



An
Bord
Pleanála

Inspector's Report ABP-301619-18

Development	Moanvane Windfarm comprising of 12 no. turbines and all associated works.
Location	Moanvane, Ballykean, Bogtown, Enaghan, Kilcooney, Ballychristal And Kilcappagh, Co. Offaly
Planning Authority	Offaly County Council
Planning Authority Reg. Ref.	17/335
Applicant(s)	Moanvane Windfarm Ltd.
Type of Application	Permission
Planning Authority Decision	Grant with conditions
Type of Appeal	First & Third Party
Appellant(s)	Moanvane Windfarm Ltd. Geashill Wind Information Group Dermot & Rosario Kelly
Observer(s)	David Dunne
Date of Site Inspection	24 th August 2018 & 21 st September 2018
Inspector	Ciara Kellett

Contents

1.0 Site Location and Description	5
2.0 Proposed Development	6
3.0 Planning Authority Decision	8
3.1. Decision	8
3.2. Planning Authority Reports	8
3.3. Prescribed Bodies	11
3.4. Third Party Observations	11
4.0 Planning History.....	12
5.0 Policy Context.....	12
5.1. National Renewable Energy Action Plan.....	13
5.2. Strategy for Renewable Energy 2012-2020	13
5.3. Adapting to Climate Change and Low Carbon Act 2015	13
5.4. White Paper – Transition to a Low Carbon Energy Future for Ireland 2015-2030	14
5.5. National Planning Framework	14
5.6. Wind Energy Development Guidelines for Planning Authorities 2006.....	14
5.7. Circular PL5/2017 Wind Energy Development Guidelines 2006 – Update on Review.....	15
5.8. Regional Planning Guidelines for the Midland Region 2010 – 2022	16
5.9. Offaly County Development Plan 2014 – 2020	17
5.10. Natural Heritage Designations	22
6.0 The Appeal	22
6.1. Grounds of Appeal	22
6.2. Applicant Response	27

6.3.	Planning Authority Response	30
6.4.	Observations	30
6.5.	Further Responses.....	30
6.6.	Oral Hearing Request	32
7.0	Planning Assessment	32
7.1.	Principle of Development	32
7.2.	Material Contravention of the Offaly County Development Plan 2014 – 2020 34	
7.3.	Sightlines and entrance.....	35
7.4.	Landscape and Visual Amenities	36
7.5.	Noise	40
7.6.	Procedural Issues	42
8.0	Environmental Impact Assessment.....	43
8.1.	Introduction	43
8.2.	Alternatives	44
8.3.	Likely Significant Direct and Indirect Effects	45
8.4.	Air Quality and Climate	46
8.5.	Noise and Vibration.....	48
8.6.	Biodiversity.....	51
8.7.	Land, Soils and Geology	56
8.8.	Hydrology and Water Quality	59
8.9.	Population and Human Health	62
8.10.	Landscape and Visual Impact Assessment	70
8.11.	Material Assets	75
8.12.	Archaeology, Architectural Heritage & Cultural Heritage	79

8.13.	Interrelations between the factors.....	81
8.14.	Reasoned Conclusion on Significant Effects	81
9.0	Appropriate Assessment.....	82
9.5.	Stage One - Screening.....	83
9.6.	Stage Two – Appropriate Assessment.....	86
10.0	Recommendation	92
11.0	Reasons and Considerations	92
12.0	Conditions	96

