An Bord Pleanála

Inspector's Report ABP 306748-20

Development	1 wind turbine
Location	Ticknevin, Carbury, Co. Kildare
Planning Authority	Kildare County Council
Planning Authority Reg. Ref.	19/1323
Applicant	Cloncant Renewable Energy Ltd.
Type of Application	Permission
Planning Authority Decision	Refuse
Type of Appeal	1st Party v. refusal
Appellant	Cloncant Renewable Energy Ltd.
Observers	(1) Wild Kildare (2) Kildare Environmental Awareness Group
Date of Site Inspection	10/07/20
Inspector	Pauline Fitzpatrick

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1.0 Introduction

This appeal comprises part of an overall windfarm development comprising of 9 turbines, substation and grid connection. The proposal straddles the administrative boundaries of Counties Offaly and Kildare. 8 no. turbines are within Co. Offaly and 1 no. in Co. Kildare. A concurrent appeal for the 8 no. turbines in Co. Offaly is before the Board under ref. 306924-20.

2.0 Site Location and Description

2.1. The overall windfarm site has a stated area of 63.9 hectares of which 3.23 hectares (6.5%) is within Co. Kildare in the townland of Ticknevin. The site is approx. 7km north of Rathangan and 6km south of Edenderry. Clonbulloge is c.4km to the south-west with Clonbulloge airfield located c. 5.5 km to the south-west. The Grand Canal is located c. 4km to the north at its closest point.

2.2. The site roughly follows the line of the River Figile extending in a linear trajectory for approx. 9km. The Cushaling River joins the Figile River approx. halfway between turbines T6 and T7. It comprises of largely cutover bog in the western section drained by a network of south/north orientated man-made peat drains, commercial forestry in the centre and grassland in the eastern section. Turbines T1 to T3 are located in an area where the peat has been removed to a depth of 2 metres or more. The remaining turbines are located in a corridor of agricultural land which is bounded to the north and south by bog where there has been significant peat harvesting.

2.3. The site straddles the L1001 (Offaly)/L3001(Kildare) connecting Edenderry and Rathangan with access also from the L50062 which is accessed from the R401 to the north-west. The general area is characterised by a mix of commercial peat extraction and farmland with housing dispersed throughout. The nearest dwellings form a cluster at the junction of the L50062 and R401 in addition to a number of dwellings along a minor road further north. The Edenderry power station is c. 1.2 km to the west of turbine no.1 (T1). The location of the proposed substation is opposite the Edenderry Power Station with the lands in agricultural use.

2.4. The topography of the site is flat, and lies at an elevation of between approx. 65-70 metres O.D. The surrounding landscape is of a similar topography, with the most

significant feature being Croghan Hill, located c.14 km northwest of the site, at an elevation of 234 metres O.D. Ballykilleen Hill at approx. 109m OD is c. 2.2km to the north-west with Drumcooly Hill at 104m OD c. 3km to the north. The Edenderry power station is evident in views in the general vicinity with Mount Lucas windfarm visible further afield.

2.5. In terms of other windfarm development in the vicinity the following are noted:

- Cloncreen windfarm which secured permission under ref. PA0047 is c. 2km to the west and will provide for 21 turbines.
- Mount Lucas windfarm is c. 8.5km to the west which is operational with 28 turbines.
- Yellow River windfarm which secured permission under ref. PA0032 is c. 15km to the north-west and will provide for 29 turbines
- Moanvane windfarm which secured permission under ref. 301619-18 (17/335) is c.12 km to the south west and will provide for up to 12 turbines.
- Drehid windfarm which is subject of a concurrent appeal is seeking permission under ref. 306500-20(18/1534) for 12 turbines on a site c. 10km to the north-east.

3.0 **Proposed Development**

3.1. In the interests of completeness, the following sets out the nature and extent of the overall development:

3.2. A 10 year permission is being sought for:

- 9 no. wind turbines with a tip height of 187 metres and rotor diameter 163 metres. 1 no. is within the administrative boundary of Kildare County Council and subject of this application and appeal.
- 4,750 km (approx.) of new internal access roads
- Upgrade of 3.5km of local road L50062 including upgrade of bridge over Figile River.

- 1 no. 24 metre clear span bridge over Figile River providing access between turbines 3 and 4
- 7000m^2 soil/peat storage area between T7 and T8
- Recreation trail c. 2.950 m in length including footbridge over River Figile
- Anemometry mast
- 2 no. construction compounds
- Off-site and on-site blade transfer station
- A substation with battery energy storage c. 150 metres to the west of the existing Eirgrid substation at Edenderry Power Station.
- Connection from the windfarm to the proposed substation via underground cabling along local road L50062 and R401 regional road.

3.3. The site is to be served by 3 no. entrances; a western entrance from the R401; and two entrances from the L1001 (crossing between turbines T5 and T6) to the east.

3.4. It is envisaged that the windfarm station will be connected to a proposed new 110kV looped substation (Eirgrid Kilcumber Bridge Substation). The proposed Kilcumber Bridge substation will be subject of a separate application under SID to the Board.

3.5. Consent from landowners including Offaly County Council accompany the application.

3.6. The proposed windfarm will generate approx. 49.5MW of energy.

3.7. This application is accompanied by:

- EIAR
- NIS
- Photomontages
- Planning Report

4.0 Planning Authority Decision

4.1. Decision

Refuse permission for three reasons which can be summarised as follows:

1. The proposal is within the 200 metre wide corridor of the Eastern and Midlands Region water supply project and would prejudice same.
2. The local road network is substandard and is inadequate to accommodate the type and volume of traffic during the construction period. Having regard to this and failure of submitted Transportation Impact Assessment to adequately assess the proposed haul routes, it is considered that it would endanger public safety by reason of traffic hazard.
3. Access to the turbine is via agricultural lands off a local road all within the jurisdiction of County Offaly. The proposal is fully dependent on the outcome of a separate planning application under consideration. The proposal would therefore be premature.

4.2. Planning Authority Reports

4.2.1. Planning Reports

The **Planner's** report notes:

- The principle of a wind turbine at this location is in accordance with planning policy.
- It is reasonable to conclude that the proposed development individually or in combination with other plans and projects would not adversely affect the integrity of the River Barrow and River Nore SAC or any other European Site, in view of the site's conservation objectives.
- With respect to the turbine within Kildare it is not considered that it would have a significant impact in terms of ecology having regard to the mitigation measures.
- Further information required on hen harrier, merlin, peregrine falcons and kestrels.

- Further information required on water quality and drainage and sediment control measures.
- Further information required on noise
- Additional photomontage required from scenic viewpoint at Glenaree Bridge (ref. GC23).
- The comments and recommendation of the Transportation Section (summarised below) repeated. Refusal on these grounds recommended.
- Notwithstanding the design of the development in relation to the planned water pipeline, Irish Water requests that permission be refused having regard to the overall development within the water supply project for the Eastern and Midlands Region.
- It is considered that there will be no significant impact from the turbine in terms of shadow flicker.
- The proposal within Co. Kildare is fully dependent on the outcome of the application with Offaly County Council. It would be premature to determine this application until a decision has issued on the other.
- It would be premature to assess the cumulative impact with the remainder of the project until a decision has been made on same.

A refusal of permission for 3 reasons recommended.

The written statement of the **Decision Maker/Chief Executive** endorses the conclusions above and the decision to refuse permission.

4.2.2. Other Technical Reports

Water Services details conditions to be attached should permission be granted.

Chief Fire Officer has no objection. A Fire Safety Certificate will be required.

Environment Section recommends further information on water and noise.

Transportation Section considers that the development is not served by a suitable transportation network. It is very concerned about the capacity, structural integrity and substandard condition of the local road network and Shee bridge proposed to access this development. The road network is primarily a network of ‘legacy roads’.

These roads do not have a road structure as envisaged in the design standards. The network depends on the periodic replacement of a thin road surface course or courses without the necessary road capping layer and sub-base being present beneath. The haul road proposed is unsuitable for accessing the facility due to bridge restrictions, poor road infrastructure and volume of traffic at existing junctions in small towns and villages. The applicant has failed to provide a conclusive and transparent TIA and traffic study to assess the traffic generated by the development. A refusal of permission recommended.

4.3. Prescribed Bodies

Geological Survey of Ireland has no comment.

Irish Aviation Authority recommends that a condition be attached requiring agreement on aeronautical obstacle warning light.

Irish Water states that having regard to the Eastern and Midlands Region water supply project a refusal of permission is recommended.

Department of Culture, Heritage and the Gaeltacht recommends conditions for archaeological pre-testing and monitoring. A 2nd report addressing nature conservation states that it is not clear that the proposed development conforms to the principles and actions of the National Peatlands Strategy 2015. Measures to protect the curlew and hare from activity on the recreation trail required. Further information required.

HSE recommends mitigation measures to prevent shadow flicker and to ensure compliance with noise limits with an appropriate margin to take consideration of cumulative impact, potential amplitude modulation and uncertainties in modelling.

Offaly County Council stated that the development within its jurisdiction would be assessed in line with the county development plan, relevant planning guidelines, international, national and regional policy.

4.4. Third Party Observations

Objections to the proposal received by the planning authority are on file for the Board's information. The issues raised relate to:

- Project splitting
- Impact on natural heritage, protected species, birds and bats
- Impact on hydrogeology
- Sensitivity of landscape
- Visual impact
- Inadequacy of road infrastructure
- Proximity to residential properties
- Impact on water quality
- Efficiency of windfarms
- Discrimination of other renewable energy sources
- Impact on equine industry
- Compliance with Machinery Directive
- Cumulative impacts
- Adequacy of EIAR
- Archaeology
- Rehabilitation of boglands
- Need for the development
- Impact on River Barrow and River Nore SAC
- Compliance with Water Framework Directive
- Carbon footprint of development
- Adequacy of Draft Wind Energy Guidelines
- Adequacy of public consultation

- Procedural issues
- Noise
- Legal provisions
- Consideration of alternatives
- Long term plan for cutaway bogs
- Health and safety
- Construction phase impacts

5.0 Planning History

The following windfarm developments in the vicinity of the overall site are noted:

PL19. 237263 (09/453) – permission granted in July 2010 for the Mountlucas windfarm comprising of 30 turbines of up to 100 metre hub height and up to 112 metre rotor diameter with a total height not exceeding 156 metres. The windfarm is operational with 28 turbines.

PA0032 – permission granted in June 2014 for the Yellow River windfarm comprising of 29 turbines of up to 110m hub height and up to 113m rotor diameter with a total height not exceeding 166m.

PA0047 – permission granted in May 2017 for Cloncreen windfarm comprising up to 21 no. turbines with an overall tip height of 170m. It is c.2km to the west of the appeal site.

303313-18 – alterations to the above permitted wind farm approved in April 2019 by way of section 146B to lengthen the blade of the turbines while remaining within the previously permitted tip height of 170 metres.

307401-20 – current section 146B request for amendments to the 110kV substation permitted as part of the Cloncreen windfarm.

301619-18 (17/335) – permission granted in November 2018 for Moanvane windfarm comprising of 12 turbines with an overall tip height of 169 metres.

300746-18 (superseded PA0047) – permission refused for a windfarm comprising of 47 turbines in 5 clusters across a stated area of 1389 hectares straddling Counties

Kildare and Meath. The windfarm, roughly linear in shape, was referred to as Maighne windfarm. The area comprising the proposed wind farm clusters with associated underground cabling extended from the villages of Longwood and Enfield in the North-West in a generally southerly direction towards Rathangan, passing in the general vicinity of Carbury and Edenderry to the west and Allenwood and Prosperous to the east.

306500-20 (181534) – current appeal for windfarm at Drehid comprising of 12 turbines with a tip height of 169 metres.

6.0 Policy and Context

6.1. National Policy

6.1.1. National Planning Framework

National Policy Objective 55 – promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a low carbon economy by 2050.

6.1.2. National Renewable Energy Plan 2010

Directive 2009/28/EC on the promotion of the use of energy from renewable sources establishes the basis for the achievement of the EU's 20% renewable energy target by 2020. The National Renewable Energy Action Plan (NREAP) sets out the Government's strategic approach and measures to deliver on Ireland's 16% target of energy from renewable sources by 2020.

6.1.3. Strategy for Renewable Energy 2012-2020

The Strategy states that the Government's overriding energy policy objective is to ensure competitive, secure and sustainable energy for the economy and for society.

6.1.4. Adapting to Climate Change and Low Carbon Act 2015

This Act sets a statutory framework for the adoption of plans to ensure compliance with Ireland's commitments to European and international agreements on climate change. It commits to a carbon neutral situation by 2050 and to also match Ireland's targets with those of the EU. It requires that the Minister for Communications,

Climate Action and the Environment make, and submit to Government, a series of successive National Mitigation Plans and National Adaptation Frameworks.

*6.1.5. **Ireland's Transition to a Low Carbon Energy Future 2015-2030***

Accelerate the development and diversification of renewable energy generation to be achieved through a number of means including wind, solar PV and ocean energy.

*6.1.6. **Draft Renewable Energy Policy and Development Framework 2016***

The main principles of the Renewable Energy Policy and Development Framework include:

- Maximise the sustainable use of renewable electricity resources in order to develop progressively more renewable electricity for the domestic and potential, future export markets.
- Assist in the achievement of targets for renewable energy, enhance security of energy supply and foster economic growth and employment opportunities.

*6.1.7. **Climate Action Plan, 2019***

The plan stresses the importance of decarbonising electricity consumed by harnessing the significant renewable energy resources. Ensuring the building of renewable rather than fossil fuel generation capacity to help meet the projected growth in electricity demand is essential. Ensuring increased levels of renewable generation will require very substantial new infrastructure, including wind and solar farms, grid reinforcement, storage developments, and interconnection.

To meet the required level of emissions reduction, by 2030 it is required to increase electricity generated from renewable sources to 70% comprising of

- up to 8.2 GW total of increased onshore wind capacity (indicative figure)

*6.1.8. **Wind Energy Development Guidelines for Planning Authorities 2006***

The guidelines provide advice on wind energy development in terms of the development plan and development management processes. Guidance is given on matters such as noise, shadow flicker, natural heritage, archaeology, architectural heritage, ground conditions, aircraft safety and windtake. Chapter 6 provides guidance on siting and design of wind energy development in the landscape. This includes advice on siting, spatial extent and scale, cumulative effect, spacing of

turbines, layout of turbines and height of turbines. Advice is also given regarding landscape character types as a basis for the application of the guidance on siting and design.

6.1.9. **Draft Revised Wind Energy Development Guidelines** were issued in **December 2019** and provide for an update and review of the guidance as set out in the 2006 guidelines.

6.2. Regional Policy

6.2.1. Regional Spatial and Economic Strategy, Eastern and Midlands Region 2019

The Strategy supports an increase in the amount of new renewable energy sources in the Region. This includes the use of wind energy – both onshore and offshore, biomass, and solar photovoltaics and solar thermal, both on buildings and at a larger scale on appropriate sites in accordance with National policy and the Regional Policy Objectives outlined in this Strategy.

Local authorities should harness the potential of renewable energy in the Region across the technological spectrum from wind and solar to biomass and, where applicable, wave energy, focusing in particular on the extensive tracts of publicly owned peat extraction areas in order to enable a managed transition of the local economies of such areas in gaining the economic benefits of greener energy.

Objective RPO 7.35: EMRA shall, in conjunction with local authorities in the Region, identify Strategic Energy Zones as areas suitable for larger energy generating projects. The Strategic Energy Zones for the Region will ensure all environmental constraints are addressed in the analysis. A regional landscape strategy could be developed to support delivery of projects within the Strategic Energy Zones

6.3. Local Policy

Kildare County Development Plan 2017

6.3.1. ***Policy ER 7*** : Adopt a positive approach to renewable energy proposals, having regard to the proper planning and sustainable development of the area, including community, environmental and landscape impacts and impacts on protected or designated heritage areas/structures.

6.3.2. ***Policy WE 1***: Have regard to the Department of the Environment, Heritage and Local Government's Guidelines for Planning Authorities on Wind Energy Development (or any update of this document) in assessing all planning applications for wind farms.

6.3.3. ***Policy WE 2***: Encourage the development of wind energy in suitable locations in an environmentally sustainable manner and in accordance with Government policy and the Kildare Wind Energy Strategy.

6.3.4. ***Policy WE 3***: Ensure that the assessment of wind energy development proposals will have regard to:

- the sensitivities of the county's landscapes;
- the visual impact on protected views, prospects, scenic routes, historic demesnes as well as local visual impacts;
- the impacts on nature conservation designations, archaeological areas and historic structures, public rights of way and walking routes;
- local environmental impacts, including those on residential properties, such as noise and shadow flicker;
- the visual and environmental impacts of associated development, such as access roads, plant and grid connections;
- the scale, size and layout of the project and any cumulative effects due to other projects;
- the impact of the proposed development on protected bird and mammal species;
- the county's Wind Energy Strategy (when adopted);
- the impact of the grid connection from the proposed wind farm to the ESB network.

6.3.5. ***Objective WEO 1*** - Prepare a Wind Energy Development Strategy and to publish it as a proposed variation of this plan following the completion of the review of the DECLG's Wind Energy Development Guidelines.

6.4. Natural Heritage Designations

The nearest European Site to the overall windfarm site is The Long Derries, Edenderry SAC c. 1.52 km to the north. River Barrow and River Nore SAC is c.14.2km to the south.

7.0 The Appeal

7.1. Grounds of Appeal

The submission by Malachy Walsh and Partners on behalf of the 1st party against the planning authority's notification of decision to refuse permission can be summarised as follows:

7.1.1. Reason for Refusal No.1 – Eastern and Midlands Water Supply project

Due regard was had to the 200 metre pipeline corridor. None of the infrastructure in County Kildare is within the corridor. The infrastructure is over 900 metres from the corridor.

7.1.2. Reason for Refusal No. 2 – Roads Infrastructure

- The majority of deliveries to the windfarm will be stone and concrete. The majority of suitable quarries are located to the north around Edenderry or to the south close to Rathangan.
- Access to the windfarm for stone and concrete can only come through the western entrance off the R401 or through the 2 entrances off the L1001.
- No deliveries are permitted to come south from Edenderry through the Grand Canal tunnel by agreement with Offaly County Council.
- Lorries approaching from Edenderry would travel directly south to the western entrance on the R401.
- The proposed development will not have a significant adverse traffic impact on the surrounding road network. During the construction phase there would be a slight to moderate short term negative effect on the existing network. Mitigation has been incorporated within the construction phase design.

