfied therefore that construction noise and vibration would not be a serious impact subject to the mitigation measures set out in the CEMP being carried out.

Due to the separation distance of the turbines from nearby dwellings, noise modelling set out in the EIAR anticipates that noise impacts on any sensitive receptor will be within published guidelines levels, including the draft Windfarm Guidelines. It is stated that low frequency noise is not a known issue with either

turbines or the associated infrastructure. A noise monitoring programme is set out with provision for interventions in the event of unanticipated noise or vibration impacts, including low frequency noise. There is no proposal for curtailment if noise levels are breached. The Board may wish to consider a condition setting this if it is considered that the noise monitoring programme as set out in Annex 11.10 is not considered adequate.

I note concerns expressed about the accuracy and details of the noise contour plans and the identification of receptors. The applicant submitted further clarification in its response – I am satisfied that the maps provided are a reasonable representation of the local environment and location of relevant receptors and there is sufficient information provided to conclude that the applicants conclusions are generally correct.

The predicted cumulative noise impacts are stated to be within guideline levels (Table 11.21 and Annex 11.8 and Annex 11.9). This assesses other windfarms only – there are no known other proposals for the area that would be considered likely to contribute cumulatively.

I am satisfied that the proposed development can be constructed, operated, and decommissioned, with noise and vibration levels within the levels set out in established guidelines. The possibility of unanticipated noise, in particular during the operational phase, cannot be entirely ruled out. Ongoing noise monitoring, including low frequency noise and vibration, is therefore important for the operational life of the windfarm – this is set out within the EIAR, but can be confirmed by condition.

Conclusion

Having regard to the examination of environmental information in respect of noise and vibration, in particular the EIAR and supplementary information provided by the applicant, I am satisfied that the main significant direct and indirect effects on noise and vibration arise during the construction phase of the development and that these effects can be mitigated by the application standard good construction practices. During operation, the noise environment in which the development is situated will change, however, noise levels will not be significant and can be controlled by condition. There is no potential for cumulative effects given the absence of

permitted or planned construction activity in the vicinity of the site and significant distance of the development from other existing, permitted, or proposed wind farms.

Shadow flicker

A number of residents have set out concerns that shadow flicker could impact on their dwellings.

Examination, analysis and evaluation of the EIAR

Chapter 12 of the EIAR addresses Shadow Flicker. Its methodology is based on the 2006 Wind Energy Development Guidelines and the draft Revised Wind Energy Development Guidelines 2019. A survey of receptors within 2,000 metres (10-times overall tip height) was carried out, with the details illustrated in Annex 12.1. WindPro software was used to assess likely impacts. The assessment assumes each house is in 'greenhouse mode', i.e. a worst case impact scenario where each building is constructed entirely by glass. It is based on a Vestas V172-7.2 turbine with a cut-in wind speed of 3m/s and a cut out of 25 m/s. The model assumes that rotors are rotating at all time. Table 12.2 (also in Annex 12.2) sets out predicted shadow flicker and anticipated shadow flicker.

Potential effects

Summary of Potential effects:

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	No impacts.
Construction	No impacts during construction.
Operational	23 no. dwellings are anticipated to experience shadow flicker in excess of 30 minutes a day on a worst case scenario. None are expected to be in excess of 30 hours per annum of 'expected' shadow flicker. The highest prediction is for 25 hours per year for one dwelling.
Decommissioning	No impacts during decommissioning.

Cumulative	No assessment was made of adjoining windfarms, but it is considered that they are sufficient distant from the site that there is no possibility of cumulative impacts.

Mitigation measures

It is proposed to fit each turbine with flicker curtailment software to facilitate their shut down if required – i.e. if flicker is anticipated at predetermined time and the sun is shining. It is anticipated that this would ensure that shadow flicker will not exceed any of the relevant limits. It is stated that the impact on overall renewable energy output of the project of such shut downs would be imperceptible. An Outline Shadow Flicker Monitoring Programme is provided in Annex 12.4. It is stated that full details will be agreed in writing with the Planning Authority as part of the discharge of pre-commencement conditions. It is anticipated that with the proposed mitigation measures there would not be any likely significant residual effects on any receptor.

EIAR conclusion

It is concluded that there is no potential for shadow flicker during construction or decommissioning. It is stated that no dwelling/receptor will experience levels of shadow flicker over published current guidelines.

The Assessment: Direct and Indirect Effects

I have examined, analysed, and evaluated Chapter 5 of the EIAR, all of the associated documentation and submissions on file in respect of effects on population and human health. I am satisfied that the applicant has presented a good understanding of the baseline environment, and that the key impacts in respect of likely effects on population and human, have been identified.

The submitted modelling of shadow flicker anticipates that a number of dwellings will have a theoretical exposure to shadow flicker in excess of guidelines, although in a real world scenario it is likely that no houses would be impacted over what is set out in the 2006 Guidelines as 'acceptable'. As mitigation, standard turbine curtailment software will be used in accordance with an agreed shadow flicker monitoring programme. I note that when the draft Guidelines are adopted there may be stricter

standards set out. I am satisfied that if this occurs the issue of shadow flicker can be dealt with such that significant impacts do not arise. Further, in this instance and with an abundance of caution, given the proximity of the development to a relatively large number of dwellings, I consider that compliance with the 2019 draft Wind Energy Development guidelines is not unreasonable as per the Board's standard condition.

Conclusion

Having regard to the examination of environmental information in respect of shadow flicker, in particular the EIAR and supplementary information provided by the applicant, I am satisfied that the main significant direct and indirect effects of shadow flicker arise during the operational phase of the development and that these effects can be mitigated by the application standard good practice and the application of curtailment software. There is no potential for cumulative effects given the absence of permitted or planned windfarms close enough to the site to provide additional impacts.

Material Assets

Matters raised

A number of detailed comments were submitted by TII with regard to traffic proposals. These relate to proposed haul routes and the proposed entrances, including the proposed turning area at the N62/N52 junction. No objections were made on the basis of aviation safety.

Examination, analysis and evaluation of the EIAR

A full CEMP has been submitted with regard to traffic and transport. This has been assessed in the context of a desk study, a site walkover, and national and local guidance on traffic and construction. Table 13.1 sets out relevant CDP Policies. A comprehensive Road Safety Audit is set out in Annex 3.4. The developer has accepted each of the recommendations set out in this RSA. The two main construction accesses will be opposite each other on the N62. It is stated that the entrances will be laid out in accordance with local authority requirements – Appropriate visibility splays are shown in Section 3.4.5. A likely turbine component

haul route is set out in Annex 3.5. It is noted that traffic will also be generated from electricity substation construction, forestry replanting and constructing the grid connection.

It is anticipated that the construction phase will take 15-18 months, during a 6 day week on normal working hours, with the possible extension of works required for specific events, such as 24 hour concrete pours. Vehicle movements are set out in Table 13.6.

Consultation was undertaken with the IAA, the Department of Defence and Ormand Flying Club (Birr Airfield) to establish if any significant effects were likely. Correspondence is attached in Annex 1.7. It is stated that in accordance with standard guidelines, aviation warning lights will be fitted to cranes and to the turbines.

Consultations took place with telecommunication service providers and the relevant authorities. It is also noted that the project site is located within 5km of the Low Frequency Array system (in Birr Castle Demesne). No response was received with regard to LOFAR, but the applicants carried out a specific Radio Telescope Impact Assessment – this is included in Annex 13.3.

It is noted on the basis of a desk study that the site is a significant resource for wind energy. The site is on worked out cut bog and there is significant quarrying activity in the area, although no commercial rock or gravel was encountered during site investigation works for the proposed windfarm. There is a significant 38kV and 110kV electricity transmission network in the area, and the 110kV line is considered the most appropriate connection. In addition, there are local services such as water schemes and roadside drainage infrastructure.

Potential effects

Summary of Predicted Effects:

Project Phase	**Potential Direct, Indirect and Cumulative Effects**
Do nothing	No change anticipated.