1.0 Site Location and Description

- 1.1. The site, as delineated within the red-line boundary, has a stated area of 120.2 hectares. It is located in east Offaly in townlands whose closest settlements are Geashill c.4.5km to the north-west, Walsh Island c.2.75km to the north-east, Clonygowan c.4.5km to the south-west and Portarlington c.8km to the south-east¹. The regional roads in the area are the R420 Tullamore to Portarlington road which lies to the west of the site, and the R400 Mullingar to Portarlington road which lies to the east of the site. The local road, the L1013, joins the R420 just south of Geashill and off which the proposed entrance to the windfarm is located. The townlands in the planning boundary are Moanvane, Ballykean, Bogtown, Enaghan, Kilcooney, Ballychristal and Kilcappagh. The associated grid cable which will connect the on-site substation to the existing 110kV substation at Mountlucas, is proposed within the townlands of Rathfeston, Ballykean, Ballyduff, Raheenbeg, Kilcooney, Ballintogher, Gorteenkeel and Ballynakill. Works adjacent to the public road to facilitate turbine delivery are located within the townland of Ballychristal.
- 1.2. The proposed site contains an area of relatively flat farmland, areas of cutover peat bog and coniferous forestry with elevations of c. 69-80m O.D. The surrounding landscape is of a similar topography, with the most significant feature being Croghan Hill, located c.14 km north of the site, at an elevation of 234m O.D. The land uses are made up of agricultural land, peat bogs and coniferous forestry at various stages of their lifecycle. The majority of turbines are proposed to be underlain by peat.
- 1.3. The Mountlucas windfarm which consists of 28 no. turbines and which has been in operation since 2014, is located c. 5 km to the north of the application site with the site of the permitted Yellow River wind farm, which will comprise of 29 no. turbines, is c.17 km to the north. The recently permitted Cloncreen windfarm of 21 no. turbines is located c.10km to the north-east. The Clonbulloge Airfield is located c. 10km to the north-east of the entrance.
- 1.4. The Kildare county boundary is located c. 18km to the east, with the Westmeath county boundary c.18km to the north/north-west. The Laois county boundary is c.6km to the south-west at its nearest point.

¹ Note all dimensions approximate between village centres and proposed entrance to windfarm *Not to nearest turbine.

- 1.5. Within the wider area the land uses include stud farms. One of the appellants is the owner of a stud farm located just west of the entrance. Sporadic one-off housing is evident along roads in the vicinity.
- 1.6. The Cushina river which is a tributary of the River Barrow traverses through and runs to the east of the site. The site is not located within any European designated site or nationally designated conservation site. There are five European sites within 15km radius with the closest being the River Barrow and River Nore SAC (Site Code 002142) which is c.3.1km from the site.
- 1.7. It is stated that there are 52 no. habitable dwellings within 1km of the development and 101 no. habitable dwellings within 1.4km. A minimum separation distance of 600m from the nearest dwelling has been achieved.
- 1.8. Appendix A includes maps and photos.

2.0 **Proposed Development**

- 2.1. The proposed development consists of the following elements:
 - 12 no. wind turbines with a tip height of 169m and all associated foundations and hardstanding areas with an installed capacity of up to 50MW
 - A 6km recreational amenity trail, associated signage, parking and recreational facilities
 - 1 no. on-site electrical substation and all associated underground electrical and communication cabling connecting the turbines to the proposed on-site electrical substation
 - 1 no. temporary construction compound
 - Provision of new site access tracks and upgrading of existing access tracks and associated drainage
 - Excavation of 1 no. borrow pit
 - Works to facilitate the delivery of turbines along the Local Road L1013 within the townland Ballychristal to include temporary alterations to roadside boundary and the laying of temporary surfacing and the permanent setback of a roadside boundary wall

- Tree felling and all associated development works
- 2.2. All works associated with the proposed grid connection to the national grid are included for assessment as part of the Environmental Impact Assessment but do not form part of the planning application. A grid connection to the existing Mountlucas 110kV substation is included for assessment which will require c.8km of underground cabling primarily along the public road.
- 2.3. It is proposed to deliver the turbines to site from the port of delivery (Cork, Dublin or Waterford) via the M6 motorway and then onto the N52 national primary road to the R420 regional road and then along the L1013 local road to Ballychristal to the site entrance at Ballykean. As noted in the summary above, works will be required along the Turbine Delivery Route. Sections of hedgerow are proposed to be lowered in height to 340mm above road level to allow for oversail of turbine delivery loads.
- 2.4. Approximately 5km of internal access tracks will be required to be upgraded and 8km of new internal access tracks will be required. The access track layout will permit access for vehicles during the construction, operation and decommissioning phases. A borrow pit is required which covers an area of 20,160sq.m with a proposed depth of c.3.5 – 4m. This will be reinstated with surplus mineral soils excavated from the site
- 2.5. There are two watercourse crossings required within the site. It is proposed to construct two clear span bridges to avoid in-stream works. Minor watercourse and drain crossings within the site will be crossed using piped culverts. There is one watercourse crossing along the proposed cable route.
- 2.6. The drainage system will be constructed alongside all internal access tracks, hardstands, substation and compound. The drainage for the existing tracks and roads will largely be retained. Where the roads require widening this will involve relocation of existing roadside swales.
- 2.7. A hardstanding area of c.25m x 50m with two small additional set down areas is required at each turbine to accommodate a main crane and an assist crane during the assembly of the turbine as well as during occasional maintenance. A temporary set down area of c.5m x 70m will be required for the blade set down area.