- The wind turbine loads would be delivered in consultation with the relevant authorities during off peak traffic periods.
- Peak heavy vehicle traffic volumes generated by the delivery of construction materials would be up to 60 heavy vehicles per day both to and from the site. This would occur on 9 separate days during the concrete pours for the turbine bases. Other deliveries to site would be curtailed or stopped during concrete pours.
- The predicted AADT volumes generated by the proposal development construction were conservatively based on a 12 month construction programme which would have higher AADT volumes than a 14 month construction programme.
- The R401 and R402 would continue to operate well within their estimated rural road link AADT capacity for the predicted 2022 AADT volumes.
- The amount of HGV traffic expected to be generated on peak construction days represents a maximum increase of 3% in traffic volumes on roads that are at a maximum of 50% capacity.
- A Construction Traffic Management Plan has been prepared which details the traffic management mitigation that will be applied to the proposed haul route.
- The traffic and transportation section of the EIAR notes the limitations of the traffic counts taken in July outside the school period. Accordingly, on-site classified junction traffic volumes recorded were factored on the basis of TII automatic traffic counter data to establish typical baseline traffic volumes on the local road network.
- The roads are generally regional roads and are used extensively as routes for satellite towns around Dublin to access the city. The roads also cater for heavy loading from the quarries to the north and south. No known weight restrictions have been put in place.
- Falling Weight Deflectometer testing of roads has been carried out. Report appended to appeal. It suggests that 60% would be classified as being moderate to stiff in construction.

- The applicant is amenable to discussing the use of regional roads, only, for the purposes of stone and concrete deliveries should this be feasible and of interest to the respective local authorities. Furthermore, the use of the quarries to the south of the site, only, could be specified to eliminate HGV traffic for stone and concrete deliveries from the north through Edenderry.
- Shee Bridge on the R414 at its junction with the R403 in Allenwood is not located on any road that would be desirable for quarries to use to access the site.
- A pre-condition survey of all bridges and culverts along the route prior to construction is best practice.
- The Kildare Newbridge Municipal District Office has no objection in principle to the use of the R401 and L3001 as haul routes. This allows access to all 3 proposed site entrances.
- Cumulative impacts with other proposed and permitted projects are addressed.

7.1.3. ***Reason for Refusal No.3 – Concurrent Application***

Given that the two applications will be assessed by the Board this is now not considered relevant.

7.1.4. ***Other Issues***

- The figures for traffic in chapter 4 of the EIAR were stated in error. The figure of 15,400 represents 7,700 each way movements.
- No pylon is proposed as part of the wind farm in Kildare.
- There are no cumulative issues with Cloncreen windfarm in terms of shadow flicker as the nearest residences lie between Cloncreen and Cushaling and cannot be impacted concurrently based on the sun's position.
- Should the revised Wind Energy Guidelines be adopted in advance of a planning decision the proposed development is capable of being brought in line with any revised noise and shadow flicker requirements by implementing mitigation through use of the turbine control systems.

7.2. Planning Authority Response

The response can be summarised as follows:

- Whist the Kildare turbine is not within the 200 metre wide corridor of the Eastern and Midlands Region water supply project it forms part of the wider project that is within the corridor. On this basis and the submission from Irish Water, it is was considered that the development would be prejudicial to the interest of securing a future water supply.
- Whilst there was preplanning consultation this was without prejudice. This does not change the 2nd reason for refusal.
- Offaly County Council's decision to refuse permission on the remainder of the windfarm noted.

The Board is requested to uphold its decision.

7.3. Observations

7.3.1. Kildare Environmental Awareness Group

The submission can be summarised as follows:

- Project splitting
- Applicant has not demonstrated that it can carry out the replacement planting proposed in County Clare.
- Inadequate information has been provided.
- Interaction of impacts on the environment as per Article 6 of the Habitats Directive is questioned.
- Possible impacts on hare, curlew, badger, bats and marsh fritillary.
- The Figile and Cushaling Rivers are within the Barrow River Basin District. Any negative impact is unacceptable.
- The decommissioning phase would also have potential environmental disturbance and destruction.
- Potential displacement of invasive species.

- Interference with Irish Water supply project.
- Noise
- Visual impact
- Road infrastructure is substandard
- Inadequate public consultation
- Efficiency of the windfarm
- Machinery Directive
- Archaeological protection
- The proposal is premature in that the proposed substation into which it is to connect is currently at pre application consultation stage with the Board.
- Possible interference with GPS services would obstruct emergency services.
- Coupled with the applicant's other proposed projects it has ignored the requirements of the SEA Directive with regard to Plans and Programmes.

7.3.2. ***Wild Kildare***

The submission can be summarised as follows:

- Project splitting arises in that the proposal is the 1st stage of Maighne Wind Farm which was previously refused permission.
- This part of Kildare is an important area for a number of red and yellow listed breeding birds species. Inadequate detail in the EIAR on such birds
- Whopper Swan uses the site. Issues of cumulative impacts is likely to put this regionally important population at medium to long term risk. The EIAR fails to address this.
- The EIAR is vague on bats.
- There is mounting evidence that windfarms are having a significant negative effect on already declining bird species via collision, disturbance and habitat destruction.
- Kildare County Council's commitments set out in the County Biodiversity Plan are welcomed.

- There are concerns of the impact of the proposal on local hydrology.
- Risks to local infrastructure including housing, farmland etc.
- Efficiency of windfarms is queried. Restoration of the vast areas of damaged and degraded peatlands would be a far cheaper and effective method of carbon capture which would also secure the future for many rare and declining species that depend on this habitat.

7.4. **Further Responses**

By way of section 131 notice Offaly County Council was invited to make a submission on this appeal for 1 no. turbine. Its response reiterates its reasons for refusal for the application for 8 no turbines within its jurisdiction.

8.0 **Planning Assessment**

I consider that the issues arising in this appeal can be assessed under the following headings:

- Principle of Development and Policy Context
- Interface with Dublin and Midlands Region Water Supply Project
- Access and Traffic
- Landscape and Visual Impact
- Ecology
- Cultural Heritage
- Other Issues

In view of the fact that the windfarm development straddles the administrative boundaries of Counties Offaly and Kildare I consider this appeal for 1 turbine is inextricably linked with that for 8 turbines and ancillary works under ref. 306924-30 and recommend that they be assessed in tandem.

8.1. Principle of Development and Policy Context

8.1.1. The importance of renewable energy is clearly acknowledged at a national, regional and local level and there is a suite of policy documents that support and promote the transition to a low carbon and climate resilient society. Ireland is committed to producing at least 16% of all energy consumed by 2020 from renewable sources. This will be met by 40% from renewable electricity, a major source of which is wind power. Under the National Planning Framework, National Policy Objective 55 seeks to "Promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a low carbon economy by 2050." In the White Paper - Ireland's Transition to a Low Carbon Energy Future, 2015-2030, the significant role and contribution of onshore wind in this transition is recognised and it is detailed that to achieve the 2020 40% target, the average rate of build of onshore wind generation will need to increase to up to 260MW per year. This is further endorsed in the Climate Action Plan which stresses the importance of decarbonising electricity consumed by harnessing the significant renewable energy resources. In order to meet the required level of emissions reduction, by 2030 it is required to increase electricity generated from renewable sources to 70% comprising of up to 8.2 GW total of increased onshore wind capacity (indicative figure).

8.1.2. Whilst Wild Kildare in its observations on the appeal raises concerns as to efficiency of windfarms, national policy clearly advocates in favour of this renewable energy source. It is not within the remit of this appeal to query the efficacy of the technology.

8.1.3. The suitability of peatland areas for renewal energy is endorsed in the Eastern and Midland Regional Spatial and Economic Strategy 2019 which requires local authorities to harness the potential of renewable energy in the Region across the technological spectrum from wind and solar to biomass focusing, in particular, on the extensive tracts of publicly owned peat extraction areas in order to enable a managed transition of the local economies of such areas in gaining the economic benefits of greener energy.

8.1.4. The majority of the site is within the administrative area of Offaly County Council and I direct the Board to my assessment as set out in Section 8 on the concurrent appeal

under ref. 306924-20. In summary the current Offaly County Development Plan 2014, of which the Wind Energy Strategy for County Offaly - Methodology Statement 2014 forms part, pertains. In same the site is within one of two areas in the County in which wind energy is open for consideration, subject to appropriate buffers being maintained to settlement and designated sites (see Figure 9 of Strategy and Figure 2.1 of EIS).

8.1.5. I note that it is a policy of the Kildare County Development Plan to encourage the development of wind energy in suitable locations in an environmentally sustainable manner and in accordance with Government policy and the Kildare Wind Energy Strategy. The plan states that the strategy would await the completion of the review of the Wind Energy Development Guidelines. As this review is ongoing the said strategy is not available.

8.1.6. The development plan identifies the area as being within the Western Boglands Landscape Character Area which is considered to be of high sensitivity where there is reduced capacity to accommodate uses without significant adverse effects on the appearance or character of the landscape. The LCA is considered to be of medium compatibility with wind farms. As such there is no prohibition against such type development. Each proposal should be assessed on its merits with regard had to policy WE 3 which sets out the issues to which regard must be had in assessing such proposals, including the sensitivity of the landscape, its visual impact, impacts on nature conservation designations, archaeological areas and historic structures, public rights of way and walking routes and local environmental impacts, including those on residential properties, such as noise and shadow flicker.

8.1.7. In conclusion, I consider that the proposal accords with national policy, with regional and local policy framework documents providing a spatial dimension for the assessment of the proposal.

8.1.8. The Wind Energy Development Guidelines for Planning Authorities (WEGs) issued in 2006 continue to be applicable with the Draft Revised Energy Development Guidelines issued in December 2019 following which there was a consultation period which closed on 19th February 2020. Thus, notwithstanding the view that the guidelines are out of date, they continue to represent current guidance and I submit that the absence of a final Revised Wind Energy Development Guidelines does not

prevent the consideration of individual applications for wind energy development. Notwithstanding, I note that the applicant in its appeal submission considers that the recommendations in terms of noise and shadow flicker as set out in the draft document can be met.

8.1.9. The central tenet of the WEGs is the need for a plan-led approach and identification of areas considered suitable for wind energy development. They provide guidance in terms of development plan provisions and development management with Section 6.9 addressing landscape character types providing a basis for practical application of siting and design, which can be incorporated into the plan-led approach, advocated. I submit that in view of the extensive open areas of commercial peatland in the vicinity and within a 20km radius of the site which is generally flat with few hills, the overall application site and vicinity would be akin to the Flat Peatland character type. The guidelines consider such areas as having significant potential for wind energy development.

8.2. Interface with Dublin and Midlands Region Water Supply Project

8.2.1. The planning authority's 1st reason for refusal pertains to the proposed development coinciding with the 200 metre wide corridor identified as the potential route for a pipeline to bring water from the River Shannon at Parteen Weir to a terminal reservoir in South Dublin to augment water supply to the Dublin Water Supply Area and key settlements along the route. This project is identified in the National Planning Framework as a National Strategic Outcome of the National Development Plan and is further endorsed in the Regional Spatial and Economic Strategy for the Eastern and Midland Region as a critical piece of infrastructure. The project is not yet subject of an application to the Board for approval. Irish Water in its submission to the planning authority was not satisfied that the proposed development would not have a potential to interact negatively with the delivery of the water supply project.

8.2.2. As clarified in the grounds of appeal the section of the proposed development within County Kildare does not coincide with the said 200 metre corridor. This is acknowledged by the planning authority in its response to the grounds of appeal.

8.2.3. I note an observation made by Irish Water on the concurrent appeal under ref. 306924-20 in which it states that it conducted a detailed review of the plans and

specifications of the proposed windfarm and has entered into a legal agreement with the applicant regarding the constructability of both the wind farm and water supply project. On foot of same it has no objection to the proposal.

8.2.4. On the basis of the information before the Board I consider that there is sufficient detail to support the conclusion that the windfarm would not adversely affect the delivery of the water supply project and that the reason for refusal can be set aside.

8.3. **Access and Traffic**

8.3.1. The proposed windfarm site is served by a network of local roads with the R401 to the west and local road L1001(Offaly)/L3001(Kildare) bisecting it on a north-south axis. The majority of the deliveries will arise from the importation of stone and concrete during the construction phase with the highest movements arising in the first five months associated with the road upgrade and concrete pouring for the turbine bases. Whilst there are limitations in terms of the traffic counts which were conducted in July outside the school period I note that on-site classified junction traffic volumes recorded were factored on the basis of the TII's automatic traffic counter data to establish typical baseline traffic volumes on the local rural road network.

8.3.2. The route for large turbine plant will be largely the same as that identified for Mountlucas and Cloncreen windfarms save for the last section. The route through County Kildare will be via the M9, M7 and M4 and does not traverse the regional or local road network. L50062 in County Offaly is to be upgraded to facilitate the delivery of wind turbine components including their abnormal loads with the temporary junction improvements detailed on drawing no. 19877-MWP-01-00-DR-C-5007. The delivery will be in accordance with established protocol in consultation with the County Councils and An Garda Siochana along the route. A total of 103 delivery vehicles would be required for the 9 no. turbines and includes 90 delivery vehicles in 30 delivery convoys during the night.

8.3.3. Save for turbine components it is proposed that, as far as is practicable, deliveries will be via the L1001/L3001 from the south (from Rathangan). The applicant has agreed with Offaly County Council not to allow for vehicular movements from the north via the Grand Canal bridge which is deficient in both width and headroom.

Access to the substation site opposite Edenderry power station will be from R401. It is proposed that the majority of materials will be sourced from local quarries with the nearest located to the north of Edenderry and east of Rathangan. Peak HGV traffic would be up to 60 per day corresponding with the 9 no. days during the concrete pours for the turbine bases. The amount of HGV traffic expected to be generated on peak construction days represents a maximum increase of 3% in traffic volumes on the roads which are calculated as currently operating at a maximum of 50% capacity.

8.3.4. The Transportation Section in its report on the application expresses serious concerns about the capacity, structural integrity and substandard condition of the local road network and Shee bridge proposed to access this development with the road network primarily a network of 'legacy roads'. The haul road proposed is considered unsuitable for accessing the facility due to bridge restrictions, poor road infrastructure and volume of traffic at existing junctions in small towns and villages with the applicant failing to provide a conclusive TIA and traffic study

8.3.5. A structural assessment of roads in the area is submitted with the appeal submission and augments the testing carried out on L50062 (County Offaly). The testing covers the R402 from Carbury, the R403/R414 from Allenwood, L3001 (Kildare)/L1001 (Offaly) northwards from Rathangan and R401 past the western entrance. I note that none of the roads have a weight restriction. The results show that at least 50% of areas tested have a minimum of a moderate classification in their existing condition. The survey serves as a baseline for the road condition, to be used post construction for comparison purposes. I also note that the roads are generally regional roads with no weight restrictions.

8.3.6. The requirements for a pre and post construction condition survey and a Transport Management Plan are common requirements for developments of this nature in addition to the application of a bond to ensure satisfactory reinstatement of any roads damaged by the construction phase. A condition similar to condition no.7 attached to the Mountlucas windfarm application (PL19.237263), condition 12 attached to the Cloncreen windfarm application (PA0047) and condition 14 attached to Moanvane windfarm application (301619) is, therefore, recommended.

8.3.7. On this basis and having regard to the extent of additional HGV traffic that will be generated for a specified time period only, the capacity of the roads to accommodate same and the condition as recommended to ensure appropriate reinstatement, I do not concur with the planning authority's refusal of permission on such grounds.

8.3.8. The level of traffic that would be generated during the operational phase will be minimal save for vehicular movements associated with operational/maintenance staff. The applicant is proposing to provide for an amenity trail to the north of T1, T2 and T3 with a small car park to be provided with access via L50062 off R401 in County Offaly. I have no objection to the proposed location and consider that the additional vehicular movements that would arise can be accommodated.

8.3.9. On this basis I recommend that the planning authority's 2nd reason for refusal be set aside.

8.4. Landscape and Visual Impact

8.4.1. At the outset I submit that a key consideration in adjudicating on visual impact concerns is the fact that the majority of the site and its surroundings has been the subject of a landscape and visual assessment as part of the Wind Energy Strategy for County Offaly which was carried out as part of the Development Plan preparation. In terms of the said strategy the site is within one of two areas in the county identified as open for consideration for such type development. The fact that the Board considered wind farm developments at Mountlucas (c. 8.5km to the west), Yellow River (c. 15 km to the north-west), Cloncreen (c. 2km to the west) and Moanvane Windfarm (c.12km to the south-west) as suitable development is, in my opinion, also a material consideration.

8.4.2. The site is within a landscape that is level and open, dominated by commercial peat harvesting and associated development including the Edenderry Power Station with Mountlucas wind farm visible in distant views. Agricultural lands with pockets of commercial forestry are noted with sporadic housing along the local roads. Clonbulloge village is c.4km to the south-west. The topography of the wider area is reflective of the site and its environs with higher grounds noted at Ballykilleen Hill c.2.2km to the north-west, Drumcooly Hill c. 3km to the north and Croghan Hill located c.14km to the north-west. By reason of the commercial peat milling on the

surrounding lands the natural qualities of the landscape have been substantially modified but this, in itself, gives the landscape its distinctiveness.

8.4.3. The site is not designated as being of high amenity in either the Kildare or Offaly County Development Plans. The nearest area of High Sensitivity is the Grand Canal corridor which, at its nearest point, is c.4km to the north, with Croghan Hill also an area of high amenity.

8.4.4. The Kildare County Development Plan 2017 identifies the area as being within the Western Boglands Landscape Character Area considered to be high sensitivity in that the area has reduced capacity to accommodate uses without significant adverse effects on the appearance or character of the landscape having regard to prevalent sensitivity factors including scenic viewpoints and hilltop views and scenic routes. The LCA is considered to be of medium compatibility with wind farms whilst due cognisance of a number of scenic routes and views and prospects is required.

8.4.5. The Offaly County Development Plan does not have a Landscape Character Assessment (LCA) but identifies cutaway bogs as areas of moderate landscape sensitivity which are generally 'open' in character with intrinsic quality and moderate capacity to absorb new development. It acknowledges that cutaway bogs cover a large part of the landscape of the county with suitable land uses including wilderness, grassland, forestry and recreation, although it is stated that some cutaway bog landscapes are more robust and may be considered for other uses including renewable energy (wind farms, biomass crops), and/or industrial use. The Wind Energy Strategy for the County effectively advances this view and identifies areas which would be open for consideration for wind farm development. As noted above the site is within such a designated area.

8.4.6. The WEGs classify turbine heights as being short, medium and tall. A height to blade tip of 187 metres would represent the tallest turbines to be developed in the country and would fall into the latter category. They would be over 30 metres taller than those erected at Mountlucas and would be 17 metres taller than those permitted at Cloncreen.

8.4.7. Therefore, from a planning precedent and planning policy point of view with specific regard to the local policy provisions of both Offaly and Kildare, it would be reasonable to conclude that the landscape on which the proposed wind farm is to be

located is deemed to be one of the more suitable landscape types within the counties to accommodate such a large wind farm development subject to further consideration of impacts on specific vantage points, as discussed below.

8.4.8. The Zone of Theoretical Visibility (ZTV) shown in Figures 11-8 of the EIAR illustrates the overall potential for all or parts of the development likely to be visible from the surrounding countryside within a radius of 30km. This would represent what could be considered to be a worst case scenario as the ZTV does not take into account the effects of screening by natural vegetation and existence of structures. I consider that it demonstrates the extent of the most relevant geographical area likely to be impacted and includes the most critical areas of influence that are of relevance to the assessment of the proposal. Whilst it is possible that the development may be visible from further afield distance will play a significant role in abating the impact.