Construction	**Traffic**: It is predicted that the overall effect of HGV movements is assessed as not likely to be significant and likely to be moderate-negative, direct and short term. **Aviation**: No significant effects anticipated. **Telecommunications**. No effects anticipated. **Resources and Utilities**: No significant effect is anticipated. There may be some minor, temporary disruption to electrical supply during the process of connecting to the network. The CEMP addresses possible impacts on infrastructure from felling, road works, etc.
Operation	**Traffic**: The windfarm will be unmanned during the operational phase. Occasional abut regular vehicle visits will be undertaken – on average 1-2 no. visits per week. It is considered to be very low, and as such imperceptible. **Aviation**: No impacts are anticipated. **Telecommunications**: No affect anticipated for electromagnetic transmissions. There is a slight-negative and long term possibility of interference with analogue and digital television signals. No significant effects on mobile phone and broadband signals are likely. It is anticipated that there would be a very slight reduction in the minimum horizon of the LOFAR antennae, but it is assessed that this is not likely to be significant and to be indirect, slight negative, and long term. **Resources and Utilities**: It is anticipated that small scale domestic cutting of peat may continue during operational period. Overall likely effects are assessed to be imperceptible.

Decommissioning	This is anticipated to be similar to the construction effects.
Cumulative	There are no indications at the current time that the works will take place at the same time as other major construction in the area, so it is not anticipated that cumulative effects from traffic are likely or will be significant. There are no significant anticipated effects with regard to aviation, telecommunications, or resource/utility infrastructure.

Mitigation measures.

Detailed measures for mitigating impacts of construction are set out in the CEMP. These are standard measures for the protection of utilities. No mitigation measures are proposed for telecommunications. Aviation warning lights will be fitted to all turbines in accordance with IAA requirements.

Residual effects

There are assessed to be no residual effects likely to occur.

The Assessment: Direct and Indirect Effects

I have examined, analysed and evaluated Chapter 13 of the EIAR. I am satisfied that the applicant understanding of the baseline environment, is comprehensive and that the key impacts in respect of likely effects on material assets as a consequence of the development have been identified. Direct and indirect effects arise from construction impacts and potential effects on key services e.g. water, electricity and interference with telecommunications infrastructure. Subject to the implementation of proposed standard good practice mitigation measure, I am satisfied that no significant adverse effects will arise.

As outlined in the Planning Assessment above, TII outlined detailed concerns about the design of the accesses to the N62 and the turning area at the N62/N52 junction. The applicant clarified these details in its response, and I consider that there are no fundamental adverse effects that would arise, subject to agreement and compliance with the CEMP with regard to internal and external haul routes and the proposed

construction accesses. I consider that an appropriate standard condition on the agreement of access and other construction details can address this.

In other respects, I conclude that impacts on resources on the site will be negligible. The proposed development will not significantly alter agricultural use of the land or small scale turbary if it is ongoing, and there does not appear to be any significant stone or gravel resource on the lands. There is adequate electrical infrastructure in the area for a connection. It is not anticipated that there will be an impact on aircraft safety or telecommunications, and any interference with analogue or digital TV, or the LOFAR antennae, are likely to be very minor and negligible.

I am therefore satisfied that the direct and indirect effects on material assets are acceptable subject to conditions.

Conclusion

Having regard to the examination of environmental information in respect of material assets including traffic, telecommunications, aviation and other resource and utilities, in particular the EIAR and supplementary information provided by the applicant and the submission from observers, it is considered that the main significant direct and indirect effects on material assets are potential impacts on key services e.g. water, electricity, and interference with telecommunications infrastructure during construction and operation. Subject to the implementation of proposed standard good practice mitigation measure, I am satisfied that no significant adverse effects will arise on any of these factors.

Interaction of the Foregoing

Issues raised

No specific issues have been raised in respect of significant effects arising from interactions of the foregoing identified impacts.

Examination, analysis and evaluation of the EIAR

Context

Chapter 14 of the EIAR deals with impact interactions. Table 14.1 sets out an interaction matrix. The baseline environment is described in the individual chapters

of the EIAR. The below identified potential effects are based on identified interactions in that matrix.

Potential effects

Summary table of potential effects.

Project Phase	Potential Direct, Indirect and Cumulative Effects.
Do nothing	Nothing
Construction	**Population and Human health and Landscape.** No impacts anticipated **Population and Human health and Noise and Vibration.** The noise prediction model is stated to confirm that the project will not result in noise levels such that there would be adverse effects on population and human health. **Population & Human Health and Shadow Flicker:** None anticipated. **Population & Human Health and Materials Assets:** There are not anticipated to be significant interactions between populations and human health due to the short term nature of the works. There may be minor interference with road access. **Biodiversity and Land & Soils:** The works will mostly take place on already disturbed soils (worked peatland). Residual effects and not considered likely to be significant. **Biodiversity and Water:** Closely linked to the above interactions, no likelihood of significant interactions due to the nature of the works and existing biodiversity. **Land & Soils and Cultural Heritage:** Possibility of excavations revealing archaeology – agreed monitoring and excavation measures to ensure no residual impacts. **Air Quality & Climate and Materials Assets:** Exhaust emission will result in an imperceptible impact on air quality.

	Landscape and Cultural Heritage: No impacts from construction works identified. **Cultural Heritage and Materials Assets:** No identified sensitive items of cultural heritage on haul routes, etc. so no significant impacts predicted.
Operation	**Population and Human health and Landscape.** It is not anticipated that there are likely landscape or visual impacts such that could result in adverse population and human health effects. **Population and Human health and Noise and Vibration.** It is anticipated that with appropriate mitigation measures any significant adverse effects on human health can be entirely eliminated. **Population & Human Health and Shadow Flicker:** It is anticipated that with appropriate mitigation measures any significant adverse effects on human health can be entirely eliminated. **Population & Human Health and Materials Assets.** Operational noise impacts will not result in the generation of likely significant noise levels such that adverse effects on population and human health would occur. **Biodiversity and Land & Soils**: Impacts are only anticipated on habitats of low importance. **Biodiversity and Water:** No likelihood of impacts anticipated. **Land & Soils and Cultural Heritage:** No impacts from operational phase. **Air Quality & Climate and Materials Assets:** As traffic in the operational phase will be very low, no impacts anticipated.

	Landscape and Cultural Heritage: Notes distance between the site and identified sensitive locations, in particular Birr. No significant impacts likely. **Cultural Heritage and Materials Assets**. No operational effects.
Decommissioning	**Population and Human health and Landscape.** Same as construction impacts. **Population and Human health and Noise and Vibration.** Same as construction impacts. **Population & Human Health and Shadow Flicker:** Same as construction impacts. **Population & Human Health and Materials Assets.** Same as construction impacts. **Biodiversity and Land & Soils** **Biodiversity and Water:** Same as construction impacts. **Land & Soils and Cultural Heritage:** Same as construction impacts. **Air Quality & Climate and Materials Assets:** Same as construction impacts. **Landscape and Cultural Heritage** **Cultural Heritage and Materials Assets:** Same as construction impacts.
Cumulative.	No significant effects identified.

EIAR Summary

The EIAR concludes that while all environmental factors are interrelated to some degree, on the basis of the assessment it is not considered likely to result in any likely significant effects that could magnify effects through the interaction or accumulation of affects. It is concluded that the impact of the project on the receiving environment is not likely to be significant. No residual effects are identified from such interactions.

The Assessment: Direct and Indirect Effects

I have examined, analysed and evaluated Chapter 14 of the EIAR, and the associated chapters of the EIAR. I am satisfied that the applicant has identified the key interactions arising for the subject development. Similarly, I would conclude that the greatest number of direct and indirect impact interactions arise for people, biodiversity, and risks to water quality, for all phases of the development with greatest effects during construction. However, having regard to the detailed assessment of likely effects on these parameters, as considered in this report, and with the application of the proposed mitigation measures I am satisfied that no significant adverse environmental effects will arise by virtue of the interaction of impacts. In the longer term, there will be positive interactions arising from the provision of energy from a renewable source.

Reasoned Conclusion

Having regard to the examination of environmental information set out above, to the EIAR and other information provided by the developer, and to the submissions from the planning authority, prescribed bodies and third parties in the course of the application, it is considered that the main significant direct and indirect effects of the proposed development on the environment are as follows:

- Population and human health – Short term direct and indirect negative effects arising from the construction phase on residential amenity and use of the public road, and longer-term the potential for noise, shadow flicker and landscape and visual effects, in particular for residents in proximity to the wind farm site, and with open views of it. These effects will be mitigated by the distance of the dwellings from the construction site, implementation of standard good construction practices, management of construction traffic, distance of turbines from residential dwellings, the local topography intervening vegetation, and controlled operation of wind turbines in accordance with defined parameters for noise and shadow flicker. However, some local landscape and visual impacts will remain. Short term positive effects will arise for the local economy during construction and longer-term positive effects for the local community with the community benefit fund and in the reduction of overall emissions of CO2 and NOx.