- 2.8. The construction phase of the project is expected to be 12 – 18 months. An area of c. 18.34 hectares of coniferous forestry is proposed for felling in order to accommodate the construction of some turbines. It is proposed to plant replacement forestry, c.21.49 hectares of trees in Clonlyon c.5.4km north-west of Ferbane or other similarly approved lands.
- 2.9. It is proposed to form a community benefit scheme in the event of a grant of planning permission.
- 2.10. As well as the required drawings and documentation the application was accompanied by an Environmental Impact Assessment Report in four volumes, a Planning Report, and a Natura Impact Statement.

3.0 Planning Authority Decision

3.1. Decision

- 3.1.1. The Planning Authority decided to grant permission subject to 38 conditions. Condition no.3 requires the omission of two turbines, no's. 5 and 7 which is being appealed by the applicant. Condition no.4 permits the duration of permission to be 10 years and condition no.5 permits the life of the development to be 30 years from the date of commissioning.
- 3.1.2. Condition no.8 permits the micro-siting of the turbines by up to 20m but shall not result in the turbines being closer than 500m to any dwelling except with the written consent of the owner.

3.2. Planning Authority Reports

3.2.1. Planning Reports

The Planner's report is the basis for the Planning Authority's decision. In summary it includes:

- Site is located within a Wind Energy Development Area as set out in the Offaly County Development Plan.

- Some sections of track are located within Flood Zone A and B. However, none of the proposed turbines/substation/construction compound/borrow pit are located therein.
- The landscape is classified as moderate to low sensitivity and the closest scenic route is c. 17km away. The closest protected views are north of Daingean and around Croghan Hill.
- Notes that 219 third party submissions were received. The submissions objecting to the proposed development are detailed in tabular format under a breakdown of the issues, as are the submissions in support of the proposal. Planner does not consider that there are inconsistencies in the application as noted in some submissions. Notes public consultation has been carried out.
- A full Environmental Impact Assessment is carried out within the Planner's Report.
- The EIAR reasoned conclusion and recommendations included: The landscape is capable of absorbing changes arising from the proposal; consider it would be useful to receive additional photomontages from listed points; risk of flooding is of minor significance due to small percentage increase in run-off contributing to the catchments and the limited disturbance to ground during construction; proposal will have negligible effect on the receiving environment in terms of hydrology and water quality; proposal will not adversely affect the integrity of European sites; in accordance with Government policy; and positive effects on climate.
- Roads section seek further information in relation to turbine delivery, haul routes, and cable routes. Environment and Water section have no objection subject to conditions.
- Notes Maighne Windfarm has been reverted back to the Board. There appears to be a number of wind turbines proposed within that project which are located within the 20km study area boundary which would require mapping and cumulative assessment. Identifies Mountlucas, Yellow river and Cloncreen windfarms within the 20km area.

- Notes EIAR identifies 4 quarries for the use of aggregates. The quarries are abandoned/reinstated back to agricultural use/ceased and therefore, planning permission would be required to quarry those lands.
- The use of buildings located down private roads require listing.
- Notes that Volume 4 of the EIAR includes the photomontages. The before and after photos are listed but other photos are included which cause confusion. Considers it would be clearer if only the before and after photos were included.
- Recommends Further Information is requested. Most of the items relate to the roads and drainage. Request the applicant to comment on one particular submission which raised issues on a European basis. Requests that the Maighne windfarm turbines within the study area are mapped and subject to cumulative assessment as part of the EIAR. Requests the quarry issue to be addressed and the 'do nothing' scenario in the Cultural Heritage section of the EIAR. Lists additional photomontages required and requires the applicant to address the TII request regarding a technical load assessment of structures.
- An Appropriate Assessment was carried out and it was concluded that the proposal will not have an adverse impact on the integrity of European sites with the implementation of the proposed mitigation measures.
- Following the applicant's response to the request for Further Information, the Planner notes that the response formed part of the reasoned conclusion.
- It is noted that since the FI request was issued the National Planning Framework (NPF) has been adopted which includes a goal for the transition to a low carbon and climate resilient society. Reference is made to objective no.55 which seeks to promote renewable energy use and generation.
- It is concluded that the development is proposed within an expansive flat landscape that is predominantly a low sensitivity landscape and in an area suitable for wind energy, and is capable of absorbing change. It is considered that the view of turbine no.5 is quite significant which is depicted in VRP01 and turbine no.7 which is depicted in RFI-22(iii). Turbine no.7 is quite

significant over house no.167 notwithstanding that it is greater than 500m from the dwelling. Recommends turbine 5 and 7 are omitted.