8.4.9. The EIAR submitted provides a visual assessment of the proposed development with 15 photomontages. This was supplemented by a further 3 images submitted in support of the 1st party appeal on the concurrent appeal under ref. 306924-20. The photomontages give due consideration to existing, permitted and proposed windfarms within the ZTV. I submit that the viewpoints represent the local community, the nearest settlements, main transport routes, scenic routes and the wider rural environment with a number of photomontages taken from vantage points where all existing, permitted and proposed wind farms are in view and, therefore, a good perspective is provided in respect of the cumulative impact arising. I have reviewed each of the photomontages in the field. I have also observed the appearance of Mountlucas windfarm and I have noted the legibility of turbines in different weather conditions which can have a material impact on visibility. Whilst I would accept that in some of the photomontages landscape features (including vegetation) do obscure views of some of the turbines, these features are components of the existing environment and would, in practice, act in the same way.

8.4.10. I submit that the preparation of photomontages necessarily involves a degree of selectivity and artificiality and are not regarded as definitive but provide for a useful tool to assist in the assessment and were prepared and presented in a reasonable and competent manner. I would submit that the photomontages indicate that the impact and the extent of visual dominance of the wind turbines depends on the

location from where the wind farm is viewed and the extent of local screening or vegetation.

8.4.11. I consider that viewpoints 4 to 7, 9, 11, 16 and 17 which are within 5km of the site are within what I consider to be the local environment. Due to the generally flat topography of the area in which the wind farm is to be situated, it is apparent that the turbines will be visible from a wide range of locations. In this regard I submit the turbines will have a material visual impact when viewed along the L1001/L3001 bisecting the site especially when travelling from the south due to the open views available and absence of screening and from the R401, seen at times in sequence with the permitted Cloncreen wind farm. I submit that the magnitude of change will range from medium to high owing to the height, proximity and spatial extent of the turbines as they appear at the locations. Of particular note in this regard are the viewpoints 6, 7 and 9 to the north of the site. As demonstrated from same it is clear that the wind farm will have a significant impact on the landscape in the views from the surrounding road network and, by extension, on views from local residential properties located along same.

8.4.12. The Grand Canal at its nearest point is c.4km to the north of the site and is both an area of high sensitivity and is used for recreational purposes including a long distance walking route. Viewpoints 1, 5 and 8 are of relevance. In terms of the former due to the intervening distance and the screening effect of vegetation, in what is essentially a flat landscape, no views are anticipated. In terms of the closer position represented in no. 5 the view from Blundell Aqueduct provides an elevated view towards the site where the canal crosses a local road on a aqueduct. Only two turbines are anticipated to be visible due to the intervening distance and screening effects of vegetation. I would concur that the significance of the visual effect would be moderate. Viewpoint 8 is from Hamilton's Bridge c.5.6km to the south-east. It is designated as a scenic view in the Kildare County development Plan. The proposed windfarm would be visible but at a distance and, in the context of the existing development in the foreground, would be moderate in significance.

8.4.13. Viewpoints 1, 2, 3 10, 12, 13, 14, 15 and 18 are within what I consider to be the wider environment. In my opinion of particular concern is the impact arising from the view from the elevated locations in the vicinity of Croghan Hill to the north-west (viewpoint 18) which corresponds with protected views in the Offaly County

Development Plan. In terms of the designations set out in the Kildare County Development Plan viewpoint 12 is from the scenic route along the R414, viewpoint 14 from a designated hilltop view from the Hill of Allen and viewpoint 15 a scenic route at Pollardstown Fen.

8.4.14. As is evident from the photomontages provided the existing development at Mountlucas is already visible from some of these vantage points and the permitted windfarms at Yellow River and Cloncreen are expected to provide further interventions in the landscape. In terms of views from the vicinity of Croghan Hill (photomontage 18) and from the Hill of Allen (photomontage 14), the proposed development would represent a further intervention in the views. In terms of the scenic views within Kildare the viewer will be afforded intermittent views with roadside hedgerows providing screening. There does not appear to be any viewing points/pull in areas on the relevant stretches of road.

8.4.15. Undoubtedly the proposal would constitute a significant additional contribution, resulting in a greater cumulative impact which will impact on the character of the protected views, however the fact remains that the views have already been altered and that the additional intervention would be perceived as a natural extension to same and is not of a magnitude as to warrant a refusal of permission.

8.4.16. In terms of the height differential between the proposed turbines at a maximum height of 187 metres and those at Mountlucas at 156 metres and Cloncreen at 170 metres in addition to the potential difference in ratio between the rotor diameter and hub height, I submit that in view of the separation between the developments and the distance at which all would be seen in views, any differences would be diminished. I would also submit that in the overall context of impact on landscape and the visual amenity of the area, an enforced reduction in height of the turbines is not likely to produce a significant gain to the amenity of the area and would likely produce a greater number of turbines to achieve the same power output.

8.4.17. I submit that in the context of the 9 turbines proposed that the landscape and visual impact of the ancillary facilities including an anemometer mast and access roads would not prove to be significant visual elements of the overall scheme.

8.4.18. In view of the location of the proposed substation directly opposite the Edenderry power station which visually dominates and in the context of the permitted Cloncreen

windfarm which will form the backdrop to the west I do not consider that it would adversely impact on views.

8.4.19. In conclusion, certainly the proposal will have a significant visual impact in the immediate vicinity and on residential properties therein. I submit that in view of the long established commercial peat milling operations prevalent in the area and the presence of the related industrial development, namely the Edenderry Power Station, the landscape presents itself as a highly moderated working landscape which is relatively robust. The visual character of the wider landscape has changed and will change further as a consequence of the existing and permitted wind energy developments and the proposal will not result in a material alteration in the visual intrusion as to warrant a recommendation to refuse permission. As noted in the WEGs and in the Offaly and Kildare County Development Plans there is a need to balance the preservation and enhancement of the amenities of places and features of natural beauty and interest against the need to develop infrastructure to meet the strategic aims of the Plan. While it is acknowledged that the change likely to arise is considered to be negative at some locations it is considered, given the changes already permitted to the landscape, that the impacts would not constitute unacceptable detrimental effects on the character or values of the area such as would warrant a recommendation of refusal on visual impacts grounds.

8.5. Ecology

8.5.1. Observers to the appeal consider that the detail provided on ecology is deficient and does not allow for a proper assessment of the impact of the development on same. Chapters 5 and 6 of the EIAR address biodiversity and ornithology with a revised copy of the latter chapter accompanying the grounds of appeal on the concurrent appeal file ref. 306924-20 along with further detail on biodiversity. In addition, a NIS accompanies the application with a revised copy submitted with the 1st party appeal on file 306924-20 following the additional bird surveys and consideration of cumulative impact with the Dublin and Midlands Region Water Supply project. The applicant in the appeal submission on the concurrent appeal states that the findings and conclusions in both the revised EIAR and NIS have not altered from those in the original documents. In view if the inextricable links between the turbine subject of this appeal and the concurrent appeal I consider it reasonable to have regard to the

said submitted information. In addition, there is an overlap with the EIA and AA below and I recommend that the sections be read in conjunction with each other.

8.5.2. As noted previously the windfarm site comprises a mix of habitat types including cutover bog, wet grassland, improved agricultural grassland and conifer plantation with a pocket of bog woodland along the western extent of the site with a strip between proposed turbines T7 and T8. It is not within or near a designated site with no rare or protected habitats or protected species recorded during the surveys. It is bisected by the Figile River which is a tributary of the River Barrow.

Avifauna

8.5.3. At the outset I note that the site is not within and is at a significant remove from the nearest Special Protection Area. I also note that it is not within an area where birds are likely to be sensitive to wind energy developments as per the Bird Sensitivity Mapping Tool for Wind Energy Development developed by Birdwatch Ireland. The nearest is at Bracknagh to the south which is classified as being 'low' sensitivity for bird species. The tool is based on the collation of existing distributional data.

8.5.4. As per the details provided with the appeal ornithological surveys were carried out over 2 years and accords with best practice guidelines set out in the Scottish Natural Heritage Guidelines (SNH, 2014). I submit that the results allow for a proper assessment.

8.5.5. The bird species recorded are set out in Appendix 2 of the revised ornithology chapter of the EIAR and include Annex 1 Birds Directive species Hen Harrier, Peregrine Falcon, Golden Plover, Merlin, Great White Egret, Kingfisher and Whooper Swan.

8.5.6. Whooper Swan was occasionally recorded in flight over the site. The maximum flock size recorded was 60 birds which was recorded once in December 2018. All other observations ranged from individuals to a flock of 51 birds with the majority of observations recorded in late November 2019 during a temporary flooding event onsite. The development site does not provide habitat of significant ecological value to wintering populations.

8.5.7. In terms of direct habitat loss for the species subject to the assessment it is considered that there is comparable habitat abundant within the surrounding area.

The Collision Risk Assessment presented in Appendix 4-F as amended by Appendix 6 of the revised ornithology chapter submitted with the concurrent appeal predicts the risk to be low or negligible for Whooper Swan.

8.5.8. In terms of Golden Plover, the maximum flock size recorded roosting on the site was 86 which corresponds with County Importance. No evidence of breeding was recorded. As with Whooper Swan there is an abundance of suitable habitat in the wider area thus no significant loss of habitat is anticipated. When the data from the 2 winters is combined the collision risk was predicted to be between 113 and 118 per year which would increase the annual mortality rate of the county population by 5.07% to 5.32%. Figures are likely to much less than predicted as a generic avoidance rate was used in the collision risk analysis because a species-specific avoidance rate is not available for golden plover and the species typically avoid turbines in the landscape. Given the limitations of the collision risk analysis for Golden Plover a bird monitoring programme is to be undertaken including vantage point surveys and carcass searches specifically targeting Golden Plover. Where collisions are found to exceed a 1% increase in background mortality curtailment of turbine operations will apply.

8.5.9. The proposal could result in disturbance for the nesting pair of Peregrine Falcon at Edenderry Power Station c.1.2km from the nearest turbine. The predicted collision risk is considered moderate with the increase in annual mortality for the national population predicted to be negligible. Construction works within 750 metres of the peregrine falcon nest site will begin outside the breeding season. In addition, the erection of 3 no. peregrine falcon nesting platforms in the wider area is proposed.

8.5.10. A Bird Monitoring Programme is proposed with the details set out in the amended ornithology chapter submitted with the concurrent appeal submission. It will entail both vantage point surveys and collision searches during specified years of the wind farm operation. In addition, adaptive management is proposed should collisions be found to exceed a 1% increase in background mortality specifically with regard to Golden Plover. A report summarising the findings of the survey are to be submitted to the planning authority at the end of each monitoring year.

8.5.11. Given the wide availability of comparable habitat in the vicinity cumulative effects associated with habitat loss and disturbance displacement effects are considered to

be low. In terms of the barrier effects total flight duration and flight activity within the study area was found to be low for all avian receptors identified. It is considered that the distance between the wind farms will not result in any barrier to transit corridors used by birds.

8.5.12. Overall, it is considered that the value of the development site and surrounding area for avifauna has been adequately surveyed and quantified and allows for an evaluation of impacts to be completed. The EIAR conclusions as to negligible and low impacts can be supported by a reasoned methodology. Whilst bird collision cannot be definitively ruled out it has been appropriately assessed and the risk is low for the identified species.

Bats

8.5.13. In terms of bats, surveys were carried out over 2 seasons in 2018 and 2019 with details of the survey methods set out in the EIAR which is supported by the Bat Survey Report in Appendix 3-F. Whilst the site is used by foraging bats no bat roosts were identified although the mature ivy clad trees in the eastern section of the site provide potential for same. Loss of habitat and mortality arising from collision or barotraumas are identified as the main potential impacts. Fragmentation of habitat, barrier effect, disturbance and collision risk are not considered to be significant effects given the low level of bat activity within the study area.

8.5.14. Natural England has produced guidance on the impacts of wind farms to bats (Natural England 2014). In this guidance an assessment of the risk of collision to different species is placed into categories of low, medium and high risk based on a number of factors such as flight patterns and foraging strategies. Of the two high risk species listed Leisler's was a moderately active species during the survey period. Common and Soprano pipistrelle bats are considered to be at medium risk from turbines. These bat species were the most active species recorded during the survey period. All mitigation measures are to comply with guidance documents issued by TII with regard to National Road Schemes and the NPWS Irish Wildlife Manuals No.25: Bat Mitigation Guidelines for Ireland. A bat survey will be undertaken if felling trees with bat roosting potential and, if identified, the necessary derogation licence will be secured. For each turbine 3 bat boxes will be erected at

suitable locations in woodland/treelines. Post construction bat monitoring will be undertaken in accordance with the appropriate guidelines.

8.5.15. In conclusion, I am satisfied that the detailed bat surveys undertaken by the applicant over a period of 2 years provide a comprehensive and robust evaluation of the usage by bats of the development site. No objections to the methodology utilised by the applicants in carrying out the bat surveys has been raised by the Department of Culture, Heritage and the Gaeltacht. I am satisfied that given the low levels of bat activity that significant adverse impacts are unlikely to arise. The mitigation measures set out are appropriate and post construction monitoring in line with best practice.

Badger

8.5.16. A total of two badger setts were recorded in the Zone of Influence of the proposed development. An active badger sett was recorded c.125 metres from proposed T5. This sett is considered an outlier sett. The construction works will not impact on the sett although there is potential for disturbance. It is considered that badgers that may have been temporarily displaced owing to construction activity will utilise the habitats within and adjacent to the development area within a short period of time. It is proposed that a survey of setts is required 10-12 months in advance of construction which will allow for sufficient time to comply with all licensing requirements and necessary actions undertaken to protect badger populations. The survey is to be supplemented by further inspection of the development area immediately prior to site clearance to ensure that no new setts are established. Additional survey/enabling works will be undertaken under the appropriate NPWS licence.

Hare

8.5.17. Evidence of Hare was recorded sporadically throughout the open grassland habitats of the development site. Whilst disturbance will arise during the construction phase the species is likely to avoid the area with ample alternative habitat in the vicinity

Marsh Fritillary

8.5.18. Whilst Devil's-bit Scabious the plant food of Marsh Fritillary was present on the site the surveys conducted during the optimal time in August and September did not

detect Marsh Fritillary larvae. Therefore, it is concluded that it does not occur at the proposed development site.

Invasive Species

8.5.19. A stand of Japanese knotwood was recorded at the eastern side of L3001 between proposed turbines T5 and T6. A registered contractor was retained to remove it from the site. The proposed works will involve the localised movement of peat and subsoil and will create disturbed ground. Construction related activity has the potential to result in the introduction and establishment of invasive species. A pre-construction survey for invasive species will be conducted. Should species be recorded at works locations on the transport route, along the grid connection route or within the site an Invasive Species Management Plan will be prepared. Best practice measures during the construction phase are to be followed.

8.6. Hydrology

8.6.1. Concerns are expressed by observers as to the impact of the proposed development on hydrology. I refer the Board to the EIA and AA below and recommend that the sections be read in tandem.

8.6.2. The site is within the catchment of the Figile River which is a tributary of the River Barrow. The Cushaling River is a tributary of the Figile River which it joins within the wind farm site between T6 and T7. The drainage system has been greatly modified to accommodate peat harvesting with deep artificial drains throughout with outfalls to the Figile and Cushaling Rivers. Due to ongoing peat harvesting there are extensive areas of denuded bog exposed to pluvial runoff. Large quantities of peat silt are deposited in the river. The Figile River is maintained by excavators to remove silt accumulations. The biological water quality ranges from Q3 to Q3-4.

8.6.3. The substantive concerns arise with respect to the construction period and the potential effects that could be caused by the increase in run-off, such as soil erosion and sediment release into the receiving watercourses. During the operational phase there is a potential risk of hydrocarbons polluting the watercourses following run-off from impermeable trafficked areas. There should be negligible release of sediment to watercourses post-construction.

8.6.4. Effectively mitigation has been incorporated into the design with the existing drainage system for the existing tracks and road to be retained and improved with settlement ponds providing retention and treatment of discharges proposed. Measures to be taken during the construction phase which are considered to be best practice are contained in the CEMP (Appendix 2-B). This will include a surface water monitoring schedule. In addition, an Environmental Manager is to be retained for the duration of the construction phase. The river crossing will be in the form of a clear span bridge with no works required within the channel.

8.6.5. The measures put in place will be retained during the operational and decommissioning phases. To mitigate against the minor risk of oil spillages during the operational phase adequate bunding is to be provided.

8.6.6. I consider that the above comprise appropriate measures to ensure that water quality will be protected by preventing any silt laden run-off reaching the downstream watercourses.

8.7. Amenities of Property and Noise

8.7.1. The details as provided in chapter 10 of the EIAR is supplemented by further information submitted in support of the 1st party appeal on the concurrent appeal under ref. 306924-20. The applicant in the said response acknowledged that 1 no. dwelling was omitted from the Noise Chapter of the EIAR. A revised map with the dwelling delineated thereon accompanies the response. The dwelling (labelled 9a) is within 1km of T1 with a setback of 960 metres accessed from a minor road within County Offaly. The applicant confirms that there are 15 dwellings within 1.1km of turbines. These entail the cluster of dwellings at the junction of the R401 and L50062 to the north-west and the dwellings accessed from a minor local road off the R401 to the north. The nearest dwellings within County Kildare are approx. 1.8km to the north.

8.7.2. In terms of the baseline monitoring undertaken I consider that the locations of the five monitoring locations as delineated on Figure 10-1 and Table 10-2 of the EIAR to be reasonable, in accordance with recommended practice and largely correspond with the nearest noise sensitive receptors. They are, therefore, considered to be

representative. The duration of monitoring over a 4 week period also accords with the recommended practice of 2 weeks minimum.

8.7.3. The derived daytime and night-time background noise levels as indicated in Tables 10-3 and 10-4 can be considered typical for a rural area with low noise levels particularly during periods of low wind speeds. The night-time background noise levels at the measured locations are generally less than 35 $L_{A90,\ 10min}$ for wind speeds up to 7m/s whilst there are no daytime measurements over 40 $L_{A90,\ 10min}$ at wind speeds up to 8m/s.

8.7.4. At the time of writing this report the Wind Energy Guidelines 2006 continue to apply and the limits recommended therein are reflective of the criteria used in assessing the impact of the proposed development. They are as follows:

- 43 dB $L_{A90,\ 10\ min}$ for nighttime hours
- 45dB $L_{A90,10min}$ or 5dB above background noise, whichever is greater at noise sensitive receptors for daytime hours
- 35 to 40 dB $L_{A90,10min}$ or 5dB above background noise, whichever is the greater, at the noise sensitive receptor where background noise is less than 30 dB L_{A90}.

8.7.5. Regard is also had to the lower fixed limit of 43dB(A)$L_{90,\ 10\ min}$ attached by way of condition (8) to the permission for the Cloncreen windfarm granted under ref. PA0047.