- Biodiversity – Long term loss of conifer woodland, regenerating woodland, some treelines and hedgerows arising from the footprint of the development, the potential for increased loading and pollution of waterbodies during construction and operation, with the risk of adverse effects on downstream water quality dependent habitats and species, the potential for significant direct and indirect effects on mobile species during construction and the risk of collision by bird and bat species during operation. Furthermore, it is considered that these impacts will be mitigated by the application of best practice construction methodologies, as set out in the project documentation, the application of proposed site- and species-specific mitigation measures as set out in the EIAR and Annexes.
- Land, soil, water, air and climate – The potential for direct and indirect effects on water quality, particularly during construction, alterations local drainage patterns, localised changes to hydromorphology, and localised effects on air quality (noise and dust). In the longer term there will be an increase in the noise environment of the site with the operation of the wind turbines, and positive effects on climate and air quality. These impacts will be mitigated by the design of the proposed development, distance from sensitive receptors, the use of standard good construction practices and operational controls, which have been demonstrated to effective in preventing adverse effects.
- Archaeology, cultural heritage, landscape, and material assets – Potential direct impacts on unknown features of archaeology, substantial changes to the landscape character of the development site and substantial visual effects in the immediate area or the site and on some viewpoints from the town of Birr, increased road traffic in the vicinity of the site, and interruption to telecommunications/utilities. These impacts will be mitigated by archaeological monitoring of groundworks, revegetation of the site, the landscape and topographic context for the development, the management of traffic in line with the proposed Traffic Management Plan and layout of the development to avoid telecommunications and other infrastructure, preconstruction survey work and liaison with utility/telecom providers. However, local landscape and visual effects will remain.

Having regard to the foregoing, I am satisfied that the proposed development would not have any unacceptable significant direct, indirect, or cumulative effects on the environment.

10.0 **Appropriate Assessment**

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

10.1. **Screening**

Background to the application

The applicant has submitted an Appropriate Assessment Screening Report as part of the Natura Impact Statement (NIS). It has been prepared having regard to national and European guidelines, in respect of appropriate assessment. The report refers to the desk and field surveys carried out of the development site. Appendices in Annex 5.1 of the EIAR (Schedule of Biodiversity Figures) and the relevant chapters outline the baseline, in addition to Annex 3.4 (CEMP) which sets out provisional mitigation measures. This environmental context informs the appropriate assessment screening and subsequent NIS. The screening report identifies European sites likely to be in the zone of influence of the development having regard to the nature, scale and form of the development, the source pathway target approach and catchment mapping, SNH guidelines on 'Assessing Connectivity with Special Protection Areas' and the potential for cumulative effects. On a precautionary basis, this identifies the potential for significant effects on the following European sites:

- Ridge Road, SW of Rapemills SAC (000919)
- River Shannon Callows SAC (000216)
- Lough Derg, South-east Shore, SAC (002241)
- River Little Brosna Callows SPA (004086)

- Middle Shannon Callows SPA (004096)
- All Saints Bog SPA (004013)
- Slive Bloom Mountains SPA (004160)
- Dovegrove Callows SPA (004137)
- Lough Derg (Shannon) SPA (004058);
- River Suck Callows SPA (004097)

Having reviewed the Screening Report, related documents, and submissions, I am satisfied that the information presented in Screening Report allows for a complete examination and identification of any potential significant effects of the development, alone, or in combination with other plans and projects on European sites.

Screening for Appropriate Assessment – Test of Likely Effects

The proposed development is not directly connected with or necessary to the management of a European Site and therefore it needs to be determined if the development is likely to have significant effects on a European site(s). The proposed development is examined in relation to any possible interaction with European sites designated Special Conservation Areas (SAC) and Special Protection Areas (SPA) to assess whether it may give rise to significant effects on any European Site.

Brief Description of the proposed development.

- 8. No. wind turbines with a hub height of 114 metres, a rotor diameter of 172 metres and an overall tip height up to 200 metres and all associated turbine foundations and crane hardstanding areas, with a wind farm control building and communications cabling.
- Underground electrical access tracks and the upgrade of existing agricultural and forestry tracks.
- Construction of internal wind farm access tracks and the upgrade of existing agricultural and forestry tracks; secondary road to provide access for the construction phase, along with upgrade works to 2 no. existing site entrances

from the L30033 and L300321 local roads to provide access during the operation phase.

- 1 no. guy wired meteorological mast with an overall height of 30 metres.
- Ancillary forestry felling to facilitate the construction and operation of wind farm infrastructure,
- Temporary works to public roads along the turbine component haul route, including a vehicle turning area at the junction of the N52 and N62 national secondary roads.
- All associated and ancillary site development, excavation, construction, landscaping, spoil deposition and reinstatement works, including the provision of site drainage infrastructure and environmental mitigation measures life from the date of commissioning of the entire proposed development.

Although not part of the application, for the purposes of the application the underground grid connection is considered as part of the NIS.

Taking account of the characteristics of the proposed development in terms of its location and the scale of works, the following issues are considered for examination in terms of implications for likely significant effects on European sites:

- Habitat loss/fragmentation with effects on mobile QI species.
- Habitat degradation and disturbance of mobile Qi species.
- Potential for adverse effects on water quality dependent mobile species of conservation interest habitats or downstream European sites.

Submissions and observations

The Department of Housing, Local Government & Heritage (DAU) outlined a number of comments on the submitted AA. These concerns apply to the proximity of the River Little Brosna Callows SPA. Concerns are raised with regard to:

- The failure to collate and present in a holistic manner the number of golden plover sight lines and the number of birds recorded on each flight line in the survey (page 71 of the NIS), the proposed avoidance rates for collisions with

golden plover are based on a 92 metre turbine diameter and on very different contextual settings (i.e. UK data). It is noted that Golden Plover are considered to be in an unfavourable condition in the SPA due to recorded declines.

- It is advised that all flocks of Golden Plover recorded at the site must be assumed to be part of the SPA population unless there is contrary evidence.
- It is stated that there is concern at the lack of analysis of white-fronted goose migratory movement in the area.

European sites

There are no European sites on or immediately adjoining the site. A number of sites are within the hydrological catchment and close to haul routes and the grid connection. There are a number of SPA's where birds listed within the conservation objectives may be present on the site or may have migratory routes in the area. A summary of European sites within a possible zone of influence is presented in the table below:

EU Site and distance from project	**Qualifying interests**	**Connections**	**Considered further (y/n)**
Ridge Road, SW of Rapemills SAC 000919 (0.26km)	*Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)*	Terrestrial habitat – no connectivity. Possible impact from dust.	Y
All Saints Bog and Esker 000566 2.22km	*Semi-natural dry grasslands and scrubland facies on calcareous substrates*	Rainwater fed and so not connected to the site, no hydrological or other connections	N

	(Festuco-Brometalia) (important orchid sites) [6210]* *Active raised bogs [7110]* *Degraded raised bogs still capable of natural regeneration [7120]* *Depressions on peat substrates of the Rhynchosporion [7150]* *Bog woodland [91D0]*		
All Saints Bog SPA 004013 2.2km	*Greenland White-fronted Goose (Anser albifrons flavirostris) [A395]*	Species not on the site, but due to proximity some construction disturbance cannot be ruled out.	Y
Ballyduff/Confinane Bog SAC 5 km	*Active raised bogs [7110]* *Degraded raised bogs still capable of natural regeneration [7120]* *Depressions on peat substrates of the Rhynchosporion [7150]* *Bog woodland [91D0]*	Rainwater fed and so not connected to the site, no hydrological or other connections	N

River Shannon Callows SAC 000216 6km	*Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410]* *Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis) [6510]* *Alkaline fens [7230]* *Limestone pavements [8240]* *Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]* *Lutra lutra (Otter) [1355]*	The Rapemills flows into the Shannon Callows so there is connectivity by way of possible water pollution from construction activities.	Y
Lisduff Fen SAC 6.5km	Petrifying springs with tufa formation (Cratoneurion) [7220] Alkaline fens [7230] Vertigo geyeri (Geyer's Whorl Snail) [1013]	Located within a different groundwater body. No hydrogeological or other connectivity.	N
Island Fen SAC 002236	*Juniperus communis formations on heaths*	Located within a different groundwater	N