- Recommends planning permission is granted subject to conditions.

The decision is in accordance with the Planner's recommendation.

3.2.2. Other Technical Reports

- **Roads Section:** Following response to Further Information, no objections subject to conditions.
- **Area Engineer:** Following response to Further Information, no objections subject to conditions.
- **Chief Fire Officer:** No objection.
- **Environment & Water Services:** No objection subject to conditions.

3.3. Prescribed Bodies

- **Transport Infrastructure Ireland (TII):** Following response to Further Information, no objections subject to conditions.
- **Irish Aviation Authority:** No objection subject to conditions.
- **Inland Fisheries Ireland:** No objection subject to conditions.
- **HSE:** No objection subject to conditions.

3.4. Third Party Observations

There were 219 no. submissions both objecting to and supporting the proposal. Issues raised included: Landscape impact; Saturation of windfarms in the area; ecology; Health and safety implications; residential amenity; depreciation of value of properties; roadworks; public consultation; noise; shadow flicker; future rural houses; good farmland being used; division among community; location and height of turbines; animal welfare; local stud farms; communication signals; amenity area not required; public insurance; dust; 5 week public consultation; images unrealistic; out of date Wind Energy Guidelines; absence of local benefit; inconsistencies in planning

application; EIAR; AA; rural businesses; connection to grid; non-compliance with Development Plan policies; and Aarhus.

In support of the scheme points made included: Community benefit; local economy; makes farms sustainable; like walk in Mountlucas; environmentally sustainable; suitable site; safer than nuclear energy; rates; jobs; improves local roads; no problem with sale of houses; huge fines from Europe; capacity in local grid; protects wildlife; and reduce dependence on fossil fuels.

4.0 Planning History

There are no planning applications in the immediate area. There are a number of permissions for domestic dwellings in the vicinity. There have been planning permissions granted for windfarms in the area, most notably:

- **ABP Ref: 237263, OCC Reg. Ref. 09/453:** The Board granted permission 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 and is due north of the site.
- **ABP Ref. 244903, OCC Reg. Ref. 15/44:** The Board granted permission for 5 no. turbines in October 2015 in Meenwaun, Co. Offaly.
- **ABP Ref. PA0032:** The Board granted permission for 29 turbines 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. This has not commenced yet.
- **ABP Ref. PA0047:** The Cloncreen windfarm was granted permission by the Board in May 2017 comprising up to 21 no. turbines with an overall tip height of 170m. This has not been constructed but is located to the north-east of the site.

5.0 Policy Context

The following sets out a synopsis of the most recent considerations:

5.1. National Renewable Energy Action Plan

- 5.1.1. 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. Under the terms of the Directive, each Member State is set an individually binding renewable energy target, which will contribute to the achievement of the overall EU goal.
- 5.1.2. The National Renewable Energy Action Plan sets out the Government's strategic approach and measures to deliver on Ireland's overall target to achieve 16% of energy from renewable sources by 2020. The Government has set a target of 40% electricity consumption from renewable sources by 2020.
- 5.1.3. Ireland's Fourth Progress Report was submitted in February 2018. Ireland has met the interim target set by the Renewable Energy Directive for 2015-2016, reporting an average final energy consumption of 9.5% over that two year period, against a target level of 8.92%.

5.2. Strategy for Renewable Energy 2012-2020

- 5.2.1. It is a strategic goal of the strategy to seek progressively more renewable electricity from onshore and offshore wind power for the domestic and export markets.
- 5.2.2. Key actions include the supporting of the delivery of the 40% target for renewable electricity through the existing GATE processes. A further targeted Gate may be developed, if necessary, following a review of the take-up of Gate 3 offers, while developing a next phase plan-led approach for additional onshore capacity in future.