8.7.6. I note that the Draft Revised Wind Energy Guidelines issued in December 2019 recommend that Relative Rated Noise Levels (LA rated, 10min) resulting from wind energy development and taking into account the cumulative impact of noise levels resulting from other existing and approved wind energy developments shall not exceed:

(1) Background noise levels by more than 5 dB(A) within the range 35-43 dB(A), or

(2) 43 dB(A).

both measured as $L_{90,10\ min}$ outdoors at specified noise sensitive locations. At noise sensitive locations where existing background noise levels are measured at less

than 30 dB, a maximum 35 dB(A) noise limit will be strictly imposed at lower wind speeds.

8.7.7. A series of computer-based prediction models have been prepared in order to quantify the noise level associated with the operational phase of the proposed development on its own and cumulatively with the permitted Cloncreen windfarm development. Regard is also had to Mountlucas and other permitted windfarms as referenced earlier in this assessment. Having regard to the separation distances of least 8km and the noise predictions, it is concluded they will have a negligible impact on the proposed windfarm meeting noise limit criteria imposed, cannot impact cumulatively and were, therefore, excluded from further assessment.

8.7.8. Noise was modelled for 68 receptors, the results of which are set out in Tables 10.13 and 10-14. The former presents the results for the Cushaling wind farm on its own and the latter presenting the cumulative impacts with Cloncreen windfarm. These tables are augmented in the applicant's response to an observation on the concurrent appeal providing predictions for the dwelling omitted from the assessment (No. 9a) giving a total of 69 receptors. To allow for an assessment relative to the prevailing background levels further detail was provided in Tables 1 and 2 of the 1st party appeal submission on the said concurrent appeal. I would submit that the information as presented does not necessarily allow for ease of comparison between the existing background noise levels and the predicted noise levels with the windfarms both proposed and permitted in place. I therefore estimate the following:

Daytime

LA90, 10 min (dB) Limits at Standardised 10 m Height Wind Speed (m/s)								
Ref.	House/ Property #	Description	4	5	6	7	8	9
NML1	H55	Background Level	29	30	32	35	39	43
		Windfarms (cumulative)	24	29	33	33	33	33
		Predicted	**30**	**33**	**36**	**37**	**40**	**43**
NML2	H18	Background Level	30	32	34	35	37	40
		Windfarms (cumulative)	30	35	42	42	42	42
		Predicted	**33**	**35**	**43**	**43**	**43**	**44**

NML3	H16	Background Level	30	32	34	36	40	44
		Windfarms (cumulative)	29	34	40	40	40	40
		Predicted	**33**	**34**	**41**	**42**	**43**	**46**
NML4	H28	Background Level	35	36	37	39	40	42
		Windfarms (cumulative)	30	35	41	41	41	41
		Predicted	**34**	**39**	**41**	**41**	**44**	**45**
NML5	H39	Background Level	32	34	35	37	40	44
		Windfarms (cumulative)	29	34	39	39	39	39
		Predicted	**34**	**37**	**41**	**41**	**43**	**45**

Night-time

LA90, 10 min (dB) Limits at Standardised 10 m Height Wind Speed (m/s)								
Ref.	House #	Description	4	5	6	7	8	9
NML1	H55	Background Level	22	22	25	29	36	36
		Windfarms (cumulative)	24	29	33	33	33	33
		Predicted	**26**	**30**	**34**	**35**	**38**	**38**
NML2	H18	Background Level	23	24	26	29	33	37
		Windfarms (cumulative)	30	35	42	42	42	42
		Predicted	**31**	**35**	**42**	**42**	**43**	**43**
NML3	H16	Background Level	25	25	27	31	36	43
		Windfarms (cumulative)	29	34	40	40	40	40
		Predicted	**31**	**35**	**40**	**41**	**42**	**45**
NML4	H28	Background Level	33	34	34	35	36	38
		Windfarms (cumulative)	30	35	41	41	41	41
		Predicted	**35**	**38**	**42**	**42**	**42**	**43**
NML5	H39	Background Level	30	30	30	32	35	39
		Windfarms (cumulative)	29	34	39	39	39	39
		Predicted	**33**	**36**	**40**	**40**	**41**	**42**

8.7.9. In terms of daytime the predicted noise levels comply with the derived levels of 43 dB or 5dB above background levels. In terms of nighttime the 43 dB parameter is exceeded at NML3 at wind speeds of 9 m/s. Curtailment measures will be required in this scenario.

8.7.10. A comparison against the criterion put forward in the Draft Revised Wind Energy Guidelines would suggest exceedances at a number of the noise sensitive locations at higher wind speeds notable during daytime hours. Should the absolute limit as suggested in the Draft Revised Wind Energy Guidelines come into play then curtailment measures may be required at wind speeds over 8 m/s.

8.7.11. As confirmed by the applicant in its response to the submissions received, post commissioning monitoring is proposed to confirm the operational noise levels comply with the relevant day and nighttime criteria. I submit that details of same should be submitted to the planning authority to form part of the planning record. Continuous monitoring is not proposed and does not constitute a feature assigned to other windfarm development. Should specific issues arise investigations including noise monitoring would then be employed to address same.

8.7.12. I submit that it is appropriate to consider the issue of infrasound and low-frequency sound having regard to the applicable standards in an Irish context. In this respect I note that these issues are not presently referenced in the WEGs, however, the Environmental Protection Agency's 'Guidance Note on Noise Assessment of Wind Turbine Operations at EPA Licensed Sites (NG3)' published in 2011 does comment on same. Section 3.3.3 of this Guidance Note states that whilst the aerodynamic noise associated with wind turbines is broadband in nature and spread across the audible frequency range, there is a common misconception that there is a significant component of low frequency noise which is not the case. The guidance note states that as distance increases from a noise source, the noise spectrum becomes more biased towards the low frequencies as a result of the greater attenuation of middle to high frequencies by atmospheric effects, with reduced attenuation of low frequencies and, accordingly, this may be a significant characteristic for a large wind farm site when heard from a distance, although close to the turbines it would not be significant. With regard to high level sound at frequencies below 20Hz the guidance asserts that there is no significant infrasound arising from wind turbines before explaining that whilst this was '*a prominent feature of passive yaw 'downwind'*

turbines where the blades were positioned downwind of the tower which resulted in a characteristic 'thump' as each blade passed through the wake caused by the turbine tower. With modern active yaw turbines (i.e. the blades are upwind of the tower and the turbine is turned to face into the wind by a wind direction sensor on the nacelle activating a yaw motor) this is no longer a significant feature'. A modern active yaw turbine is proposed for this development.

8.7.13. Section 10.3.2.4 of the EIAR refers to aerodynamic modulation (AM). It notes that the effect is identified in UK document ETSU-R-97 The Assessment and Rating of Noise from Wind Farms (1996) upon which the current Wind Energy Planning Guidelines noise limits are based. The former document notes that the noise levels recommended in the report take into account the character of the noise described as blade swish.

8.7.14. The noise from the substation and battery storage which forms part of this application, and the proposed 110kV looped substation, which will be subject of a future SID application are also assessed and, in the context of its proximity to Edenderry Power Station are not anticipated to have any discernible impact on the nearest sensitive receptors.

8.7.15. There will be an increase in noise levels in the vicinity of the proposed development site during the construction phase but this will be temporary in duration. The noisiest construction activities are associated with excavation, piling and pouring of the turbine bases. The type of activity and equipment that would generate the noise at this stage of development are much the same as those that would be used during other infrastructural works in the countryside. Similarly, the flow of traffic transporting material to and from the site is also likely to be a potential source of increased noise. Best practice measures are to be adhered to during the construction phase. The mitigation of the potential negative effects from construction noise by the imposition of a condition requiring the regulation of such activity is an established measure whose efficacy is established.

8.7.16. It can be reasonably concluded that no impact in terms of vibration is expected having regard to the separation distances involved between the turbine location and the nearest sensitive receptors.

8.7.17. It is my opinion, based upon the analysis undertaken, that the proposed development will not have a significant adverse impact on residential properties arising from noise. I have no reason to doubt the veracity of the information contained in the EIAR in respect of the noise analysis undertaken however notwithstanding this conclusion, there will be an onus on the applicant to comply with best practice as per the guidelines in relation to noise generation. I note that the WEGs acknowledge that noise is unlikely to be a significant problem where the distance from the nearest turbine to any noise sensitive property is more than 500 metres. In this case the nearest property has a separation distance of 960 metres.

8.8. **Cultural Heritage**

8.8.1. The observers raise concerns regarding potential archaeological impacts arising from the development. As noted in the EIAR there are no national monuments located within 5km radius with no RMP/SMR sites within the development boundary. The nearest cluster is at Ballykilleen Td. c. 800 metres to the north-west of the proposed substation location. A non-invasive field inspection was carried out. No new cultural heritage or archaeological features were identified.

8.8.2. There is potential to impact on below-ground undesignated features including at the river crossing and that previously unknown archaeological subsurface features and finds can be uncovered in greenfield areas.

8.8.3. During the construction phase archaeological test excavations, underwater/intra-riverine archaeological wade/diver surveys and archaeological monitoring will be undertaken in compliance with national policy guidelines and statutory provisions for the protection of cultural heritage. The Department of Arts, Heritage and the Gaeltacht has no objection to the proposal subject to a condition requiring testing and monitoring.

8.9. **Other Issues**

Decommissioning

8.9.1. The applicant proposes to prepare a reinstatement plan including the implementation of a program that details the removal of all structures and landscaping which will be submitted to the respective planning authorities for agreement prior to the

decommissioning work. Consideration is given to the impacts that may arise during the decommissioning phase of the development throughout the EIAR and I address this issue in the various headings in the EIA in section 9 below.

Project Splitting

8.9.2. Observers consider that the proposal constitutes project splitting. As noted previously the current proposal comprises part of an overall wind farm development that straddles the administrative boundaries of Counties Kildare and Offaly. Both were subject of separate applications to the respective planning authorities and are now both before the Board on appeal. An EIAR prepared for the overall development including the grid connection and substation accompanies both applications. Regard is also had in the EIAR and NIS to the proposed Eirgrid substation to be known as Kilcumber Bridge substation which, in turn, will be connected into the existing Eirgrid 110kV substation adjacent to Edenderry power station. It will be subject of a SID application directly to the Board. I therefore do not agree that project splitting has occurred.

8.9.3. In this instant case the potential cumulative impacts with both existing, permitted and proposed windfarms in the area are given due consideration. In terms of the latter category regard is had to the proposed 12 turbine development proposed at Drehid subject of a concurrent appeal to the Board under ref 306500-20 (181534).

8.9.4. Reference is also made to the Maighne wind farm which was subject of an application under ref. PA0041. The decision made by the Board was subsequently quashed with the application remitted to the Board. Under file ref. 300746-18 the 41 turbine windfarm was refused for 2 reasons. The current proposal is not within nor forms part of the site of the said development.

Replant Area

8.9.5. Construction of the wind farm will require felling of 9.1 hectares of woodland (4.5ha of mature/semi-mature forestry and 4.6ha of coniferous saplings) . In line with the Forest Service's policy on granting of felling licences for wind farm developments, areas cleared of forestry will have to be replaced by replanting at an alternative location. Replanting is a requirement of the Forestry Act and is primarily a matter for the statutory licensing processes that are under the control of the Forest Service.

8.9.6. The replacement replanting of forestry is not obligated to occur in the immediate vicinity of the subject site and can be carried out anywhere within the State subject to licence. A potential replanting area of 11.28ha has been identified in the townland of Aharinaghbeg Co. Clare c.9km from Limerick City. As per the introduction to document titled '*Assessment of Proposed Replanting'* in Appendix 3-G Forest Service technical approval for afforestation has been granted with a copy of the relevant document provided in Appendix 1. It states that should these replant lands become unavailable other similarly approved replant lands will be acquired. The replanting report provides a description of the proposed replanting lands and an assessment of the potential impacts including cumulative impacts associated with afforestation at this location. An AA-Screening Report is also provided.

8.9.7. On the basis of the above detail I consider that the applicant has provided sufficient detail on its proposals in terms of replant lands.

Strategic Environmental Assessment

8.9.8. The SEA Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment requires that an environmental assessment be carried out of certain plans and programmes which are likely to have significant effects on the environment. Eleven sectors are specified in the SEA Directive. Competent Authorities (plan/programme makers) must subject specific plans and programmes within these sectors to an environmental assessment where they are likely to have significant effects on the environment.

8.9.9. The applicant is private entity and not a competent authority. Its proposals/programmes for future/proposed development would therefore not be subject to the requirements of the Directive.

Machinery Directive

The Machinery Directive is a separate legal code and compliance with same is not a matter for comment or adjudication in this appeal.

9.0 Environmental Impact Assessment

9.1. Introduction

9.1.1. This section sets out an environmental impact assessment (EIA) of the proposed development. As noted previously the overall project which is to comprise of 9 no. turbines straddles the counties of Offaly and Kildare.

9.1.2. Under Section 172 of the Planning and Development Act 2000, as amended, a project which comes within a class of development specified under Schedule 2 of Part 5 of the Planning and Development Regulations 2001, as amended, requires that an Environmental Impact Assessment be carried out. The relevant class of development is item 3 (i) of the Schedule relating to "installations for the harnessing of wind power for energy production (wind farms) with more than 5 turbines or having a total output greater than 5 megawatts". The proposed development exceeds 5 turbines and 5 Megawatts in scale and, therefore, is subject to EIA.

9.1.3. Both the 2014 amending EIA Directive (Directive 2014/52/EU) and the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 are applicable in this instant case.

Content and Structure of EIAR

9.1.4. The EIAR consists of four volumes, grouped as follows:

- Volume 1: Non-Technical Summary
- Volume 2: Main Report
- Volume 3: Appendices
- Volume 4: Photomontages

9.1.5. By way of the 1st party appeal on concurrent file ref.306924-20 Volume 4 was supplemented with additional photomontages with a revised chapter addressing ornithology submitted with the 1st party appeal. The said appeal submission also provides further detail on biodiversity, noise and access and traffic. The applicant contends that the said information does not alter the conclusions reached in the EIAR.

9.1.6. As noted previously this instant case and that subject of appeal under 306924-20 are inextricably linked and subject of a single EIAR. I recommend that they be considered and assessed in totality.

9.1.7. In accordance with Article 5 and Annex IV of the EU Directive, the EIAR provides a description of the project comprising information on the site, design, size and other relevant features. It identifies, describes and assesses in an appropriate manner, the direct and indirect significant effects of the project on the following environmental factors: (a) population and human health; (b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC; (c) land, soil, water, air and climate; (d) material assets, cultural heritage and the landscape and it considers the interaction between the factors referred to in points (a) to (d). It provides an adequate description of forecasting methods and evidence used to identify and assess the significant effects on the environment. It also provides a description of measures envisaged to avoid, prevent or reduce and, if possible, offset likely significant adverse effects. The mitigation measures are presented in each chapter and are summarised in Chapter 17 of the EIAR. Where proposed, monitoring arrangements are also outlined. Any difficulties which were encountered in compiling the required information are set out under the respective environmental topics.

9.1.8. I am satisfied that the information provided is reasonable and sufficient to allow the Board to reach a reasoned conclusion on the significant effects of the project on the environment, taking into account current knowledge and methods of assessment. I am also satisfied that the information contained in the EIAR complies with the provisions of Articles 3, 5 and Annex (IV) of EU Directive 2014/52/EU amending Directive 2011/92/EU and Article 94 of the Planning and Development Regulations 2000, as amended.

9.1.9. I am satisfied that the EIAR has been prepared by competent experts to ensure its completeness and quality. I note the qualifications and expertise of the persons involved in the preparation of the EIAR are set out in each chapter.

9.1.10. I am satisfied that the information provided in the EIAR is sufficiently up to date and is adequate for the purposes of the environmental impact assessment to be undertaken.

9.1.11. I have carried out an examination of the information presented by the applicant, including the EIAR, and the submissions made during the course of the application. A summary of the submissions made by applicant, appellants, planning authority and observers have been set out in section 6 of this report. The main issues raised specific to EIA can be summarised as follows:

- Impacts to human beings having regard to noise, shadow flicker and traffic.
- Landscape and visual impact arising from the proposed turbines.
- Impacts to biodiversity.
- Impacts to water quality.

9.1.12. These issues are addressed below under the relevant headings and, as appropriate, in the reasoned conclusions and recommendation.

Consultations

9.1.13. Details of the consultations entered into by the applicant as part of the preparation of the application and EIAR are set out in Chapter 1 and Appendix 1. I am satisfied that the participation of the public during both the assessment of the application by the planning authorities and at this appeal stage has been effective and the application has been made accessible to the public with adequate timelines afforded for submissions.

Vulnerability to Risk of Major Accidents and/or Disaster

9.1.14. The requirements of Article 3(2) of the Directive include the expected effects deriving from the vulnerability of the project to risks of major accidents and/or disasters that are relevant to the project concerned. The EIAR addresses this in each of the chapters. It notes that there is limited potential for significant natural disasters to occur at the proposed wind farm site. Potential natural disasters that may occur are flooding and fire. The risk of significant fire affecting the wind farm and causing the wind farm to have significant environmental effects is limited. In terms of potential flooding, all proposed turbine locations, substation, construction compounds, mast, and access roads are outside the fluvial indicative 100 year flood zone. As per the Peat Stability Report in Appendix 6 the potential for peat slide is negligible.

9.1.15. Modern turbine design incorporates mechanisms that come into play under extreme weather conditions including automatic shut down in periods of excessively high wind-speeds. I am satisfied the wind turbines themselves pose no threat to the health and safety of the general public. The wind farm site is not regulated or connected to or close to any site regulated under the Control of Major Accident Hazards Involving Dangerous Substances Regulations i.e. SEVESO and so there is no potential effects from this source.

9.1.16. It is considered that having regard to the nature and scale of the development itself there are unlikely to be any effects deriving from major accidents and or disasters and I am satisfied that this issue has been addressed satisfactorily in the EIAR.

Alternatives

9.1.17. Article 5 (1) (d) of the 2014 EIA Directive requires:

"(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;"

9.1.18. Annex (iv) (Information for the EIAR) provides more detail on 'reasonable *alternatives':*

"2. A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for electing the chosen option, including a comparison of the environmental effects."

9.1.19. The matter of alternatives is addressed in Chapter 3. It is stated that a site selection process was undertaken at a macro level to take account of relevant international, national and regional policies. At a micro level it is stated that the applicant employed a screening process using key criteria ranging from wind resource/speeds in the area, planning policy/designation/zoning to potential for visual and landscape impacts. This process resulted in the identification of a suitable study area in eastern Co. Offaly/West Kildare with a number of alternative land banks/site to the south of Edenderry, potential access routes and locations relative to the Eirgrid grid

connection point at Cushaling/Edenderry Power Plant. An option assessed which is now the subject of the current proposal included additional lands to the north, closer to Edenderry which contained a further 2 turbines but was omitted due to its proximity to houses. The final site selection was influenced by a number of factors including the site being in an area favoured for wind development in the Offaly County Development Plan, connection to the national grid, landscape type/land use, access and infrastructure, environmental considerations and density of houses.