7km	*or calcareous grasslands [5130]* *Alkaline fens [7230]*	body. No hydrogeological or other connectivity.	
Kilcarren-Firville Bog SAC 000647 9km	*Active raised bogs [7110]* *Degraded raised bogs still capable of natural regeneration [7120]* *Depressions on peat substrates of the Rhynchosporion [7150]*	Rainwater fed and so not connected to the site, no hydrological or other connections	N
Liskeenan Fen SAC 001683 12km	*Calcareous fens with Cladium mariscus and species of the caricion davallianae [7210]*	Located within a different groundwater body. No hydrogeological or other connectivity.	N
Moyclare Bog SAC 000581 12km	*Active raised bogs [7110]* *Degraded raised bogs still capable of natural regeneration [7120]* *Depressions on peat substrates of the Rhynchosporion [7150]*	Rainwater fed and so not connected to the site, no hydrological or other connections.	N
Slieve Bloom Mountains SAC 000412	*Northern Atlantic wet heaths with Erica tetralix [4010]*	Located within a different groundwater body and not	N

14km	*Blanket bogs (* if active bog) [7130]* *Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]*	hydrologically connected. No ecological connectivity.	
Ferbane Bog SAC 000575 15km	*Active raised bogs [7110]* *Degraded raised bogs still capable of natural regeneration [7120]* *Depressions on peat substrates of the Rhynchosporion [7150]*	Not hydrologically or hydrogeologically connected. No ecological connectivity.	N
Lough Derg 002241 15km	*Juniperus communis formations on heaths or calcareous grasslands [5130]* *Calcareous fens with Cladium mariscus and species of the Caricion davallianae [7210]* *Alkaline fens [7230]* *Limestone pavements [8240]* *Alluvial forests with Alnus glutinosa and*	Possible hydrological connection, so possible effects from construction runoff.	Y

	Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] *Taxus baccata woods of the British Isles [91J0]*		
Clonaslee Eskers and Derry Bog SAC 000859 15km	*Petrifying springs with tufa formation (Cratoneurion) [7220]* *Alkaline fens [7230]* *Vertigo geyeri (Geyer's Whorl Snail) [1013]*	Not hydrologically or hydrogeologically connected. No ecological connectivity.	N
Scohaboy (Sopwell) Bog SAC 002206 17km	*Degraded raised bogs still capable of natural regeneration [7120]*	Located within a different groundwater body. No hydrogeological or other connectivity.	N
Fin Lough SAC 000576 18km	*Alkaline fens [7230]* *Vertigo geyeri (Geyer's Whorl Snail) [1013]*	Rainwater fed and so not connected to the site, no hydrological or ecological connections	N
Mongon Bog SAC 000580 19km	*Active raised bogs [7110]* *Degraded raised bogs still capable of natural regeneration [7120]*	Not hydrologically or hydrogeologically connected. No ecological connectivity.	N

	Depressions on peat substrates of the Rhynchosporion [7150]		
Ardgraigue Bog SAC 002356 19km	*Active raised bogs [7110]* *degraded raised bogs still capable of natural regeneration [7120]* *Depressions on peat substrates of the Rhynchosporion [7150]*	Rainwater fed and so not connected to the site, no hydrological or ecological connections	N
Dovegrove Callows SPA 004137 1.7 km from site (100 metres from grid connection)	*Greenland White-fronted Goose (Anser albifrons flavirostris) [A395*	Not recorded on the site, but due proximity cannot be screened out – possible construction disturbance.	Y
River Brosna Callows SPA 004086 1.5km	*Whooper Swan (Cygnus cygnus) [A038]* *Wigeon (Anas penelope) [A050]* *Teal (Anas crecca) [A052]* *Pintail (Anas acuta) [A054]* *Shoveler (Anas clypeata) [A056]*	Within the same groundwater body as the project. Some QI species identified on the site.	Y

	Golden Plover (Pluvialis apricaria) [A140] *Lapwing (Vanellus vanellus) [A142]* *Black-tailed Godwit (Limosa limosa) [A156]* *Black-headed Gull (Chroicocephalus ridibundus) [A179]* *Greenland White-fronted Goose (Anser albifrons flavirostris) [A395]* *Wetland and Waterbirds [A999]*		
Middle Shannon Callows SPA 004096 6km	*Whooper Swan (Cygnus cygnus) [A038]* *Wigeon (Anas penelope) [A050]* *Corncrake (Crex crex) [A122]* *Golden Plover (Pluvialis apricaria) [A140]* *Lapwing (Vanellus vanellus) [A142]*	There is hydrological connectivity via the Rapemills River. Construction (water pollution) and operational (disturbance, bird strike) effects cannot be ruled out for whooper swan, wigeon, golden plover, lapwing and blackheaded gull.	Y

	Black-tailed Godwit (Limosa limosa) [A156] *Black-headed Gull (Chroicocephalus ridibundus) [A179]* *Wetland and Waterbirds [A999]*		
Slieve Bloom Mountains SPA 004160 12km	*Hen harrier*	Four hen harrier flight lines identified, therefore some operational risk to commuting birds.	Y
Lough Derg (Shannon) SPA 004058 15km	*Cormorant (Phalacrocorax carbo) [A017]* *Tufted Duck (Aythya fuligula) [A061]* *Goldeneye (Bucephala clangula) [A067]* *Common Tern (Sterna hirundo) [A193]* *Wetland and Waterbirds [A999]*	There is hydrological connectivity via the Rapemills River. Cormorants recorded on the site.	Y
River Suck Callows SPA 004097 17km	*Whooper Swan (Cygnus cygnus) [A038]*	No hydrogeological connectivity but possible operational (collision) risk to	Y

	Wigeon (Anas penelope) [A050] *Golden Plover (Pluvialis apricaria) [A140]* *Lapwing (Vanellus vanellus) [A142]* *Greenland White-fronted Goose (Anser albifrons flavirostris) [A395]* *Wetland and Waterbirds [A999]*	communting species, including lapwing.	
Mongan Bog SPA 004017 19km	*Greenland White-fronted Goose (Anser albifrons flavirostris) [A395*	No hydrological connectivity and the project site is outside the core foraging range for this species.	N

The Screening Assessment is comprehensive, and I note the comments of the DAU relate to the main NIS, and considered the Screening to be appropriate, as did the other statutory consultees. The proposed development is on a site which is not of EU status but is in hydrological connection with the Brosna/Shannon catchments, and as such I consider it reasonable to screen these designated sites in on the basis of construction impacts – water and related pollution and run-off.

A number of birds associated with SPA's within 20km were identified on the site and a number of commuting routes are known in the area from desk top studies. I therefore consider it reasonable to screen these sites in. The other identified sites are not in hydrological continuity with the site, do not have species identified which may forage or otherwise be present on the site, and there are no potential indirect effects.

Having regard to the foregoing, I am satisfied that there are elements of the proposed development, which alone and in combination with other development and plans in the area of the site, may give rise to significant effects on the Ridge Road, SW of Rapemills SAC (000919); River Shannon Callows SAC (000216); Lough Derg, South-east Shore, SAC (002241); River Little Brosna Callows SPA (004086); Middle Shannon Callows SPA (004096); All Saints Bog SPA (004013); Slieve Bloom Mountains SPA (004160); Dovegrove Callows SPA (004137); Lough Derg (Shannon) SPA (004058); River Suck Callows SPA (004097) European sites, by virtue of downstream effects (water pollution), and the potential for effects on mobile species of conservation interest.

Screening Determination.

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, it has been concluded that the project individually (or in combination with other plans or projects) could have a significant effect on the:

- Ridge Road, SW of Rapemills SAC (000919)
- River Shannon Callows SAC (000216)
- Lough Derg, South-east Shore, SAC (002241)
- River Little Brosna Callows SPA (004086)
- Middle Shannon Callows SPA (004096)
- All Saints Bog SPA (004013)
- Slive Bloom Mountains SPA (004160)
- Dovegrove Callows SPA (004137)
- Lough Derg (Shannon) SPA (004058);
- River Suck Callows SPA (004097)

in view of these site's Conservation Objectives, and Appropriate Assessment is therefore required.

Other European sites in the wider area of the development site can be excluded on the grounds that the development would not be likely to give rise to significant effects on these due to distance, lack of connectivity, including the location of the development site outside of the maximum range of for mobile SCI.