9.1.20. This was followed up with a detailed design and constraints assessment to obtain the optimum layout from a planning, environmental and economic perspective. Alternatives considered were alternative site and design considerations; alternative turbine numbers and heights; and 'do nothing' alternative. Options for the grid connection and substation locations were assessed.

9.1.21. Having regard to the above, I am satisfied that the matter of the examination of alternatives has been satisfactorily addressed.

9.2. Population and Human Health

9.2.1. Chapter 4 is titled Population and Human Health with chapters 10 and 15 addressing noise and shadow flicker respectively. Air quality is addressed in chapter 9, landscape in chapter 11 with traffic and transportation addressed in chapter 13.

9.2.2. This section of the EIAR considers impacts on factors including population, employment, economic activity, land use, residential amenity, noise, shadow/flicker and health and safety. The potential effects on humans with respect to air quality, traffic and visual impact are addressed in the relevant sections below. Invariably there is an overlap and I recommend that they be read in tandem. I note that a number of concerns have been raised by parties to the appeal regarding potential negative impacts of the development to human beings, particularly in relation to noise, shadow flicker, visual impacts and agricultural lands.

Receiving Environment

9.2.3. I refer the Board to section 1 above which gives a site location and description. In summary the overall site is located within Counties Offaly and Kildare. The general area is characterised by a mix of commercial peat extraction and farmland with housing dispersed throughout. The Edenderry power station is c. 1.2 km to the west

of turbine no.1 (T1). The location of the proposed substation is opposite the Edenderry Power Station with the lands in agricultural use.

9.2.4. In a Do Nothing Scenario the existing land use patterns would continue albeit with the likelihood of peat extraction being phased out as part of the national climate action policy.

Population

9.2.5. The area around the site is lightly populated with a low population density. The nearest settlements are Clonbulloge c. 4 km to the south and Edenderry c.5km to the north. One off housing is clustered to the north, north-west and south-west. As per the details on the concurrent appeal under ref. 306924-20 the applicant has confirmed that a dwelling was omitted from the original assessment. A revised map with the property delineated thereon is provided on the file. It is referenced as 9a and is c. 960 metres to the north of T1.

9.2.6. It is not envisaged the construction or operational stages of the project will result in any material changes to population trends or density.

Economic Activity and Employment

9.2.7. Windfarms by their nature have both economic and social impacts on an area. The construction and operational phases will provide employment. During the construction phase between 30-35 people will be employed. There will be spin off benefits to the local economy and thus it is envisaged the project will have positive direct and indirect economic impacts. Maintenance staff will be employed during the operational phase.

9.2.8. A Community Benefit Package is being proposed as part of the project in the range of up c.250,000 per annum (for the duration of the RESS scheme) which would provide for a significant community benefit.

9.2.9. The proposed development would offer significant benefits in terms of renewable energy production and reductions in greenhouse gas emissions during its operational phase. This will be a long term significant positive impact.

Land Use

9.2.10. The proposed development lands comprise of peat bog, forestry and agricultural lands. To compensate for the loss of c. 9.1 hectares of forestry a 11.3 hectare site in

Co. Clare has been identified as replacement lands for replanting with an assessment of the proposal provided in Appendix 3-G.

9.2.11. The impacts will result in a change of land use from peat extraction and agriculture to renewable energy within the footprint of the proposed development. The land take has been kept to a minimum to allow only for installation of wind farm infrastructure thereby minimising changes in land use in so far as possible.

Tourism and Recreation

9.2.12. There are currently no tourist attractions in the vicinity of the site with the nearest being the Lullymore Heritage and Discovery Park in the Bog of Allen near Rathangan Co. Kildare c. 4km to the east and the Grand Canal c.4km to the north.

9.2.13. The development proposes the creation of a 2.95km amenity trail with associated signage, information boards and outdoor fitness equipment within the site northwest of T1 to T3.

Human Health and Safety

9.2.14. In terms of public safety best practice measures are proposed during the construction phase. During the operational phase the wind turbine design is to incorporate mechanisms that come into play under extreme weather conditions with automatic shut off in periods of excessively high wind-speeds.

9.2.15. As noted above the site is not considered to be vulnerable to major accidents/disasters. The site is not at risk of flooding with peat stability not considered to be a material concern. I do not consider that the proposed development poses a substantial risk to human health in this regard.

Residential Amenity

Noise

9.2.16. I refer the Board to my assessment in section 8.7 above.

9.2.17. In summary, I consider that the locations of the five monitoring locations as delineated on Figure 10-1 and Table 10-2 of the EIAR to be reasonable, in accordance with recommended practice and largely correspond with the nearest noise sensitive receptors including 9a which was omitted from the original assessment and which is detailed in documentation submitted on the concurrent

appeal under ref. 306924-20. They are, therefore, considered to be representative. The duration of monitoring over a 4 week period also accords with the recommended practice of 2 weeks minimum.

9.2.18. The derived daytime and night-time background noise levels as indicated in Tables 10-3 and 10-4 can be considered typical for a rural area with low noise levels particularly during periods of low wind speeds. The night-time background noise levels at the measured locations are generally less than 35 $L_{A90,\ 10min}$ for wind speeds up to 7m/s whilst there are no daytime measurements over 40 $L_{A90,\ 10min}$ at wind speeds up to 8m/s.

Predicted Impacts

9.2.19. In assessing the impact of the proposed development and taking into consideration the location of the site the following criteria have been used:

- 43 dB $L_{A90,\ 10\ min}$ for nighttime hours
- 45dB $L_{A90,10m}$ or 5dB above background noise, whichever is greater at noise sensitive receptors for daytime hours
- 35 to 40 dB $L_{A90,10min}$ or 5dB above background noise, whichever is the greater, at the noise sensitive receptor where background noise is less than 30 dB LA90

9.2.20. Regard is also had to the lower fixed limit of 43dB(A)$L_{90,\ 10\ min}$ attached by way of condition (8) to the permission for the Cloncreen windfarm under ref PA0047.

9.2.21. Noise was modelled for 68 receptors, the results of which are set out in Tables 10.13 and 10-14. The former presents the results for the Cushaling wind farm on its own and the latter presenting the cumulative impacts with Cloncreen windfarm. These tables are augmented in the applicant's response to an observation on the concurrent appeal under ref. 306924-20 with predictions for the dwelling omitted from the assessment (No. 9a) giving a total of 69 receptors. To allow for an assessment relative to the prevailing background levels further detail was provided in Tables 1 and 2 of the 1st party appeal submission.

9.2.22. In terms of daytime the predicted noise levels comply with the derived levels of 43 dB or 5dB above background levels. In terms of nighttime the 43 dB parameter is

exceeded at NML4 (to south-west of T1 on R401) at wind speeds of 8 m/s. Curtailment measures will be required in this scenario.

Shadow Flicker

Predicted Impacts

9.2.23. An assessment was undertaken for all properties located within 10 rotor diameters (163 x 10 = 1,630 sq.m.) 39 properties are identified as being with 1.63km of a proposed turbine. The nearest being House No.9a at approx. 960 metres from T1. This dwelling was omitted from the original assessment but acknowledged and mapped by the agent for the applicant in response to an observation on the concurrent appeal under ref. 306924-20.

9.2.24. To assess the potential for shadow flicker the software package Windfarm model was used. The following worst case conditions are assumed:

- 100% sunlight during all daylight hours
- Absence of any screening
- Wind is always assumed to be within the operating range of the turbines so that the rotor is turning at all times.
- The wind will always be blowing from a direction such that the turbine rotor will yaw in parallel with the sun such that the rotor blades are always perpendicular to the sun-receptor view line
- Windows of the property face directly towards the windfarm.

9.2.25. The model also provides for a 'Realistic Scenario' which takes account of meteorological conditions, namely annual sunshine hours (28%).

9.2.26. Of the said 39 properties the modelling predicts that 13 to the north-west and south-west of T1 may experience some shadow flicker. Where meteorological conditions and presence of screening are taken into account (ie. the most realistic scenario) the model also concludes that the current threshold vales will not be exceeded. This is still considered to be an over-estimate of the real case because the orientation of the rotor was assumed to be constantly perpendicular to the sun-receptor view line and to be rotating constantly.

9.2.27. In terms of cumulative impacts due consideration was given to the existing and permitted windfarms in the wider area. The nearest is Cloncreen which will be to the west of any potential receptors. Given the hours of sunshine would vary from east to west it is unlikely any cumulative or simultaneous impact would occur. In addition, the windows of any potentially affected property would not have simultaneous views of both windfarms.

9.2.28. **Features and measures to avoid, prevent, reduce or offset likely significant adverse effects on the environment**

- During construction, the site is to be managed in accordance with the relevant health and safety regulations and guidelines
- Best practice measures for noise control, reduction of dust impacts and construction traffic management.
- Post commissioning monitoring is proposed to confirm the operational noise levels comply with the relevant day and nighttime criteria.
- The applicant is committed to ensuring that shadow flicker does not occur at any dwelling and to employ the appropriate turbine control measures where necessary.

Residual Impacts

9.2.29. The EIAR identifies that with the recommended mitigation in place significant negative residual impacts on population and human health both at construction and operational phases are not envisaged in relation to health and safety, residential amenity, noise and shadow flicker.

Population and Human Health - Conclusion

9.2.30. I have considered all of the written submissions made in relation to population and human health, in addition to those specifically identified in this section of the report. I am satisfied that the impacts identified would be avoided, managed or mitigated by measures forming part of the proposed scheme, proposed mitigation measures and measures within suitable conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct or indirect impacts or cumulative effects in terms of population and human health.

9.3. Biodiversity

9.3.1. Chapters 5 and 6 address biodiversity and ornithology. A revised copy of the latter chapter in addition to further detail on biodiversity accompanies the 1st party appeal on the concurrent file ref. 306924-20. The Board is advised that section 8.5 of the Planning Assessment above addresses ecology. In addition, a NIS accompanies the application with a revised copy submitted with the 1st party appeal on the concurrent appeal providing for consideration of cumulative impacts with the proposed Dublin and Midlands Region Water Supply project and the additional bird surveys. The conclusions reached do not differ from those set out in the original documents.

9.3.2. There is an overlap with land, soil and water which are addressed below. I recommend that the relevant sections be read in conjunction with each other. It is noted that 11.3 hectares of replant lands with technical approval by the Forestry Service will be provided. The potential impact to ecology on the replant lands is considered in Appendix 3-G of the EIAR.

Existing Environment

9.3.3. It is stated that there are 6 SACs within 15km of the site (see Table 5-5 of the EIAR and appropriate assessment below) in addition to 1no. NHA and 2 pNHAs.

9.3.4. The windfarm site comprises a mix of habitat types including cutover bog, wet grassland, improved agricultural grassland and conifer plantation with a pocket of bog woodland along the western extent of the site with a strip between proposed turbines T7 and T8.

9.3.5. No rare or protected species were recorded during the surveys.

9.3.6. Japanese Knotweed was recorded within the site and was subsequently removed by a registered contractor.

9.3.7. The Figile River is slow flowing and classified as a Lowland/Depositing River. It is evaluated as a watercourse of County Importance as it supports a resident population of White-clawed Crayfish listed in Annex II of the Habitats Directive.

9.3.8. Aquatic Habitats were recorded. Brook Lamprey ammocoetes were recorded at sites 2, 3 and 4. Spawning areas for Brook Lamprey in the river are sparse within and adjacent to the site. Brook lampreys were recorded during the current surveys.

It is considered to occur in low densities throughout the river and reproduction is probably limited by the scarcity of suitable spawning areas.

9.3.9. Terrestrial mammal tracks and signs were recorded. 7 species were recorded as listed in Table 5-11

9.3.10. Bat surveys were carried out over 2 seasons in 2018 and 2019. The site is used by foraging bats. No bat roosts were identified.

9.3.11. Otter utilises the Figile River for hunting. No otter holts were recorded.

9.3.12. An active badger outlier single entrance sett is within the site c.125 metres from T5

9.3.13. Ornithological surveys were carried out over 2 years**.** Golden Plover, Whooper Swan, Hen Harrier, Peregrine Falcon, Merlin, Great White Egret, Kingfisher, Lapwing, Woodcock, Long-eared Owl, Buzzard, Kestrel, Sparrowhawk, Snipe and Meadow Pipit were observed**.**

9.3.14. The Key Ecological and Ornithological Receptors are identified.

9.3.15. In a do nothing scenario following cessation of peat extraction the area will be expected to be recolonised naturally. Grassland habitat at the eastern extent of the site would continue to be grazed.

Potential Effects

9.3.16. There are no European designated sites within the development area. The site, via the Figile River, has a hydrological link to the River Barrow and River Nore SAC and has the potential to be indirectly affected, most likely during construction.

9.3.17. Construction activity has the potential to result in the runoff of silt, nutrients and other pollutants. This gives rise to the potential for indirect impact on water quality and supporting habitat of waterbirds.

9.3.18. There will be habitat loss due to the construction of turbine bases, access roads, hardstanding, off site substation, blade transfer area etc. The development will require the felling of 9.1 ha of woodland. It is proposed to replace this loss with replant lands, and this has been assessed as part of this EIAR (appendix 3-G)

9.3.19. The proposal could facilitate the indirect spread of invasive species.

9.3.20. There is a potential for a direct impact on the identified badger sett c. 125 metres from T5.

9.3.21. There is a possibility that hare would be disturbed during the construction phase.

9.3.22. Habitats within the development are considered suitable for breeding otter. The water crossing works may temporarily displace commuting or foraging otters. There will be no instream works.

9.3.23. The mature ivy clad trees in the eastern section of the site provide potential for roosting bats. With woodland felling and loss degradation of wet grassland there will be a loss of potential roosts and loss of foraging habitat. There is the potential for bat mortality from collision or barotraumas with turbines. Fragmentation of habitat, barrier effect, disturbance and collision risk are not considered to be significant effects given the low level of bat activity within the study area.

9.3.24. With respect to aquatic species and habitats, no instream works are proposed, and clear span bridges shall be used where required. Potential indirect effects arise via impacts on water quality due to alterations in drainage, silt run-off and pollution events.

9.3.25. Potential impact during construction on avifauna is the construction of the turbines and associated road network and habitat loss. The primary cause of direct impact on birds during the operational phase is collision risk. A Collision Risk Assessment is presented in Appendix 4-F as amended by Appendix 6 of the revised ornithology chapter submitted with the 1st party appeal on the concurrent appeal. Displacement and barriers effects are also assessed. The impacts on the KORs are described in Table 7-1. In terms of Golden Plover, when the data from the 2 winters is combined, the collision risk was predicted to be between 113 and 118 per year which would increase the annual mortality rate of the county population by 5.07% to 5.32%. Figures are likely to be much less than predicted as a generic avoidance rate was used in the collision risk analysis because a species-specific avoidance rate is not available for golden plover and the species typically avoid turbines in the landscape.

9.3.26. The proposal could result in disturbance for the nesting pair of Peregrine Falcon at Edenderry Power Station c.1.2km from the nearest turbine. The predicted collision risk is considered moderate with the increase in annual mortality for the national population predicted to be negligible.

9.3.27. The collision risk for Buzzard and Kestrel is predicted between 1 and 2 per species per annum and is insignificant in the context of local, county, national and international populations.

9.3.28. Decommissioning activities will take place in a similar manner to the construction phase. A review of the existing and permitted windfarms was carried out and no cumulative effects are likely to occur. Cumulative effects with peat extraction and agriculture and Edenderry Power Station are also considered.

9.3.29. **Features and measures to avoid, prevent, reduce or offset likely significant adverse effects on the environment**

- A Project Ecologist will be employed for the duration of the construction works.
- The area and duration of the construction works will be kept to a minimum.
- Best practice pollution control measures are incorporated into the Construction Management Plan to protect water quality.
- Best practice to be adopted should invasive species be identified. A survey shall be undertaken prior to construction. If identified, an Invasive Species Management Plan will be incorporated into the final CEMP.
- The identified badger sett will not be impacted. Pre-construction badger survey will be undertaken with the necessary derogation licence to be secured if required.
- Preconstruction otter survey will be undertaken to ensure newly established holts, if any, are identified. Should a holt be identified additional survey/enabling works will be undertaken under licence.
- Best practice guidelines pertaining to bats will be complied with. A felling distance of 86.5 metres around each turbine will be maintained to comply with Natural England (2014) guidelines. Any lighting will follow appropriate guidance. A bat survey will be undertaken if felling trees with bat roosting potential and, if identified, the necessary derogation licence to be secured. For each turbine 3 bat boxes will be erected at suitable locations in woodland/treelines. Post construction bat monitoring will be undertaken in accordance with the appropriate guidelines.

- The planting of trees in replant lands is considered in the replanting impact assessment (Appendix 3-G).
- In terms of aquatic species and habitats mitigation measures to protect surface water quality are outlined in Chapter 7 of the EIAR (see below).
- A Construction Environmental Management Plan has been submitted (Appendix 2-B). A finalised plan will be drawn up in advance of any works taking place. Mitigation measures will be implemented as outlined in Chapter 7 to prevent the identified indirect effects on water quality.
- A post construction bird monitoring programme will be implemented to confirm the efficacy of the mitigation measures on birds including Fatality Monitoring and Flight Activity Survey. In addition, monitoring of breeding success of the peregrine falcons. Bird Monitoring Programme is in Appendix 7 of the amended ornithology chapter submitted with the appeal submission.
- An Ecological Enhancement Management Plan (EEMP) shall be developed to provide a framework for the conservation and enhancement of ecological features along the route during operation stage.
- To compensate for loss of woodland the grassland area to the north of the Figile River in the vicinity of the proposal amenity trail will be planted.
- Given the limitations of the collision risk analysis for Golden Plover a bird monitoring programme is to be undertaken including vantage point surveys and carcass searches specifically targeting Golden Plover. Where collisions are found to exceed a 1% increase in background mortality curtailment of turbine operations will apply.
- Woody vegetation will be removed outside the bird breeding season.
- Construction works within 750 metres of the peregrine falcon nest site will begin outside the breeding season.
- Erection of 3 no. peregrine falcon nesting platforms in the wider area.
- The site activity associated with decommissioning works will result in short term disturbance to fauna. There is adequate habitat within the wider area for fauna to disperse on a temporary basis. Site drainage measures will be in

place to prevent any silt laden run off from the exposed soil surfaces such as those that will initially cover over the decommissioned turbine bases.

Residual Effects

The design of the proposal has taken the ecology of the existing environment into consideration. Provided all mitigation measures are implemented in full, no significant effects on designated sites, habitats or fauna are expected from the development.

Biodiversity - Conclusion

9.3.30. The observers to the appeal - Wild Kildare and Kildare Environmental Awareness Group consider that insufficient detail has provided on biodiversity. As per the details provided with the concurrent appeal ref. 306924-20 for 8 of the 9 turbines and to which this case is inextricably linked, ornithological surveys were carried out over 2 years and accords with best practice guidelines set out in the Scottish Natural Heritage Guidelines (SNH, 2014). The Collision Risk Assessment was also reviewed in light of the additional surveys with due consideration given to displacement and potential impacts on barrier effects. The conclusions in the revised chapter on ornithology are the same as those set out in the EIAR document. In terms of bats, surveys were carried out over 2 seasons in 2018 and 2019 with details of the survey methods set out in the EIAR which is supported by the Bat Survey Report in Appendix 3-F. Appropriate survey work of badger and hare has also been undertaken. I submit that the information provided is sufficient to allow for a proper assessment.

9.3.31. I have considered all of the written submissions made in relation to Biodiversity, in addition to those specifically identified in this section of the report. I am satisfied that any potential impacts would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects in terms of biodiversity.

9.4. Land and Soil

Land and Soil are dealt with in Chapter 8 of the EIAR

Existing Environment

9.4.1. The bedrock and overburden geology are summarised, and it is noted that the elevation of the site lies between 65 to 70mAOD. The windfarm and substation sites are located within 2 groundwater bodies as illustrated in. Figure 8.12. The aquifers under the windfarm and substation are classified by the GSI as a Locally Important Aquifer – Bedrock which is Moderately Productive only in Local Zones (Cushina) and Locally Important Aquifer – Bedrock which is General Moderately Productive (Rhode). The temporary blade transfer area is located in an area mapped as Locally Important Aquifer – Bedrock which is General Moderately Productive.

9.4.2. The vulnerability of the groundwater is described by GSI as Low in the area of the site near T1 to T6, moderate in the area near T7 to T9 and moderate in the area near the substation. The temporary blade transfer area is located in an area mapped as moderate vulnerability.

A Peat Stability Report is attached in Appendix 6-A1. A series of 111 peat probes were completed with the average peat depth found to be 0.4 metres. The peat on site has been extensively harvested. The maximum depth encountered was 2.1 metres. Topographical and LiDAR surveys show that the site is relatively flat with the vast majority of the site having a surface slope of less than 3% with the exception of localised features such as the side slopes of drains and occasional areas of peat banks that have not been cut away.

In the Do-Nothing Scenario it is anticipated that the existing land uses including peat extraction would continue or be phased out as part of the national climate action policy. The land in the eastern section of the site is expected to continue in agricultural use.

Potential Effects

9.4.3. The footprint of the proposed turbines and substation are small. Thus, the loss of land including farmland is small. Felling of trees will be required.

9.4.4. The site was assessed as presenting a Category 0 risk of peat instability.

9.4.5. The main impact during construction is the excavation of large volumes of soil and the use of large volumes of aggregate. Inappropriate storage and handling of

excavated peat and soil could increase landslide risk where excavations for turbine foundations extend to depths of 5m or more.

9.4.6. Potential for spills of oil and fuel arise due to the use of plant and machinery.

9.4.7. Soils will be exposed and subject to wind erosion and rain which could deposit silt in streams with an indirect impact on water quality.

9.4.8. Very few impacts are envisaged during the operational phase.

9.4.9. Due to the relatively static nature of soils, geology and land use it has little potential to cause cumulative impacts.

9.4.10. Potential effects will be similar to those associated with construction during decommissioning.

9.4.11. **Features and measures to avoid, prevent, reduce or offset likely significant adverse effects on the environment**

- Mitigation measures are detailed for ground stability including assessment of construction activities by a suitably experienced person after prolonged period of heavy rain, excavation, storage and management of excavated materials.
- Compliance with best practice measures as detailed in the CEMP.
- Measures to protect surface waters to be as set out in section 9.5 below.
- Specific mitigation measures relating to the management of hydrocarbons are listed.
- The substation and oil storage tanks will be in a concrete bund capable of holding 110%.
- Measures to limit the amount of earth materials to be excavated for the cable trenching and storage of same in line with the CEMP.
- Replant lands of 11.3 hectares to offset felling required on the site.
- Mitigation measures during decommissioning will be similar to those applied during construction for decommissioning.

Residual Effects

9.4.12. Given the low risk and highly modified nature of the site and taking into consideration the proposed mitigation measures no significant residual impact is anticipated.

Land and Soil - Conclusion

9.4.13. I have considered all of the written submissions made in relation to land and soil. I am satisfied that any potential impacts would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects in terms of land and soil.

9.5. Water

9.5.1. Chapter 7 of the EIAR addresses water with additional information provided in the applicant's 1st party appeal on the current file ref. 306924-20 which is inextricably linked to the current case. I also refer to my assessment on hydrology in section 8.6 above. I recommend that these sections be read in tandem.

Existing Environment

9.5.2. The site is within the catchment of the Figile River which is a tributary of the River Barrow. The Cushaling River is a tributary of the Figile River which it joins within the wind farm site between T6 and T7. The drainage system has been greatly modified to accommodate peat harvesting with deep artificial drains throughout with outfalls to the Figile and Cushaling Rivers.

9.5.3. The site is located in the South Eastern River Basin District. Due to ongoing peat harvesting there are extensive areas of denuded bogs exposed to pluvial runoff. Large quantities of peat silt are deposited in the river. The Figile River is maintained by excavators to remove silt accumulations. The biological water quality ranges from Q3 to Q3-4. The physio chemical characteristics at 5 locations sampled along the river are tabulated in Table 7-7.

9.5.4. The site is within the Cushina Groundwater Body. It is situated over an aquifer that is described by GSI as a Locally Important Aquifer which is Moderately Productive only in Local Zones (Category LI). The Clonbulloge Public Supply Protection Area is

located c.2km to the south of T1 with an abstraction well located on the outskirts of the village.

9.5.5. In the Do-Nothing Scenario it is anticipated that the existing land uses including peat extraction would continue or be phased out as part of the national climate action policy. When peat extraction ceases the habitat may be restored however the cutover bog surface will be at a much lower level than it was before peat harvesting began and it is likely more water ponding would occur than was originally the case. It is assumed that the use of agricultural grassland will remain unchanged.

Potential Effects

9.5.6. Potential indirect effects could be caused by the increase in run-off, such as soil erosion and sediment release into the receiving watercourses.

9.5.7. During the operational phase there is a potential risk of hydrocarbons polluting the watercourses following run-off from impermeable trafficked areas. There should be negligible release of sediment to watercourses post-construction.

9.5.8. There is the potential for small oil spills used in cooling the transformers at the substation. There will be no further disturbance of soils post construction.

9.5.9. Existing and permitted development is assessed. The potential cumulative effect on hydrology and water quality is considered to be negligible.

9.5.10. Potential effects will be similar to potential construction impacts but to a lesser degree during decommissioning.

9.5.11. **Features and measures to avoid, prevent, reduce or offset likely significant adverse effects on the environment**

- During design, cognisance was taken of the locations of existing watercourses and a buffer zone of 50m was applied. Mitigation was incorporated into the design. The drainage system for the existing tracks and roads will be retained and improved. New tracks and hardstanding areas will be drained.
- Settlement ponds providing retention and treatment of discharges proposed.
- Measures to be taken during the construction phase which are considered to be best practice are contained in the CEMP (Appendix 2-B). This will include

a surface water monitoring schedule. An Environmental Manager is to be retained for the duration of the construction phase.

- The river crossing will be in the form of a clear span bridge with no works required within the channel.
- To mitigate against the minor risk of oil spillages during the operational phase adequate bunding is to be provided.
- Sanitary waste from the sub-station toilet facility will be collected in a sealed holding tank which will be emptied as part of the maintenance regime for the development.
- The drainage system will remain operational during the decommissioning phase and will serve to treat any sediment laden surface water run-off.

Residual Impacts

9.5.12. The residual significance of the impacts is expected to be low taking account of mitigation measures. The proposed drainage follows natural flow paths and provides for continuity of flows. Water quality will be protected by preventing any silt laden run-off reaching the downstream watercourses. The residual impact during construction and operation will be negligible. It is not expected to contribute to any significant negative cumulative effect.

Water – Conclusion

Wild Kildare express concern that the proposed development will have on local hydrology. I consider that sufficient detail has been provided on the potential impacts of the proposed development and note that mitigation has been incorporated into the design with the existing drainage system for the existing tracks and road to be retained and improved with settlement ponds providing retention and treatment of discharges is proposed. Measures to be taken during the construction phase which are considered to be best practice are contained in the CEMP (Appendix 2-B). This will include a surface water monitoring schedule. In addition, an Environmental Manager is to be retained for the duration of the construction phase. The river crossing will be in the form of a clear span bridge with no works required within the channel.

I have considered all of the written submissions made in relation to Water in addition to those specifically identified in this section of the report. I am satisfied that any potential impacts would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the proposed mitigation measures and through suitable conditions including monitoring conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects in terms water.

9.6. Air Quality and Climate

9.6.1. Air Quality and Climate are addressed in Chapter 9 of the EIAR.

Existing Environment

9.6.2. The proposed windfarm is located in Zone D for air quality. The Air Quality Index for Health map on the EPA website shows that the current air quality within the proposed development site is classed as 2 – Good.

9.6.3. If the project does not proceed local air quality and the microclimate will remain unchanged. On a national scale there will be an increase in greenhouse gas emissions if future electricity needs are not met by alternative renewable sources.

Potential Effects

9.6.4. The construction of turbines, mast, site roads, substation and other associated infrastructure, and construction compounds will require the operation of construction vehicles and plant on site. Potential impacts from exhaust emissions will not however, be significant and will be restricted in terms of duration and location.

9.6.5. In terms of dust and its impacts on local residents and the community, it is envisaged that there will be some short term negative impacts.

9.6.6. During the operational phase, the turbines and substation will have no adverse impacts on air quality. Potential impacts from the exhaust emissions associated with machinery and plant that are intermittently required for on-site maintenance will be imperceptible. Once constructed there will be no significant direct emissions to atmosphere. The operational phase will result in positive impacts due to displacement of fossil fuels. During operations there will be no negative effects on climate. The proposal will displace the emission of CO2 from less clean forms of

energy generation and is likely to have a positive effect on the climate. Truck movements associated with removing turbines will be less than the construction phase.

9.6.7. Appendix 3-G provides an assessment of the proposed replanting on a site in Co. Clare to compensate for the proposed felling on site. Replanted areas contribute positively in carbon sequestration and production of oxygen, offsetting the production of greenhouse gases.

9.6.8. In terms of cumulative effects regard is had to existing and permitted development in the area including Cloncreen wind farm. As the proposal will not cause any significant impacts to air and climate there is no potential for the proposal to result in cumulative and/or in combination effects.

9.6.9. ***Features and measures to avoid, prevent, reduce or offset likely significant adverse effects on the environment***

- A Construction Environmental Management Plan (CEMP) has been prepared and included as Appendix 2.B which outlines mitigation measures to address dust generation and traffic emissions during the construction period.
- Mitigation is unnecessary during operation. Decommissioning will be similar to construction phase.

Residual Effects

9.6.10. There will be residual positive impacts from the operation of the proposal in terms of fossil fuel displacement. This is fully in accordance with national, regional and county development plans, policies and objectives as outlined in Section 8.1 above.

Air Quality and Climate - Conclusion

9.6.11. I have considered all the documentation in respect of air quality and climate. Whilst I acknowledge that there may be some impacts to local residents and the local community during the construction of the project, given the inherent temporary duration and impact of the proposed construction works, coupled with measures to ensure best practice site management and dust minimisation, I am satisfied that any potential effect would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the mitigation measures and through suitable conditions. I am, therefore, satisfied that the proposed development would not have

any unacceptable direct, indirect or cumulative effects in terms of air quality and climate.

9.7. Material Assets

9.7.1. Material Assets are addressed in Chapter 14 of the EIAR and it considers Aviation, Telecommunications and Utility Infrastructure. Chapter 13 addresses Traffic and Transportation. I have dealt with the latter in section 8.3 above and I recommend that this be read in conjunction with same.

Traffic and Transport

Existing Environment

9.7.2. The site is bounded by the R401 with an existing access off same identified as L50062. The latter has a width of c.4.6 metres in proximity to the junction. As the road progresses eastwards, it narrows to less than 3 metres with a gravel surface. A barrier is erected c. 500 metres from the above junction with signage indicating access to private property. The L1001 bisects the site with a typical width of 5.2 metres. The substation site is accessed along the R401 with the grid connection to run along the roadside.

9.7.3. A structural assessment of roads in the area is submitted with the appeal submission and augment the testing carried out on L50062 which accompanies the application. The testing covers the R402 from Carbury, the R403/R414 from Allenwood, L3001 (Kildare)/L1001 (Offaly) northwards from Rathangan and R401 past the western entrance. The results show that at least 50% of areas tested have a minimum of a moderate classification in their existing condition.

Potential Effects

9.7.4. Trip generation was established for the construction of the windfarm, the substation and the grid connection works. There will be an increase in HGVs transporting material to and from the site, as well as LGVs and vehicles used by workers. Oversized loads will be required for certain turbine components. A report has been prepared and is submitted as Appendix 2-A with respect to the turbine delivery route.

9.7.5. With the cable route there will be a temporary disruptive impact on those using the road network. As cable laying operations advance along the route the works will move as will the associated impacts.

9.7.6. The windfarm is expected to be unmanned once it is operational and will be remotely monitored. Therefore, vehicular traffic will be limited and anticipated to be 1 – 2 per day.

9.7.7. The recreational amenity trail will generate local traffic, but the impact is expected to be negligible.

9.7.8. During decommissioning the traffic impacts will be far less significant than those required during the construction phase. Table 12.6 indicates the projects whereby there could be a cumulative impact. The construction of the Cloncreen Windfarm is considered to have a minor effect.

9.7.9. Features and measures to avoid, prevent, reduce or offset likely significant adverse effects on the environment

- Modifications to the site entrances from R401 and L1001 will be required to facilitate construction traffic.
- A Construction Traffic Management Plan (TMP) incorporating all mitigation measures is set out in Appendix 8-A.
- A programme of turbine deliveries will be agreed with the relevant authorities and Garda Siochana.
- The road works associated with the cable works will be agreed with the Council. No mitigation measures are required during operation.
- Decommissioning measures identified in the Outline CEMP will be included in any decommissioning plan.

Residual Effects

9.7.10. The construction will lead to additional construction traffic which will need to use the existing road network. By adhering to the site TMP the additional traffic is anticipated to have a direct short term negative impact on the road network and its users. The cable works will involve road works which will require temporary road closures/diversions, but this will only be required at certain times

9.7.11. I am satisfied that with an appropriate monitoring condition in place, there will not be a significant effect on the public roads or their condition. There will be no significant residual impacts during operation or decommissioning.

Aviation

9.7.12. Clonbulloge Airfield is c. 5.5km to the south-west of the site. Contact was made during the EIAR consultations with the IAA, Clonbulloge Airfield and the Irish Parachute Club which are based at the airfield. The wind farm is not an obstruction in the vicinity of the airfield. The wind farm is an en-route obstruction. Mitigation measures include an aviation obstacle lighting scheme as per the recommendation of the Irish Aviation Authority. No residual effects are expected.

Telecommunications

9.7.13. Potential impacts can arise from electromagnetic interference on existing telecommunication services. Kildare Environmental Awareness Group in its observation raises the issue of possible interference with GPS services which may obstruct emergency services.

9.7.14. Consultation was carried out with all known Telecommunications Operators (TO) that could potentially be affected. There are 2 telecommunication towers within 11km of the site. Potential effects during construction are deemed to be insignificant. Mitigation measures may be required to offset the possible impact of T7 on the OpenEir microwave link between Dunmurry Hill and Edenderry. A Telecommunications Report is provided in Appendix 9- A. The measures available include the construction of a telecoms mast within the site or the utilisation of a 3rd party telecoms mast as a microwave radio link relay site.

9.7.15. On the basis of the detail provided by the applicant I consider that adequate detail has been provided to support the view that interference can be minimised. I also note that it is standard practice to attach a condition reiterating same in favourable decisions on windfarms.

Utility Infrastructure

9.7.16. Prior to construction a survey will be completed to determine the extent of utilities and services within the public road associated with the grid connection route. The

grid connection will be laid within the public road and will avoid affecting any existing services.

9.7.17. I refer the Board to my assessment in section 8.2 with respect to the Dublin and Midlands Region Water supply project. The proposed development within the administrative area of County Kildare does not coincide with the 200 metre wide corridor identified as the potential route for a pipeline to bring water from the River Shannon at Parteen Weir to a terminal reservoir in South Dublin to augment water supply to the Dublin Water Supply Area and key settlements along the route. Following the refusal of permission on both applications the applicant has engaged with Irish Water to address this matter following which Irish Water in its observation on the concurrent appeal under ref. 306924-20 confirms it has completed a detailed review of the plans and specifications and has entered into a legal agreement with the applicant regarding the constructability of both the windfarm and Eastern and Midlands Water Supply project. It has no objection to the principle of the development and that it would not adversely affect the delivery of the project.

Material Assets – Conclusion

9.7.18. I have considered all of the written submissions made in relation to Material Assets, in addition to those specifically identified in this section of the report. I am satisfied that any potential impacts would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects in terms of Material Assets.

9.8. Cultural Heritage

9.8.1. Cultural Heritage is addressed in Chapter 12 of the EIAR. I have addressed this issue in section 8.8 of the planning assessment above.

Existing Environment

It is stated that the study area has a rich and well-documented archaeological and historical record. There are no national monuments located within 5km radius. There are no RMP/SMR sites within the development boundary. There are a cluster of monuments at Ballykilleen Td. C. 800 metres to the north-west of the proposed

substation location. There are no Protected Structures, NIAH sites or ACA's within the site boundary. A non-invasive field inspection was carried out. No new cultural heritage or archaeological features were identified.

Potential Effects

9.8.2. There will be no direct impacts on UNESCO, National Monuments, RMP/SMR sites, or Protected Structures on the site. There is potential to impact on below-ground undesignated features including at the river crossing. It is possible that previously unknown archaeological subsurface features and finds can be uncovered in greenfield areas.

9.8.3. It is anticipated that all archaeological issues will be resolved to the satisfaction of the National Monuments Service in advance of construction, therefore there will be no potential direct impact during operation.

9.8.4. Potential indirect impacts during the operational phase relate to the setting in the immediate and wider environment of heritage assets.

Features and measures to avoid, prevent, reduce or offset likely significant adverse effects on the environment

9.8.5. During the construction phase archaeological test excavations, underwater/intra-riverine archaeological wade/diver surveys and archaeological monitoring will be undertaken in compliance with national policy guidelines and statutory provisions for the protection of cultural heritage. All impact issues will be resolved at construction stage and, therefore, there will be no potential impacts at operational stage. No mitigation measures will be required during decommissioning.

Residual Effects

9.8.6. No residual effects are envisaged as all issues will be resolved at the construction stage.

9.8.7. In combination with the permitted Cloncreen windfarm the proposal will have a benign cumulative impact on the appreciation, setting and cultural context of Ballykilleen ringfort and the medieval complex at Drumcooly Hill.