10.2. **The Natura Impact Statement**

The applicant provides a NIS for the proposed wind farm, 'Cush Wind Farm, Natura Impact Statement'. The NIS refers to the individual qualifying interests of the following:

- Ridge Road, SW of Rapemills SAC (000919)
- River Shannon Callows SAC (000216)
- Lough Derg, South-east Shore, SAC (002241)
- River Little Brosna Callows SPA (004086)
- Middle Shannon Callows SPA (004096)
- All Saints Bog SPA (004013)
- Slieve Bloom Mountains SPA (004160)
- Dovegrove Callows SPA (004137)
- Lough Derg (Shannon) SPA (004058);
- River Suck Callows SPA (004097)

and considers the potential for indirect effects, e.g. by of deterioration of water quality or ex situ impacts by way of disturbance. The NIS provides an assessment of potential effects for each phase (construction, operation, and decommissioning) having regard to:

a) The qualifying interests of the European site, Conservation Objectives for the QI and the potential, therefore for adverse effects,

b) The site-specific pressures and threats,

c) QI specific information,

d) Hydrological desk study (local hydrology, hydrogeology, and water quality), and

e) Proposed mitigation measures.

The NIS concludes that, in view of best scientific knowledge and on the basis of objective information, the proposed project will not adversely affect the Qualifying Interests associated with the screened in European Sites. The conclusion is drawn on the basis that potential pathways for effect have been robustly blocked through measures to avoid impacts and the incorporation of best practice/mitigation measures into the project design.

Having reviewed the documents, submissions, and consultations, I am satisfied that the information allows for a complete assessment of any adverse effects of the development, on the conservation objectives of the Ridge Road, SW of Rapemills SAC (000919); River Shannon Callows SAC (000216); Lough Derg, South-east Shore, SAC (002241); River Little Brosna Callows SPA (004086); Middle Shannon Callows SPA (004096); All Saints Bog SPA (004013); Slieve Bloom Mountains SPA (004160); Dovegrove Callows SPA (004137); Lough Derg (Shannon) SPA (004058); River Suck Callows SPA (004097)

alone, or in combination with other plans and projects.

Appropriate Assessment of Implications of the Proposed Development

The following is a summary of the objective scientific assessment of the implications of the project on the qualifying interest features of the European sites using the best scientific knowledge in the field. All aspects of the project which could result in significant effects are assessed and mitigation measures designed to avoid or reduce any adverse effects are considered and assessed. The assessment has regard to government and EU guidelines on appropriate assessment (DoEHLG, 2009, AA of Plans and Projects in Ireland; EC, 2002, Assessment of Plans and Projects significantly affecting Natura 2000 sites; EC, 2018, Managing Natura 2000 sites).

European Sites.

A description of the Ridge Road, SW of Rapemills SAC (000919); River Shannon Callows SAC (000216); Lough Derg, South-east Shore, SAC (002241); River Little Brosna Callows SPA (004086); Middle Shannon Callows SPA (004096); Slieve Bloom Mountains SPA (004160); Lough Derg (Shannon) SPA (004058); and River

Suck Callows SPA (004097], their conservation objectives and qualifying interests are set out in the NIS and summarised in the table below as part of my assessment. I have also examined the attributes and targets for each QI, the Natura 2000 data forms and supporting documents as relevant available on the NPWS website (attributes and targets for each Qi are set out in full in the NIS). I have had regard to the comments of the DAU and the response of the applicant, which referred to all the queries as having been addressed in the full annexes supplied with the NIS and EIAR. I am satisfied that the information required to fully assess the site is available and has been submitted by the applicant.

Appropriate Assessment Summary Matrix

Qualifying Interest	**Potential adverse effects**	**Mitigation measures**	**In-combination effects**	**Can adverse effects be excluded? y/n**
Ridge Road, SW of Rapemills SAC 000919				
Semi-natural dry grasslands and scrubland facies on calcareous substrates; (Festuco-Brometalia) (* important orchid sites)	*Dust from construction vehicles.*	Control of dust measures are set out in Annex 3.4 CEMP. These will eliminate any possible impact on the grasslands and orchids.	No (based on potential for adverse effects)	Yes
All Saints Bog SPA (004013)				
Greenland White fronted goose A395)	*Species not on the site, but due to proximity some construction*	No specific measures.	The NIS outlines modelling and surveying from other wind farms over the area. It concludes that	Yes

	disturbance cannot be ruled out. Estimated by modelling of 0.097 collisions per year.		given the distances between the site and these other farms there is no realistic potential for barrier effects, hence no risk of undermining the conservation objectives.	
River Shannon Callows SAC (000216)				
Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410] *Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis) [6510]* *Alkaline fens [7230]* *Limestone pavements [8240]* *Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]*	The Rapemills flows into the Shannon Callows so there is connectivity by way of possible water pollution from construction activities. *This only affect the alkaline fens.*	Full measures for the control of run-off from the site during construction set out in the CEMP. Mitigation measures by design (for drainage) set out in the main EIAR. As the only potential impact is by way of water, there is no need for mitigation measures for the grassland and limestone pavement habitats of the Callows. The otter is not known to frequent the site and is not considered suitable habitat. A pre construction survey	There are other ongoing and permitted activities, including wind farms, which contribute to the degradation of water quality in the Rapemills and hence the Shannon Callows. It is concluded that the proposed development will not have any in-combination effects with them.	No

Lutra lutra (Otter) [1355]		will be carried out to identify any holts or other activity prior to construction.		
Lough Derg SAC 002241				
Juniperus communis formations on heaths or calcareous grasslands [5130] *Calcareous fens with Cladium mariscus and species of the Caricion davallianae [7210]* *Alkaline fens [7230]* *Limestone pavements [8240]* *Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]* *Taxus baccata woods of the British Isles [91J0]*	Possible hydrological connection, so effects from construction runoff.	Due to distance from the site, the only identified effect is from water pollution on the calcareous fen during construction works. Full mitigation measures are set out in the CEMP.	Potential in-combination effects from water pollution, particularly other windfarms are identified in the NIS. Due to the separation distance and ongoing control measures, it is not considered that there are an in-combination effects.	No
Dovegrove Callows SPA 004137				

Greenland White-fronted Goose (Anser albifrons flavirostris) [A395]	Not recorded on the site, but due proximity cannot be screened out – possible construction disturbance.	Timing of works to ensure grid connection construction on the road does not interfere with this species as it winters in Ireland.	The NIS outlines modelling and surveying from other wind farms over the area. It concludes that given the distances between the site and these other farms there is no realistic potential for barrier effects, hence no risk of undermining the conservation objectives.	No
River Brosna Callows SPA 004086				
Whooper Swan (Cygnus cygnus) [A038] *Wigeon (Anas penelope) [A050]* *Teal (Anas crecca) [A052]* *Pintail (Anas acuta) [A054]* *Shoveler (Anas clypeata) [A056]* *Golden Plover (Pluvialis apricaria) [A140]* *Lapwing (Vanellus vanellus) [A142]*	Within the same groundwater body as the project. Some QI species identified on the site.	Full mitigation measures set out in the CEMP to protect water. Due to attenuation distance from the site and measures set out, no effect from water pollution anticipated. For **whooper Swan**, collision risk is anticipated to have a low risk of mortality rate on the basis of known foraging patters (see paragraph 4.5.5). Wigeon: No wigeon recorded, unlikely many use the site.	In combination effects with other windfarms, in particular Derrinlough (ABP-306706-20) are considered and assessed. Collision risks are considered low for all these species. Overall impact from mortality on conservation objectives is considered to be low. Due to separation distance between windfarms,	No

Black-tailed Godwit (Limosa limosa) [A156] *Black-headed Gull (Chroicocephalus ridibundus) [A179]* *Greenland White-fronted Goose (Anser albifrons flavirostris) [A395]* *Wetland and Waterbirds [A999]*		**Teal.** Overflight of birds recorded. Risk of collision is considered low. **Golden plover**: 14 collisions per year predicted for Derrinlough wind farm (ABP-306706-20). In light of recent population estimates, the predicted mortality is considered low to moderate and would not undermine the conservation objective of the SPA. **Lapwing**: A pair identified on the site, with possible breeding. Site is considered marginal to the overall wintering population on the SPA. **Blackheaded gull:** Predicted mortality is low, risk to undermining conservation objective is considered low.	barrier effects are not considered significant. Other species not considered to be present or at risk.	
Middle Shannon Callows SPA 004096				
Whooper Swan (Cygnus cygnus) [A038]	*There is hydrological connectivity via the Rapemills*	Full mitigation measures set out in the CEMP to protect water. Attenuation	In combination effects with other windfarms, in particular	No