Cultural Heritage - Conclusion

9.8.8. Whilst there is the potential for archaeological impacts arising as stated by North Kildare Environmental Group in its observation, the applicant shall be obliged to undertake appropriate archaeological test excavations and monitoring as detailed above to address such an eventuality.

9.8.9. I have considered all of the written submissions made in relation to Cultural Heritage, in addition to those specifically identified in this section of the report. I am satisfied that any potential impacts would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects in terms of Cultural Heritage.

9.9. **Landscape**

Landscape and visual impact are assessed in Chapter 11 of the EIAR with photomontages provided in Appendix 4, supplemented by additional images submitted with the 1st party appeal on the concurrent appeal under ref. 206924-20. I have addressed the landscape and visual impact of the proposed development in section 8.4 of the planning assessment above and I recommend that the sections be read in tandem.

Existing Environment

9.9.1. The site is within a landscape that is level and open, dominated by commercial peat harvesting and associated development including the Edenderry Power Station and the Mountlucas wind farm further afield. Agricultural land is interspersed throughout with commercial forestry noted in pockets. There is sporadic housing along the local roads with Clonbulloge village c. 4km to the south. The topography of the wider area is reflective of the site and its environs with higher grounds noted at Ballykilleen Hill c.2.2km to the north-west, Drumcooly Hill c.3km to the north and Croghan Hill c. 14km to the north-west.

9.9.2. The site is not designated as being of high scenic amenity in the Offaly and Kildare County Development Plans. The nearest area of High Sensitivity is the Grand Canal

corridor which, at its nearest point, is c.4km to the north with Croghan Hill, also an area of high amenity, c.14km to the north-west.

9.9.3. Both observers to the appeal raise concerns regarding visual impact.

Potential Effects

9.9.4. The EIAR considers the landscape and visual impacts within a 30km radius of the site. A detailed methodology is provided and possible limitations considered. The methodology is based on establishing a Zone of Theoretical Visibility (ZTV) using proprietary software, based on a Digital Terrain Model of the Area. The ZTV indicates where the wind farm is likely to be visible, how much of it will be visible and the extent and pattern of visibility. The assessment is based on a bare ground scenario i.e. no land cover and absence of all natural or manmade features from the landscape including vegetation, houses and other buildings. I am satisfied that the ZTV is a reasonable representation of views on the ground and that the methodology for undertaking the landscape and visual impact assessment is robust.

9.9.5. A range of Viewshed Reference Points were identified with photomontages provided and supplemented in the 1st party appeal on the concurrent appeal. These include 9 within a 5km radius, 4 within a 5-10km radius and 6 within the 10- 20km range. Views represent major routes, local areas, scenic and protected views and settlements within a 20km radius of the site. I am satisfied that the viewpoints selected allow for an adequate assessment of the overall visual impacts, particularly from sensitive locations such as residential areas and designated views.

9.9.6. I consider that viewpoints 4 to 7, 9, 11, 16 and 17 which are within 5km of the site are within what I consider to be the local environment with the cumulative impact with Cloncreen windfarm addressed. Due to the generally flat topography of the area in which the wind farm is to be situated, it is apparent that the turbines will be visible from a wide range of locations. In this regard I submit there would also be a visual impact as viewed along the R401 as it is anticipated that both the proposed development and Cloncreen windfarm would be within the same view shed at relatively close proximity.

9.9.7. From closer in, and in particular from the viewpoints on the road network which surrounds the site, the wind farm will be a dominant element in the landscape. By reason of the open nature of the landscape the magnitude of change will range from

medium to high owing to the height, proximity and spatial extent of the turbines as they appear at the locations. Of particular note in this regard are the viewpoints 6, 7 and 9 to the north of the site. As demonstrated from same it is clear that the wind farm will have a significant impact on the landscape in the views from the surrounding road network and, by extension, on views from local residential properties located along same and, in many instances, would be the dominant element in the landscape and the views available.

9.9.8. The Grand Canal at its nearest point is c.4km to the north of the site is an area of high sensitivity and is used for recreational purposes including a long distance walking route. Viewpoints 1, 5 and 8 are of relevance. In terms of the former the intervening distance and the screening effect of vegetation in what is essentially a flat landscape no views are anticipated. In terms of closer positions, the view from Blundell Aqueduct provides an elevated view towards the site where the canal crosses a local road on a aqueduct. Only two turbines are anticipated to be visible due to the intervening distance and screening effects of vegetation. I would concur that the significance of the visual effect would be moderate. Viewpoint 8 is from Hamilton's Bridge c.5.6km to the south-east . It is designated as a scenic view in the Kildare County development Plan. The proposed windfarm would be visible but at a distance and, in the context of the existing development in the foreground, would be moderate in significance.

9.9.9. Viewpoints 1, 2, 3 10, 13, 14, 15 and 18 are within what I consider to be the wider environment. Viewpoint 18, in the vicinity of Croghan Hill to the north-west, corresponds with protected views in the Offaly County Development Plan. Viewpoints 14 and 15 are representative of hilltop views and a scenic route in the Kildare County Development Plan.

9.9.10. The existing development at Mountlucas is already visible from these vantage points and the permitted windfarms at Yellow River and Cloncreen are expected to provide further interventions in the landscape. In terms of views from the vicinity of and from the summit of Croghan Hill which correspond with development plan protected View 9 (photomontage 18) and from the from Hill of Allen (photomontage 14), the proposed development would represent a further intervention in the views. In terms of the scenic views within Kildare the viewer will be afforded intermittent views with roadside hedgerows providing screening.

9.9.11. In the context of its setting immediately adjacent to the Edenderry power station and the permitted Cloncreen windfarm which will be immediately to the west, the proposed substation would not have an adverse visual impact.

9.9.12. I submit that in the context of the 9 turbines proposed that the landscape and visual impact of the ancillary facilities including a substation, anemometer mast, and access roads would not prove to be significant visual elements of the overall scheme.

Features and measures to avoid, prevent, reduce or offset likely significant adverse effects on the environment

9.9.13. Mitigation is considered to be have taken into account at the initial stage in the layout and design of the turbines.

Residual Impact

9.9.14. The proposal would constitute a significant additional contribution, resulting in a greater cumulative impact which will impact on the character of the landscape. The residual landscape effects are considered to be moderate, adverse and long term. Areas close to the site will be most affected.

Landscape - Conclusion

9.9.15. I have considered all of the written submissions made in relation to Landscape and Visual Impact, in addition to those specifically identified in this section of the report.

9.9.16. Certainly, the proposal will have a significant visual impact in the immediate vicinity and on residential properties therein. I submit that in view of the long established commercial peat milling operations and the presence of the related industrial development, namely the Edenderry Power Station, that the landscape presents itself as a highly moderated working landscape which is relatively robust. The visual character of the wider landscape has changed and will change further as a consequence of the existing and permitted wind energy developments and the proposal will not result in a material alteration in the visual intrusion as to warrant a recommendation to refuse permission. As noted in the Wind Energy Guidelines and in the Offaly and Kildare County Development Plans there is a need to balance the preservation and enhancement of the amenities of places and features of natural beauty and interest against the need to develop key strategic infrastructure. I have

considered the matter of how a strategic development may be justifiable, notwithstanding significant adverse visual impact on individual properties, having regard to the benefit to the public at large. While it is acknowledged that the change likely to arise is considered to be negative at some locations it is considered given the changes already permitted to the landscape that the impacts would not constitute unacceptable detrimental effects on the character or landscape value of the area such as would warrant a recommendation of refusal on visual impacts grounds.

9.10. Interaction between the Foregoing

9.10.1. Chapter 16 of the EIAR addresses interaction of impacts with a matrix provided in Table 16.1. I would concur that the most dynamic interactions pertain to human beings with other interactions between biodiversity, soils, hydrology, air quality and noise and between land and soil, water and air and climate.

9.10.2. I have considered the interrelationships between factors and whether these might as a whole effect the environment, even though the effects may be acceptable when considered on an individual basis. In my assessment of each environmental topic, I have considered the likelihood of significant effects arising as a consequence of interrelationship between factors. Most interactions e.g. the impact of noise and air quality on the population and human health are addressed under individual topic headings. Given the generally modest impacts which are predicted to occur having regard to the nature of the proposed development, mitigation measures, or as a consequence of proposed conditions, I do not foresee any likelihood of any of these interrelationships giving rise to significant effects on the environment.

9.10.3. In conclusion, I am satisfied that there are no such effects and, therefore, nothing to prevent the approval for the development on the grounds of interaction between factors

9.11. Reasoned Conclusion on Significant Effects

9.11.1. Having regard to the examination of the environmental information contained above, in particular to the EIAR and supplementary information provided by the applicant at appeal stage and the submissions from the prescribed bodies and observers in the

course of the application and appeal, 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**: Shadow flicker during the operational phase such as would impact negatively on sensitive receptors and populations in the vicinity of the site. These impacts are substantially avoided by the limited number of sensitive receptors in close proximity to the site and mitigation measures which include the applicant's commitment to zero shadow flicker at residential receptors. During the construction phase, noise impacts may arise from construction activities such a site preparation and construction of the turbine foundations, roads and substation. Predicted operational noise levels will be within the relevant best practice noise criteria for wind farms. A suite of mitigation measures to manage noise and vibration during the construction phase are set out in the EIAR. Post commissioning monitoring will be necessary to ensure the operational noise levels comply with the relevant day and nighttime criteria.
- **Landscape and Visual**: Localised significant visual impact of the development from intermittent sections of the local roads in the vicinity and on local properties therein. The impact of the proposed development, coupled with existing and permitted windfarms in the vicinity, will have a cumulative impact on the visual character of the wider landscape. These impacts will not be avoided, mitigated, or otherwise addressed by means of condition. The impact is balanced by the nature of the landscape which is considered to be a moderated, working landscape and which is robust.
- **Biodiversity**: There will be habitat loss due to the construction of access roads, substation, hardstanding, cable trench etc. and felling of trees. There will be general disturbance during construction and operation phases. These will be mitigated by the replanted forestry lands, mitigation measures outlined in the Construction and Environmental Management Plan, pre-construction mammal surveys, and the appointment of a Project Ecologist.
- **Water**: Potential indirect effects could be caused by the increase in run-off, such as soil erosion and sediment release into the receiving watercourses. The Construction and Environmental Management Plan details the mitigation measures to be taken to mitigate any significant effect.

- Positive environmental impacts will arise during the operational phase from the generation of renewable energy and the provision of a recreational amenity trail.

Notwithstanding the conclusion reached in respect of the inability of the proposed measures to fully mitigate the localised visual impacts, it is considered that the environmental effects would not justify a refusal of planning permission having regard to overall benefits of the proposed development, and in particular having regard to the context which is that of a highly moderated working landscape.

10.0 Appropriate Assessment

Compliance with Articles 6(3) of the EU Habitats Directive:

10.1.1. The Habitats Directive deals with the Conservation of Natural Habitats and of Wild Fauna and Flora throughout the European Union. Article 6(3) of this Directive requires that any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. The competent authority must be satisfied that the proposal will not adversely affect the integrity of the European site.

10.1.2. The application was accompanied by a Natura Impact Statement (NIS) which was amended following additional bird survey data and consideration given to in-combination effects with the proposed Dublin and Midlands Water Supply Project. The amended NIS accompanies the 1st party appeal submission on the concurrent appeal under ref. 306924-20 to which the proposal subject of this appeal is inextricably linked. The conclusions reached are the same per the original document.

10.1.3. The NIS contains a description of the proposed development, the project site and the surrounding area. It contains a Stage 1 Screening Assessment which concludes that a Stage 2 Appropriate Assessment is required. It outlines the methodology used for assessing potential impacts on the habitats and species within the European Site that has the potential to be affected by the proposed development. It predicts the potential impacts for this site and its conservation objectives, it suggests mitigation

measures, assesses in-combination effects with other plans and projects and it identifies any residual effects on the European site and its conservation objectives.

10.1.4. Having reviewed the NIS and the supporting documentation, I am satisfied that it provides adequate information in respect of the baseline conditions, clearly identifies the potential impacts, and uses best scientific information and knowledge. Details of mitigation measures are provided and they are summarised in Section 7. I am satisfied that the information is sufficient to allow for appropriate assessment of the proposed development.

Stage One - Screening

10.1.5. I consider that the proposed development as described in Sections 1 and 2 of this Report is not directly connected with or necessary to the management of any European site.

10.1.6. The Stage 1 Screening Report is set out in Appendix 1 of the NIS. There are no European sites within the proposed development area. It notes that there are six European sites within 15km of the site. All are Special Areas of Conservation. The closest Special Areas of Protection are in excess of 25km from the site.

10.1.7. Tables 2 and 3 list the designated sites located within 15km of the site and include their qualifying interests. Table 4 lists the nearest SPAs and rationale for concluding no significant effects.

10.1.8. The sites considered within the Stage 1 Screening and the distances from the windfarm site and the cable route are summarised below:

Site	**Site Code & Designation**	**Approx. distance from windfarm site (km)**	**Approx. distance from cable route and substation (km)**
The Long Derries, Edenderry	00925 SAC	1.52	5
Mounds Bog	002331 SAC	13.1	17.7

Ballynafagh Lake	001387 SAC	13.4	19.7
Pollardstown Fen	000396 SAC	13.8	18
Ballynafagh Bog	000391 SAC	14.07	20
River Barrow & River Nore	002162 SAC	14.2	14.8
Lough Ennell	004044 SPA	28.4	26
Slieve Bloom Mountains	004160 SPA	29.8	27.8
Poulaphouca Reservoir	004063 SPA	37.9	38.3

10.1.9. Based on my examination of the NIS report and supporting information, the NPWS website, aerial and satellite imagery, the scale of the proposed development and likely effects, separation distance and functional relationship between the proposed works and the European sites, their conservation objectives and taken in conjunction with my assessment of the subject site and the surrounding area, I would conclude that a Stage 2 Appropriate Assessment is required for one of the European sites referred to above, namely the River Barrow and River Nore SAC (Site Code 002162). The Figile (Cushaling) River which traverses the site flows into the River Barrow to the south east of Portarlington, a hydrologic distance of approx. 17.5km.

10.1.10. The remaining sites namely The Long Derries, Edenderry SAC, Mounds Bog SAC, Ballynafagh Lake SAC, Pollardstown Fen SAC, Ballynafagh Bog SAC, Lough Ennell SPA, Slieve Bloom Mountains SPA and Poulaphouca Reservoir SPA can be screened out from further assessment because of the scale of the proposed works, the nature of the Conservation Objectives, Qualifying and Special Conservation

Interests, the separation distances and the lack of a substantive linkage between the proposed works and the European sites. It is therefore reasonable to conclude that on the basis of the information on the file, which I consider adequate in order to issue a screening determination, that the proposed development, individually or in combination with other plans or projects would not be likely to have a significant effect on these 8 European Sites in view of the sites' conservation objectives and a Stage 2 Appropriate Assessment is not therefore required for these sites.

10.1.11. In reaching the conclusion of the screening assessment, no account was taken of measures intended to avoid or reduce the potentially harmful effects of the project on any European Site.

Stage Two – Appropriate Assessment

10.1.12. The Qualifying Interests of the River Barrow and River Nore SAC (site code 002162) are as follows:

- Desmoulin's whorl snail *Vertigo moulinsiana*
- Freshwater Pearl Mussel *Margaritifera*
- White-clawed crayfish *Austropotamobius pallipes*
- Sea Lamprey *Petromyzon marinus*
- Brook Lamprey *Lampetra planeri*
- River Lamprey *Lampetra fluviatilis*
- Twaite shad *Alosa fallax*
- Atlantic Salmon *Salmo salar*
- Estuaries
- Mudflats and sandflats not covered by seawater at low tide Atlantic salt meadows
- Otter *Lutra*
- Mediterranean salt meadows
- Killarney Fern *Trichomanes speciosum*
- Nore Freshwater Pearl Mussel *Margaritifera durrovensis*

- Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation
- European Dry Heaths
- Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels
- Petrifying springs with tufa formation
- Old sessile oak woods with ilex and Blechnum in the British Ilses
- Alluvial Forests *with Alnus glutinosa and Fraxinus excelsior*

Brief Description of the Site

10.1.13. This site consists of the freshwater stretches of the Barrow and Nore River catchments as far upstream as the Slieve Bloom Mountains, and it also includes the tidal elements and estuary as far downstream as Creadun Head in Waterford. The site passes through eight counties – Offaly, Kildare, Laois, Carlow, Kilkenny, Tipperary, Wexford and Waterford.

10.1.14. Both rivers rise in the Old Red Sandstone of the Slieve Bloom Mountains before passing through a band of Carboniferous shales and sandstones. The Nore, for a large part of its course, traverses limestone plains and then Old Red Sandstone for a short stretch below Thomastown. Before joining the Barrow, it runs over intrusive rocks poor in silica. The upper reaches of the Barrow also run through limestone. The middle reaches and many of the eastern tributaries, sourced in the Blackstairs Mountains, run through Leinster Granite. The southern end, like the Nore runs over intrusive rocks poor in silica. Waterford Harbour is a deep valley excavated by glacial floodwaters when the sea level was lower than today. The coast shelves quite rapidly along much of the shore.

10.1.15. The site is very important for the presence of a number of E.U. Habitats Directive Annex II animal species including Freshwater Pearl Mussel (both Margaritifera and M. m. durrovensis), White-clawed Crayfish, Salmon, Twaite Shad, three lamprey species – Sea Lamprey, Brook Lamprey and River Lamprey, the tiny whorl snail Vertigo moulinsiana and Otter. This is the only site in the world for the hard water form of the Freshwater Pearl Mussel, M. m. durrovensis, and one of only a handful of spawning grounds in the country for Twaite Shad. The freshwater stretches of the

River Nore main channel is a designated salmonid river. The Barrow/Nore is mainly a grilse fishery though spring salmon fishing is good in the vicinity of Thomastown and Inistioge on the Nore. The upper stretches of the Barrow and Nore, particularly the Owenass River, are very important for spawning.

10.1.16. Overall, the site is of considerable conservation significance for the occurrence of good examples of habitats and of populations of plant and animal species that are listed on Annexes I and II of the E.U. Habitats Directive. Furthermore, it is of high conservation value for the populations of bird species that use it. The occurrence of several Red Data Book plant species including three rare plants in the salt meadows and the population of the hard water form of the Freshwater Pearl Mussel, which is limited to a 10 km stretch of the Nore, add further interest to this site.

Conservation Objectives

10.1.17. A copy of the detailed conservation objectives for the site are attached by appendix. In summary:

To maintain the favourable conservation condition of the following:

- Desmoulin's whorl snail
- White-clawed crayfish
- Estuaries
- Mudflats and sandflats not covered by seawater at low tide
- Salicornia and other annuals colonizing mud and sand
- Killarney fern
- Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation
- European dry heaths
- Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels
- Petrifying springs with tufa formation

To restore the favourable conservation condition of the following:

- Sea lamprey
- Brook lamprey
- River lamprey
- Twaite shad
- Atlantic salmon
- Atlantic salt meadows
- Otter
- Mediterranean salt meadow
- Nore freshwater pearl mussel
- Old sessile oak woods with Ilex and Blechnum in the British Isles
- Alluvial forests with Alnus glutinosa and Fraxinus excelsior

10.1.18. The objectives state that the status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species.

Potential Impacts on Key Species and Key Habitats

10.1.19. Table 6 of the NIS gives an evaluation as to whether there is potential for the conservation objectives to be affected by the proposed development.

10.1.20. No direct impacts are predicted on any European site as the application site is not directly located within a Natura 2000 site.

10.1.21. Water quality is a key environmental factor underpinning the conservation condition of a number of the qualifying interests. The main risk to water quality will be during the construction phase and the early operation of the project. In the event of release of suspended sediment or a release of other pollutants into watercourses during construction works there could be significant indirect effect downstream on the River Barrow and River Nore SAC. In the event of siltation or pollution of watercourses from the site, the aquatic habitats and species could be indirectly damaged by changes to water turbidity and water quality and thereby potentially impacting on the integrity of the site

10.1.22. The terrestrial and coastal habitats detailed as qualifying interests of the SAC are not considered further as there is no potential for these habitats to be impacted as the development is not contained within the SAC boundary. It is only mobile and aquatic species that could potentially be indirectly impacted by the proposed development.

Qualifying Feature	**Comment**	**Potential for Significant Effects**
Freshwater Pearl Mussel	populations recorded from the River Barrow sub-basin are restricted to 3 tributaries of the Barrow in Co. Carlow and would not be affected by the proposed development. There are no recent records of the species occurring in the main channel.	No
Nore Pearl Mussel	is thought to be restricted to a short section of approx. 10km of the main Nore channel and is not within the zone of influence of the project.	No
White Clawed Crayfish	occurs in Figile River	**Yes**
Brook Lamprey	Recorded in Figile River	**Yes**
Sea Lamprey River Lamprey	Considered to be confined to lower reaches of River Barrow which is a considerable distance from the site	No
Twaite Shad	Limited to the lower reaches of rivers a considerable distance from the site	No
Atlantic Salmon	the tributaries are considered important contributors to the salmon population in the main channel of the River Barrow.	**Yes**

Otter	Habitats within the site are considered suitable for breeding otter.	**Yes**
Desmoulin's Whorl Snail	Significant separation distance to 2 known sites	No
Water courses of plain to montane level with the Ranunculion fluitantis and Callitricho Batrachion vegetation	Full distribution of this habitat and its sub-types are currently unknown. The dominant floating leaved species appears to be the common and widespread water-crowfoot. In view of separation distance considered to be outside the zone of influence	No

10.1.23. In summary the key sensitive receptors are considered to be:

- White-clawed crayfish
- Brook Lamprey
- Atlantic Salmon
- Otter

Potential Impacts on the Integrity of the Site

10.1.24. The potential indirect effects on the conservation objectives of the qualifying interests of the River Barrow and River Nore SAC are detailed in Tables 7-10 of the NIS. In summary, the integrity of the site could be indirectly affected by the proposal through changes to water turbidity and water quality affecting aquatic habitats and species of lamprey, salmon, white-clawed crayfish and otter. This in turn could lead to reduced numbers of different age classes or reduced breeding success.

Mitigation Measures

10.1.25. Mitigation measures are set out in section 7 of the NIS under a number of headings, which include and can be summarised as follows:

- Appointment of Project Ecologist
- Implementation of all measures included in the CEMP

- Baseline water quality monitoring prior to commencement of works and monitoring during construction.
- Works in proximity to watercourses to follow best practice set out in IFI and TII guidance documents
- Implementation of site specific drainage system including installation of settlement ponds, check dams in roadside drains and roads to be cambered to one side.
- Area of works to be kept to a minimum
- Tree felling to be accordance with tree felling license and will follow best practice as set out in Forest Service guidelines.
- Designated concrete wash down area and wheel washing facilities
- Fuel and Oil Management Plan
- Disposal of waste materials off site
- Plant and machinery management
- Pre construction surveys will be undertaken to ensure that newly established otter holts do not occur with the works area. Should a holt be identified additional surveys/enabling works to be undertaken under appropriate NPWS licence.
- Appropriate preventative measures to prevent non-native aquatic/riparian species
- Training of personnel
- Sanitary waste to be removed by authorised licenced waste contractor.

Assessment

10.1.26. The Figile River is a highly modified channel and has been subject to frequent dredging in the vicinity of the site to facilitate/assist drainage for peat harvesting purposes. Large sediments occur within and along the banks of the river with its water quality affected by the surrounding anthropogenic activities based on land use, namely peat extraction and milling and agriculture. Although there are some silt containment measures in place these are insufficient in terms of water quality

protection. Large quantities of peat sile are deposited in the river which is maintained by excavators to remove silt accumulations. The river as monitored by the EPA at 6 locations in 2017 with its biological water quality ranging from Q3 to Q4. Biological water quality assessment was carried out at 5 locations on the river as part of the current assessment. The results ranged from 3-4 (moderate) at 2 locations and 3 (poor) at 3 locations.

White-clawed crayfish

During a river survey conducted in 2019 (5 locations) white-clawed crayfish were found at all locations. The species is present almost throughout the SAC. Considering the current levels of siltation in the Figile River and the continued presence of crayfish, subject to the appropriate mitigation measures during the construction phase and retention of the settlement ponds during the operational phase, prevailing conditions and water quality will not be adversely impacted. There are no components, especially during the construction phase, that could bring alien crayfish to the waters draining the site. Subject to appropriate mitigation measures in terms of construction machinery being appropriately treated, the threat of crayfish plaque can be discounted.

Brook Lamprey

10.1.27. Brook Lamprey were recorded at 2 of the 5 locations surveyed. The species shows a preference for gravel-dominated substratum for spawning and mainly silt and sand dominated substratum for nursery habitat. Subject to the appropriate mitigation measures being adopted and maintained during the construction phase with the retention of the proposed settlement ponds for the operational phase the proposed development will not impact on the prevailing conditions and water quality in the river.

Atlantic Salmon

10.1.28. Whilst the tributaries of the River Barrow are considered important contributors to the salmon population the slow flowing nature and water quality of the reach of the Figile River adjacent to the proposed development is not considered suitable for salmonid spawning. Faster flowing parts of the river downstream of the proposal are likely more important in terms of salmon spawning where 2017 EPA Q-ratings also indicate suitable biological water quality for ova and juvenile salmon. Subject to the

appropriate mitigation measures being adopted and maintained during the construction phase with the retention of the proposed settlement ponds for the operational phase the proposed development will not impact on the prevailing conditions.

Otter

An Otter spraint was observed close to site 4 during the river survey work. Impacts that reduce the availability or quality of, or cause disturbance to, their terrestrial or aquatic habitats are likely to affect otters. Subject to the appropriate mitigation measures being adopted and maintained during the construction phase with the retention of the proposed settlement ponds for the operational phase the proposed development will not impact on the prevailing conditions in terms of water quality and habitats supported. Couching sites or holts have not been identified within the site.

Cumulative and in-combination effects

10.1.29. Cumulative and in-combination effects are considered in relation to existing and permitted windfarms within the wider area as well as other listed projects including peat extraction, Eastern and Midlands Region Water Supply project and climate change. With mitigation in terms of protection of water quality no significant cumulative impacts will arise.

Residual effects:

10.1.30. No significant residual effects are identified following implementation of the recommended mitigation measures.

Appropriate Assessment Conclusions

10.1.31. Having regard to the works proposed, the hydrological distance between the site and the European site and subject to the implementation of best practice construction methodologies and the proposed mitigation measures, I consider that it is reasonable to conclude on the basis of the information on the file, which I consider adequate in order to carry out a Stage 2 Appropriate Assessment, that the proposed development, individually or in combination with other plans and projects would not adversely affect the integrity of the River Barrow and River Nore SAC (Site Code 002162) or any other European site, in view of the site's Conservation Objectives.

11.0 **Recommendation**

Having regard to the foregoing I recommend that permission for the above described development be granted for the following reasons and considerations, subject to conditions.

The Board had regard to:

(a) National policy with regard to the development of alternative and indigenous energy sources and the minimisation of emissions from greenhouse gases

(b) the provisions of the Wind Energy Development Guidelines – Guidelines for Planning Authorities issued by the Department of the Environment, Heritage and Local Government in June 2006,

(c) the policies set out in the Regional Spatial and Economic Strategy of the Eastern and Midland Region, 2019

(d) the policies of the planning authority as set out in the Kildare County Development Plan, 2017

(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 of the general vicinity,

(g) the pattern of existing and permitted development in the area, including other windfarms,

(h) the distance to dwellings and other sensitive receptors from the proposed development,

(i) the Environmental Impact Assessment Report submitted,

(j) the Natura impact statement submitted,

(k) the appeal and observations made in connection with the planning application, and

(l) the report of the Inspector.

Environmental Impact Assessment

The Board completed an environmental impact assessment of the proposed development taking into account

- The nature, scale and extent of the proposed development;
- The environmental impact assessment report and associated documentation submitted in support of the application;
- The submissions from the Planning Authority, the appellant and the observers in the course of the application; and
- The Inspector's report.

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**: Shadow flicker during the operational phase such as would impact negatively on sensitive receptors and populations in the vicinity of the site. These impacts are substantially avoided by the limited number of sensitive receptors in close proximity to the site and mitigation measures which include the applicant's commitment to zero shadow flicker at residential receptors. During the construction phase, noise impacts may arise from construction activities such a site preparation and construction of the turbine foundations, roads and substation. Predicted operational noise levels will be within the relevant best practice noise criteria for wind farms. A suite of mitigation measures to manage noise and vibration during the construction phase are set

out in the EIAR. Post commissioning monitoring will be necessary to ensure the operational noise levels comply with the relevant day and night time criteria.

- **Landscape and Visual**: Localised significant visual impact of the development from intermittent sections of the local roads in the vicinity and on local properties therein. The impact of the proposed development, coupled with existing and permitted windfarms in the vicinity, will have a cumulative impact on the visual character of the wider landscape. These impacts will not be avoided, mitigated, or otherwise addressed by means of condition. The impact is balanced by the nature of the landscape which is considered to be a moderated, working landscape and which is robust.
- **Biodiversity**: There will be habitat loss due to the construction of access roads, substation, hardstanding, cable trench etc. and felling of trees. There will be general disturbance during construction and operation phases. These will be mitigated by the replanted forestry lands, mitigation measures outlined in the Construction and Environmental Management Plan, pre-construction mammal surveys, and the appointment of a Project Ecologist.
- **Water**: Potential indirect effects could be caused by the increase in run-off, such as soil erosion and sediment release into the receiving watercourses. The Construction and Environmental Management Plan details the mitigation measures to be taken to mitigate any significant effect.
- Positive environmental impacts will arise during the operational phase from the generation of renewable energy and the provision of a recreational amenity trail.

The Board completed an environmental impact assessment in relation to the proposed development and concluded that, subject to the implementation of the mitigation measures set out in the Environmental Impact Assessment Report, and subject to compliance with the conditions set out below, the effects on the environment of the proposed development, by itself and in combination with other development in the vicinity, would be acceptable. In doing so, the Board adopted the report and conclusions of the Inspector.

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 the screening assessment and conclusion carried out in the Inspector's report that the River Barrow and River Nore Special Area of Conservation (site code number 002162), is the only European Site in respect of which the proposed development has the potential to have a significant effect.

Appropriate Assessment – Stage 2

The Board considered the Natura Impact Statement and all other relevant submissions and carried out an appropriate assessment of the implications of the proposed development for European Site, River Barrow and River Nore SAC (site code 002162), 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 Site, having regard to the site's Conservation Objectives.

In overall conclusion, the Board was satisfied that the proposed development, by itself or in combination with other plans or projects, would not adversely affect the integrity of the European Sites, in view of the 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, Regional Spatial and Economic Strategy of the Eastern and Midland Region, 2019 and the provisions of the Kildare County Development Plan 2017. It would

- make a positive contribution to Ireland's national strategic policy on renewable energy and its move to a low energy carbon future,
- have an acceptable 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.

12.0 Conditions

1. The development shall be carried out and completed in accordance with the plans and particulars lodged with the application, as amended by the further plans and particulars received by An Bord Pleanala on the 19th day of March, 2020, 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 commencement of development and the development shall be carried out and completed in accordance with the agreed particulars.

   Reason: In the interest of clarity

2. The mitigation measures and monitoring commitments identified in the Environmental Impact Assessment Report, and other plans and particulars submitted with the planning application and appeal shall be implemented in full by the developer, except as may otherwise be required in order to comply with the following conditions.

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

3. Prior to commencement of development, a detailed environmental management plan for the construction stage shall be submitted to and agreed in writing with the planning authority, generally in accordance with the proposals set out in the Environmental Impact Assessment Report. The environmental management plan shall incorporate the following:

   (a) a detailed plan for the construction phase incorporating, inter alia, construction programme, supervisory measures, noise management measures, construction hours and the management of construction waste;

   (b) a comprehensive programme for the implementation of all monitoring commitments made in the application and supporting documentation during the construction period;

   (c) an emergency response plan, and

   (d) proposals in relation to public information and communication.

   A record of daily checks that the works are being undertaken in accordance with the Construction Management Plan shall be available for public inspection by the planning authority.

   Reason: In the interest of environmental protection and orderly development.

4. The mitigation measures contained in the Natura impact statement submitted with the application shall be implemented in full.

   Reason: In the interest of clarity and the proper planning and sustainable development of the area and to ensure the protection of the European sites.

5. 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.

6. This permission shall be for a period of 25 years from the date of the first commissioning of the wind farm.

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

7. The following design requirements shall be complied with:

   (a) The wind turbines, including masts and blades, shall be finished externally in a colour to be agreed in writing with the planning authority prior to commencement of development.

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

   (c) The wind turbines shall be geared to ensure that the blades rotate in the same direction.

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

   Reason: In the interest of visual amenity

8. Within one year of the commissioning of the wind farm, details of amenity trail and public access arrangements, generally set out in the planning application documents, and the timescale for their realisation shall be submitted to the planning authority for its written agreement.

Reason: In the interest of advancing the recreational amenities of the area.

9. Existing trees and vegetation along the north-eastern boundary of the proposed temporary blade transfer area adjacent to the Grand Canal as delineated on drawing number 19877-MWP-14-00-DR-C-5006 received by An Bord Pleanala on the 19th day of March 2020 shall be retained. A revised site layout plan with the necessary alterations shown thereon shall be submitted to the planning authority for written agreement prior to commencement of development.

Reason: In the interest of visual amenity.

10. (a) Noise levels emanating from the proposed development following commissioning, by itself or in combination with other existing or permitted wind energy development in the vicinity, when measured externally at third party noise-sensitive locations, shall not exceed the greater of 43dB(A)$L_{90,10\ min}$ or 5 dB(A) above background levels.

(b) All sound measurements shall be made in accordance with ISO 1996: Acoustics – Description and Measurement of Environmental Noise.

(c) Prior to commencement of development the developer shall arrange for a noise compliance monitoring programme for the operational wind farm.

(d) Details of the nature and extent of the monitoring programme shall be submitted to, and agreed in writing with, the planning authority.

Reason: To protect the amenities of property in the vicinity of the site.

11. The following shadow flicker requirements shall be complied with:

(a) The proposed turbines shall be fitted with appropriate equipment and software to control shadow flicker at dwellings to limits specified in the Environmental Impact Assessment Report.

(b) Prior to commencement of development, the developer shall submit to and agree in writing with the planning authority a shadow flicker compliance monitoring programme for the operational wind farm.

Reason: In the interest of residential amenity.

12. In the event that the proposed development causes interference with telecommunications signals, effective measures shall be introduced to minimise interference with telecommunications signals in the area. Details of these measures, which shall be at the developer's expense, shall be submitted to, and agreed in writing with, the planning authority prior to commissioning of the turbines and following consultation with the relevant authorities.

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

13. 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 masts.

Reason: In the interest of air traffic safety.

14. (a) Prior to commencement of development, details of the following shall be submitted to, and agreed in writing with the planning authority:

i. A Transport Management Plan, including details of the road network/haulage routes and the vehicle types to be used to

transport materials on and off site and a schedule of control measures for exceptionally wide and heavy delivery loads.

ii. Local Road L50062 off R401 shall be used for the delivery of turbine components and ancillary parts, only. It shall not be used by any other construction related traffic.

iii. A condition survey of the roads and bridges along the haul routes shall be carried out at the developer's expense by a suitably qualified person both before and after construction of the proposed development. This survey shall include a schedule of required works to enable the haul routes to cater for construction-related traffic. The extent and scope of the survey and the schedule of works shall be agreed with the planning authority/authorities prior to commencement of development.

iv. Detailed arrangements whereby the rectification of any construction damage which arises shall be completed to the satisfaction of the planning authority.

v. Detailed arrangements for the protection of bridges to be crossed.

v. Detailed arrangements for temporary traffic arrangements/controls on roads.

vi. A phasing programme indicating the timescale within which it is intended to use each public route to facilitate construction of the proposed development.

vii. Within three months of the cessation of the use of each public road and haul route to transport material to and from the site, a road survey and scheme of works detailing works to repair any damage to these routes shall be submitted to and agreed in writing with the planning authority.

(b) All works arising from the aforementioned arrangements shall be completed at the developer's expense within 12 months of the cessation of each road's use as a haul route for the proposed development.

Reason: To protect the public road network and to clarify the extent of the permission in the interest of traffic safety and orderly development.

15. 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 relevant 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. (ii) employ a suitably-qualified archaeologist prior to 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.

16. On full or partial decommissioning of the windfarm, or if the windfarm ceases operation for a period of more than one year, the turbines concerned and all decommissioned structures shall be removed, and foundations covered with soil to facilitate re-vegetation. These reinstatement works shall be completed to the written satisfaction of the relevant planning authority within three months of decommissioning or cessation of operation.

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

17. 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 relevant 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 relevant planning authority to apply such security or part thereof to the satisfactory reinstatement of the public roads. The form and amount of the security shall be as agreed between the relevant planning authority and the developer or, in default of agreement, shall be referred to An Bord Pleanála for determination.

    Reason: To ensure the satisfactory reinstatement of the delivery routes.

18. Prior to commencement of development, the developer shall lodge with the relevant planning authority a cash deposit, a bond of an insurance company, or such other security as may be acceptable to the relevant planning authority, to secure the satisfactory reinstatement of the site upon cessation of the project, coupled with an agreement empowering the relevant planning authority to apply such security or part thereof to such reinstatement. The form and amount of the security shall be as agreed between the relevant planning authority and the developer or, in default of agreement, shall be referred to An Bord Pleanála for determination.

Reason: To ensure the satisfactory reinstatement of the site.

19. 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.

Pauline Fitzpatrick
Senior Planning Inspector

August, 2020