Wigeon (Anas penelope) [A050] *Corncrake (Crex crex) [A122]* *Golden Plover (Pluvialis apricaria) [A140]* *Lapwing (Vanellus vanellus) [A142]* *Black-tailed Godwit (Limosa limosa) [A156]* *Black-headed Gull (Chroicocephalus ridibundus) [A179]* *Wetland and Waterbirds [A999]*	*River. Construction (water pollution) and operational (disturbance, bird strike) effects cannot be ruled out for whooper swan, wigeon, golden plover, lapwing and blackheaded gull.*	distance from the site and measures ensure no effect from water pollution anticipated. For **whooper Swan**, collision risk is anticipated to have a low risk of mortality rate on the basis of known foraging patters. **Wigeon**: No wigeon recorded, unlikely many use the site. **Teal**. Overflight of birds recorded. Risk of collision is considered low. **Golden plover:** 14 collisions per year predicted for Derrinlough wind farm (ABP-306706-20). In light of recent population estimates, the predicted mortality is considered low to moderate and would not undermine the conservation objective of the SPA. **Lapwing**: A pair identified on the site, with possible breeding. Site is considered marginal to the overall	Derrinlough wind farm (ABP-306706-20) are considered and assessed. Collision risks are considered low for all these species. Overall impact from mortality on conservation objectives is considered to be low. Due to separation distance between windfarms, barrier effects are not considered significant. Other species not considered to be present or at risk.	

		wintering population on the SPA. **Blackheaded gull:** Predicted mortality is low, risk to undermining conservation objective is considered low.		
Slieve Bloom Mountains SPA 004160				
Hen harrier	*Four hen harrier flight lines identified, therefore some operational risk to commuting birds.*	Due to distance from the site an lack of suitable habitat, collision risk is considered very low.	Assessed in combination with other permitted windfarms in the area – nots all predicts no or zero risk of collision. Therefore, risk of undermining the conservation objective for maintaining the population of the hen harrier considered to be very low.	No
Lough Derg (Shannon) SPA				
Cormorant (Phalacrocorax carbo) [A017] *Tufted Duck (Aythya fuligula) [A061]* *Goldeneye (Bucephala clangula) [A067]*	*There is hydrological connectivity via the Rapemills River. Cormorants recorded on the site.*	Mitigation measures set out in the CEMP to protect water. Attenuation distance from the site and measures ensure no effect from water pollution anticipated. Cormorants were identified on the site,	Noted that other windfarms in the area did not record cormorants. No anticipated in-combination effects with cormorant or other species.	No

Common Tern (Sterna hirundo) [A193] *Wetland and Waterbirds [A999]*		but due to distance it is considered this is commuting activity only with no records of established use or flight patterns. The other bird species were not identified on the site and the site is not considered suitable habitat.		
River Suck Callows SPA 004097				
Whooper Swan (Cygnus cygnus) [A038] *Wigeon (Anas penelope) [A050]* *Golden Plover (Pluvialis apricaria) [A140]* *Lapwing (Vanellus vanellus) [A142]* *Greenland White-fronted Goose (Anser albifrons flavirostris) [A395]* *Wetland and Waterbirds [A999]*	No hydro-geological connectivity but possible operational (collision) risk to commuting species, including lapwing.	Modelling for mortality for whooper swan, golden plover and lapwing outlined. These indicate relatively low levels of mortality and the overall impact on the conservation objectives is considered low. It is noted with regard to the golden plover that two exceptionally large flocks were noted on the site, but this was considered an anomaly, it is not ideal habitat. No impacts anticipated for white fronted goose.	Figures from other permitted and operating windfarms in the area noted, including Derrinlough. Overall mortality from collisions for all species considered low with no risk of undermining the conservation objectives.	No

Discussion

The NIS sets out detailed tables and analysis for all the European sites identified for which adverse effects could not be ruled out for the identified QI for those sites. The NIS outlines detailed background surveys for each of the key habitats and species and includes mortality (bird strike) mortality and has addressed in combination effects with other developments (existing and permitted) in the area, particularly windfarms. I note the similarities between this site and the Derrinlough Windfarm (**ABP-306706-20**) which was granted permission by the Board in 2021. Many of the same issues were addressed in the NIS for that development.

While 10 no. European sites were identified, the potential impact and connectivity issues largely come down to three potential forms of impact – pollution of downstream freshwater habitats; disturbance of habitats/species from haul routes or works on the grid connection; and potential disturbance/mortality from operating wind turbines.

The Department of Housing, Local Government & Heritage (DAU) in its submission highlighted a number of concerns with regard to information provided, in particular with regard to the golden plover. Two large flocks were identified during the site survey, although the site is not considered to be connected to the SPA's for which they are the qualifying interest. It is unclear if these birds were breeding/feeding on the SPA's, but it is reasonable to assume they are part of the QI (qualifying interest) in the interest of ensuring a complete and adequate assessment. The applicant referred to the detailed surveys in Appendix B of the NIS in response to these concerns and noted that the identified Golden Plover overflights are an anomaly on the site – it is not considered part of their normal flight paths or feeding area.

The applicant, in the NIS, provided very detailed bird survey reports in Appendix B of the document, in addition to aquatic survey reports and other associated documents (Appendix C). The CEMP, submitted as an annex to the main submission and Appendix D of the NIS, addresses the key issues with regard to the protection of aquatic habitats and species breeding or foraging or commuting on the site during the works. I consider this document to be fully in line with best practice, and I conclude that the bird surveys submitted (in addition to modelling on mortality) to be in line with published guidance and best practice.

The applicant's assessment of bird mortality is based on a series of surveys carried out on the site to identify the number/species of birds using the site or commuting across the site, in addition to standard assessment software based mostly on UK data. While there is an obvious potential for ambiguity and uncertainty in the use of such projections, these have been accepted as appropriate in previous appeals/applications and provide a reasonable level of scientific certainty, notwithstanding the inevitable upgrading of information required as more surveys are carried out on existing windfarms in Ireland.

I have had particular regard to the information submitted with the Derrinturn EIAR and NIS. The sites are similar and the potential for effects are similar, although the proposed site has a greater potential for risk to waterways due to the closer proximity of the Rapemills River. I note that the Board concluded in that application that no adverse affects on the integrity of the EU sites would not occur. While in-combination effects, in particular with bird mortality are a potential impact, I am satisfied that from the information submitted and the separation distance between the sites, that there are no potential in-combination affects with regard to SPA QI's.

I am therefore satisfied that sufficient information has been submitted by the applicant with regard to adverse effects on the European sites in the area and that measures that are embodied within the proposed development and standard good practice construction measures are sufficient to address the potential for water pollution from the construction works.

Integrity Test

Following the appropriate assessment and the consideration of mitigation measures, including:

- Measures that are embedded by virtue of the design of the development,
- The detailed arrangements for the management of surface water during all phases of the development, to minimise the potential for water pollution or significant effects on surface water flows (volume and rate of discharge), and the proposed arrangements for monitoring of water quality, as set out in the project description (EIAR, Annex 5.1), the NIS) and CEMP (Annex 3.4),

- The standard good practice nature of the proposed mitigation measures and the efficacy of these to prevent water pollution and for managing flows.
- The absence of potential for cumulative effects with other policies, plans or projects in the area of the site,

I am able to ascertain with confidence that the project would not adversely affect the integrity of in view of the Conservation Objectives of Ridge Road, SW of Rapemills SAC (000919); River Shannon Callows SAC (000216); Lough Derg, South-east Shore, SAC (002241); River Little Brosna Callows SPA (004086); Middle Shannon Callows SPA (004096); All Saints Bog SPA (004013); Slieve Bloom Mountains SPA (004160); Dovegrove Callows SPA (004137); Lough Derg (Shannon) SPA (004058); River Suck Callows SPA (004097). This conclusion has been based on a complete assessment of all implications of the project alone and in combination with plans and projects.

Appropriate Assessment Conclusion

The proposed development has been considered in light of the assessment requirements of Sections 177U and 177V of the Planning and Development Act 2000 as amended. Having carried out screening for Appropriate Assessment of the project, it was concluded that it may have a significant effect on the following European site Ridge Road, SW of Rapemills SAC (000919); River Shannon Callows SAC (000216); Lough Derg, South-east Shore, SAC (002241); River Little Brosna Callows SPA (004086); Middle Shannon Callows SPA (004096); Slieve Bloom Mountains SPA (004160); Lough Derg (Shannon) SPA (004058); and River Suck Callows SPA (004097).

Consequently, an Appropriate Assessment was required of the implications of the project on the qualifying features of these sites, in light of their conservation objectives.

Following an Appropriate Assessment, it has been ascertained that the proposed development, individually or in combination with other plans or projects would not adversely affect the integrity of the European sites, listed above, or any other European site, in view of the site's Conservation Objectives. This conclusion is based on a complete assessment of all aspects of the proposed project and there is no reasonable doubt as to the absence of adverse effects.

11.0 **Recommendation**

I recommend that permission for the proposed windfarm be granted for the following reasons and considerations, subject to the conditions set out in the schedule below.

12.0 **Reasons and Considerations**

a) National policy including the Climate Action Plan 2024, with regard to the development of alternative and indigenous energy source sand the minimisation of emissions from greenhouse gases,

b) Eastern and Midlands Regional Spatial and Economic Strategy, 2019-2031,

c) 'Wind Energy Guidelines: Guidelines for Planning Authorities' issued by the Department of the Environment, Heritage and Local Government in June 2006, and the draft Wind Energy Guidelines published by the Department of Housing, Local Government and Heritage in December 2019,

d) The relevant policies of the planning authority as set out in the Offaly County Development Plan 2021-2027

e) The character of the landscape in the area and the absence of any ecological designation on or in the immediate environs of the wind farm site,

f) The characteristics of the site and the general vicinity.

g) The pattern of existing and permitted development in the aera, including other wind farms,

h) The distance to dwellings or other sensitive receptors from the proposed development, the environmental impact assessment report,

i) The Natura Impact Statement,

j) the submissions made in connection with the application and the response.

The Board considered that the environmental impact assessment report, supported by the documentation submitted by the applicant, adequately considers alternatives to the proposed development and identifies and describes adequately the direct,

indirect, secondary and cumulative effects of the proposed development on the environment.

The Board agreed with the examination, set out in the Inspector's report, of the information contained in the environmental impact assessment report and associated documentation submitted by the applicant and submissions made in the course of the application.

The Board considered, and agreed with the Inspectors reasoned conclusions, that the main significant direct and indirect effects of the proposed development on the environment are as follows:

- Population and human health – Short term direct and indirect negative effects arising from the construction phase on residential amenity and use of the public road, and longer-term the potential for noise, shadow flicker and landscape and visual effects, in particular for residents in proximity to the wind farm site, and with open views of it. These effects will be mitigated by the distance of the dwellings from the construction site, implementation of standard good construction practices, management of construction traffic, distance of turbines from residential dwellings, intervening vegetation, and controlled operation of wind turbines in accordance with defined parameters. However, local landscape and visual impacts will remain. Short term positive effects will arise for the local economy during construction and longer-term positive effects for the local community with the community benefit fund.

- Biodiversity – Long term loss of broadleaved woodland, treelines and hedgerows arising from the footprint of the development, the potential for increased loading and pollution of waterbodies during construction and operation, with the risk of adverse effects on downstream water quality dependent habitats and species, the potential for significant direct and indirect effects on mobile species during construction and the risk of collision by bird and bat species during operation. Further, it is considered that these impacts will be mitigated by the application of best practice construction methodologies, as set out in the project documentation, the application of proposed site- and species-specific mitigation measures.

- Land, soil, water, air and climate – The potential for direct and indirect effects on water quality, particularly during construction, alterations to surface water flow paths, changes to hydromorphology, increased risk of flooding, and localised effects

on air quality (noise and dust). In the longer term there will be an increase in the noise environment of the site with the operation of the wind turbines, and positive effects on climate and air quality. These impacts will be mitigated by the design of the proposed development, distance from sensitive receptors, the use of standard good construction practices and operational controls, which have been demonstrated to effective in preventing adverse effects.

- Archaeology, cultural heritage, landscape, and material assets – Potential direct impacts on unknown features of archaeology, substantial changes to the landscape character of the development site and substantial visual effects in the immediate area or the site, increased road traffic in the vicinity of the site, and interruption to telecommunications/utilities. These impacts will be mitigated by archaeological geophysical survey and archaeological monitoring of groundworks, revegetation of the site, the landscape context for the development, the management of traffic in line with the proposed Construction and Environmental Management Plan and layout of the development to avoid telecommunications and other infrastructure, preconstruction survey work and liaison with utility/telecom providers. However, local landscape and visual effects will remain.

Appropriate Assessment - Stage 1

The Board considered the Screening Report for Appropriate Assessment, the Natura Impact Statement and all the other relevant submissions and carried out both an appropriate assessment screening exercise and an appropriate assessment in relation to the potential effects of the proposed development on designated European Sites. The Board agreed with and adopted the screening assessment and conclusion carried out in the Inspector's report that the following European site in respect of which the proposed development has the potential to have a significant effect is the following European Sites:

- Ridge Road, SW of Rapemills SAC (000919);
- River Shannon Callows SAC (000216);
- Lough Derg, South-east Shore, SAC (002241);
- River Little Brosna Callows SPA (004086);
- Middle Shannon Callows SPA (004096);

- All Saints Bog SPA (004013);
- Slieve Bloom Mountains SPA (004160);
- Dovegrove Callows SPA (004137);
- Lough Derg (Shannon) SPA (004058);
- River Suck Callows SPA (004097)

Appropriate Assessment – Stage 2

The Board considered the Natura Impact Statement and associated documentation submitted with the application, the mitigation measures contained therein, the submissions and observations on file, and the Inspector's assessment. The Board completed an appropriate assessment of the implications of the proposed development for the European sites for which potential to have a significant effect had been identified, 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 Site.

In completing the Appropriate Assessment, the Board accepted and adopted the Appropriate Assessment carried out in the Inspector's report in respect of the potential effects of the proposed development on the aforementioned European Sites, having regard to the sites 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 these sites Conservation Objectives.

Proper Planning and Sustainable Development

It is considered that, subject to compliance with the conditions set out below, the proposed development would be in accordance with the National Planning Framework, the Regional Spatial and Economic Strategy of the Southern Region 2020 and the provisions of the Offaly County Development Plan 2021-2027. It would:

- make a positive contribution to Ireland's national strategic policy on renewable energy and its move to a low energy carbon future,
- not have an adverse impact on the landscape,
- not seriously injure the residential or visual amenities of the area,
- not adversely affect the natural heritage,
- not adversely impact the road network in the area, and
- be acceptable in terms of traffic safety and convenience.

The proposed development would, therefore, be in accordance with the proper planning and sustainable development of the area.

13.0 **Conditions**

1. The development shall be carried out and completed in accordance with the plans and particulars lodged with the planning application, 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 prior to the commencement of development and the proposed development shall be carried out and complied in accordance with the agreed particulars.

   Reason: In the interest of clarity.

2. The period during which the development hereby permitted may be carried out shall be ten years from the date of this Order.

Reason: Having regard to the nature and extent of the proposed development, the Board considered it appropriate to specify a period of validity of this permission in excess of five years.

3. The permission shall be for a period of 30 years from the date of the commissioning of the wind turbines. The wind turbines and related ancillary structures shall then be decommissioned and removed unless, prior to the end of the period, planning permission shall have been granted for their continuance for a further period.

Reason: To enable the relevant planning authority to review the operation of the wind farm in the light of the circumstances then prevailing.

4. The following design requirements shall be adhered to:

(a) The wind turbines shall be designed to a hub height of 114 metres, a rotor diameter of 172 metres and an overall tip height of 200 metres, in accordance with the turbine option assessed in the Environmental Impact Assessment report and the Natura Impact Statement together with the other application documentation.

(b) The wind turbines, including masts and blades, and the wind monitoring mast, shall be finished externally in a light grey colour.

(c) Cables within the site shall be laid underground.

(d) No advertising material shall be placed on or otherwise affixed to any structure on the site without a prior grant of planning permission.

Reason: In the interest of clarity and visual amenity.

5. a. The developer shall ensure that all construction methods and environmental mitigation measures set out in the Environmental Impact Assessment Report, the Natura Impact Statement and associated documentation are implemented in full in conjunction with the timelines therein, except as may otherwise be required in order to comply with the following conditions.,

b. Prior to commencement of development, the developer shall submit to, and agree in writing with, the planning authority a schedule of these

mitigation measures and monitoring commitments, and details of a time schedule for implementation of these. This programme shall include hydrographic monitoring of the site after rainfall events commencing preconstruction and concluding year 3 of the operational phase of the development. The results of the monitoring and reports arising shall be made available to the planning authority, Inland Fisheries Ireland and the National Parks and Wildlife Service.

c. Prior to commencement of development, a revised Biodiversity and Enhancement Management Plan shall be submitted to the planning authority for written agreement, to include management of spoil storage areas and replacement hedgerows and treelines, for wildlife over the life of the wind farm and an integrated approach to all biodiversity enhancement measures proposed in the application documents.

Reason: In the interest of clarity and the protection of the environment during the construction and operational phases of the development.

6. The construction of the proposed development shall be managed in accordance with a final Construction and Environmental Management Plan, to include a final Traffic Management Plan, which shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development.

. The CEMP shall include but not be limited to operational controls for dust, noise and vibration, waste management, protection of soils and groundwaters and surface waters, protection of flora and fauna, site housekeeping, emergency response planning, site environmental policy, waste management, project roles and responsibilities.

. The CEMP shall include the location of all archaeological or cultural heritage constraints, as identified in the EIAR. The CEMP shall clearly describe all identified likely archaeological impacts, both direct and indirect, and all mitigation measures to be employed to protect the archaeological or cultural heritage environment during all phases of site preparation and construction activity.

. Prior to the commencement of development, the developer shall submit to, and agree in writing with, the planning authority arrangements for phasing of construction works, following consultation with the National Parks and Wildlife Service.

. **Reason**: In the interest of environmental protection and residential amenity.

7 (a) The delivery of large-scale turbine components for the construction of the wind farm shall be managed in accordance with a finalised Traffic Management Plan. This plan shall provide details of the road network to be used by construction traffic, including oversized loads, and detailed arrangements for the protection of bridges, culverts and other structures to be traverses, as may be required. The plan shall also contain details of how the developer intends to engage with relevant parties (county councils, PPP companies etc.) and notify the local community in advance of the delivery of oversized loads.

. (b) Any proposed works to the national road network to facilitate turbine delivery shall comply with the requirements of TII.

Reason: In the interest of public safety and residential amenity.

8 The developer shall retain the services of a suitably qualified and experienced Ecologist (to perform the role of Ecological Clerk of Works) to undertake pre-construction surveys at the various project elements, immediately prior to commencing work to check for the presence of protected species in the vicinity.

Reason: To protect biodiversity.

9 Prior to the commencement of development, details of a post construction monitoring and reporting programme for bats, as indicated in the Bat Report, shall be submitted to and agreed in writing with the planning authority. The monitoring shall be undertaken by a suitably qualified and experienced bat specialist to identify any measures required to mitigate any identified effects. The survey shall be completed annually for a period of 3

years following the commissioning of the wind farm and copies of the report shall be submitted to the planning authority.

Reason: To ensure the appropriate monitoring of the use of the site by bat species.

10. The operation of the proposed development, by itself or in combination with other permitted wind energy development, shall not result in noise levels when measured externally at nearby noise sensitive locations which exceed:

.(a) Between the hours of 0700 and 2300:

. (i) the greater of 5dB(A) L90, 10min above background noise levels or 45 dB(A) L90, 10min at standardized 10-meter height above ground level at wind speeds of 5m/s or greater.

.(ii) 40 dB(A) L90, 10min a= at all other standardised 10-metre height above ground level wind speed.

.(b) 43 dB(A) L90, 10min, at all other times.

.Prior to the commencement of development, the developer shall submit to and agree in writing with the planning authority a noise compliance monitoring program for the subject development, including any mitigation measures such as the de-rating of particular turbines to accord with the above limits and to comply with the site specific Noise Limits presented in the EIAR. All noise measurements shall be carried out in accordance with ISO Recommendation R1996 “Assessment of Noise with Respect to Community Response” as amended by ISO Recommendation R 1996-1. the results of the initial noise compliance monitoring shall be submitted to and agreed in writing with the planning authority within six months of the commissioning of the wind farm.

Reason: in the interests of residential amenity.

11. (a) Appropriate software shall be employed on each of the turbines to ensure that there will be no shadow flicker at any existing nearby dwelling.

Turbine shutdown shall be undertaken by the wind energy developer or operator in order to eliminate the potential for shadow flicker.

(b) A report shall be prepared by a suitably qualified person in accordance with the requirements of the planning authority indicating compliance with the above shadow flicker requirements at dwellings. Within 12 months of the commissioning of the wind farm, this report shall be prepared and submitted to, and agreed in writing with, the planning authority. The developer shall outline proposed measures to address any recorded non-compliances, controlling turbine rotation if necessary. A similar report may be requested by the planning authority at reasonable intervals thereafter.

Reason: In the interest of residential amenity

12. In the event that the proposed development causes interference with telecommunication signals, effective measures shall be introduced to minimise interference with telecommunication 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 prior to the commissioning of the turbines and following consultation with relevant authorities.

Reason: In the interest of protecting telecommunication signals and residential amenity.

13 (a) Prior to commencement of development, the developer shall submit for written agreement of the planning authority, details of an obstacle warning light scheme which can be visible to night vision equipment.

.(b) Details of aeronautical requirements shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. Prior to commissioning of the turbines, the developer shall inform the planning authority and the Irish Aviation Authority of the as-constructed tip heights and co-ordinates of the turbines and wind monitoring mast.

Reason: In the interest of aviation safety.

14 . The developer shall facilitate the archaeological appraisal of the site and shall provide for the preservation, recording and protection of archaeological materials or features which may exist within the site. In this regard, the developer shall:

. (a) notify the planning authority in writing at least four weeks prior to the commencement of any site operation (including hydrological and geotechnical investigations) relating to the proposed development, and

. (b) employ a suitably-qualified archaeologist prior to the commencement of development. The archaeologist shall assess the site and monitor all site development works.

. The assessment shall address the following issues:

. (i) the nature and location of archaeological material on the site, and

. (ii) the impact of the proposed development on such archaeological material.

A report, containing the results of the assessment, shall be submitted to the planning authority and, arising from this assessment, the developer shall agree in writing with the planning authority details regarding any further archaeological requirements (including, if necessary, archaeological excavation) prior to commencement of construction works.

In default of agreement on any of these requirements, the matter shall be referred to An Bord Pleanála for determination.

Reason: In order to conserve the archaeological heritage of the area and to secure the preservation (in-situ or by record) and protection of any archaeological remains that may exist within the site.

15. On full or partial decommissioning of the wind farm, or if the wind farm ceases operation for a period of more than 1 year, the turbines and all decommissioned structures shall be removed, and foundations covered with soil to facilitate revegetation. These reinstatement works shall be completed to the written satisfaction of the planning authority within three months of decommissioning or cessation of operation.

Reason: To ensure a satisfactory reinstatement of the site upon cessation of the project.

16 Prior to commencement of development, the developer shall lodge with the planning authority a cash deposit, a bond of an insurance company, or such other security as may be acceptable to the planning authority, to secure the reinstatement of public roads which may be damaged by the transport of materials to the site, coupled with an agreement empowering the local authority to apply such security or part thereof to the satisfactory reinstatement of the public road. The form and amount of the security shall be as agreed between the planning authority and the developer or, in default of agreement, shall be referred to An Bord Pleanála for determination.

Reason: To ensure the satisfactory completion of the development.

17 The developer shall pay to the planning authority a financial contribution in respect of public infrastructure and facilities benefiting development in the area of the planning authority that is provided or intended to be provided by or on behalf of the authority in accordance with the terms of the Development Contribution Scheme made under section 48 of the Planning and Development Act 2000, as amended. The contribution shall be paid prior to commencement of development or in such phased payments as the planning authority may facilitate and shall be subject to any applicable indexation provisions of the Scheme at the time of payment. Details of the application of the terms of the Scheme shall be agreed between the planning authority and the developer or, in default of such agreement, the matter shall be referred to An Bord Pleanála to determine the proper application of the terms of the Scheme.

Reason: It is a requirement of the Planning and Development Act 2000, as amended, that a condition requiring a contribution in accordance with the Development Contribution Scheme made under section 48 of the Act be applied to the permission.

.

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.

Philip Davis
Senior Planning Inspector

3rd October 2024