5.3. Adapting to Climate Change and Low Carbon Act 2015

- 5.3.1. 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.

5.4. **White Paper – Transition to a Low Carbon Energy Future for Ireland 2015-2030**

- 5.4.1. The aim of this document is to set out strategies for the state to adapt to a low carbon future and to provide for Ireland meeting its international and E.U. commitments on greenhouse gas reductions.
- 5.4.2. It is stated that a radical transformation of Ireland's energy sector is required to meet climate policy objectives. A low carbon future will involve, inter alia, greater use of electricity from renewable sources of which the country has a plentiful supply, and greater use of electricity for heating and as a fuel for transport. The White paper repeats the target of generating 40% of the country's electricity from renewable sources by 2020.
- 5.4.3. It envisages on-shore wind driven plants continuing to be the main contributor to renewable electricity. It is stated in Chapter 4 that to achieve the target in relation to renewable energy the average rate of build of on-shore wind generation will need to increase up to 260MW per year from the current rate of about 170MW. A total of 3500-4000MW of on-shore renewable electricity generation is required in comparison to the December 2015 figure of 2500MW.

5.5. **National Planning Framework**

- 5.5.1. Chapter 9 of the NPF refers to Resource Efficiency and Transition to a Low Carbon Economy. 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.*

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

- 5.6.1. 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. Whilst a setback distance is not established, it is stated that noise is unlikely to be a significant problem where the distance to the residential property is more than 500m. In respect of noise, the recommended standard is a lower fixed limit of 45dBA or a maximum increase of

5dBA above background noise and nearby noise sensitive locations, apart from very quiet areas where the daytime level is limited to 35-40dB(A). A night time limit of 43 dB(A) is recommended.

- 5.6.2. In terms of shadow flicker, the recommended standard is a maximum of 30 hours per year or 30 minutes per day for dwellings and offices within 500m. It is further stated that at distances of greater than 10 rotor diameters, the potential for shadow flicker is very low.
- 5.6.3. 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.
- 5.6.4. Appendix 4 details best practice for wind energy development in peatlands. It states that development of most peatland sites (including upland and lowland bog types, fens and heaths) will generally lead to impacts on natural heritage. Notable exceptions to this would be areas of exploited peatland such as within the extensive milled peat bogs, mainly in Ireland's midlands.

5.7. Circular PL5/2017 Wind Energy Development Guidelines 2006 – Update on Review

- 5.7.1. The Interim Guidelines do not replace or amend the existing Wind Energy Development Guidelines 2006, but it is intended that the administrative provisions contained therein will be incorporated into the revisions to the 2006 Guidelines when finalised.
- 5.7.2. The key aspects of the preferred draft approach are:
- the application of a more stringent noise limit, consistent with World Health Organisation noise standards, in tandem with a new robust noise monitoring regime, to ensure compliance with noise standards
 - a visual amenity setback of 4 times the turbine height between a wind turbine and the nearest residential property, subject to a mandatory minimum

distance of 500 metres between a wind turbine and the nearest residential property

- the elimination of shadow flicker, and
- the introduction of new obligations in relation to engagement with local communities by wind farm developers along with the provision of community benefit measures.

5.8. Regional Planning Guidelines for the Midland Region 2010 – 2022

- 5.8.1. Chapter 3 of the RPGs outlining the regional Economic Development Strategy recognises an opportunity for the region to harness the potential for renewable energy development arising from the presence of cutaway bogs. Section 3.3.4.6 acknowledges that renewable energy in all its forms offers significant potential for the development of the rural economy including, inter alia, wind energy potential within the broader objective of reducing carbon emissions and developing alternative renewable energy sources. Worked out peatlands offer potential for renewal energy installation including wind energy.
- 5.8.2. Section 3.4.6.1 'Renewable Energy' supports the development of wind energy generation throughout the region, subject to appropriate siting considerations as set out in the Wind Energy Development Guidelines, Local Authority Wind Strategies and compliance with environmental and landscape designations. Section 5.8 which addresses energy provision states that the region has substantial renewable energy potential to accommodate large scale energy production in the form of wind farms and bio-energy fuel sources. The RPGs acknowledge that the development of the renewable energy sector in the Midland Region will significantly contribute to the national target of generating 40% electricity from renewable sources by 2020.
- 5.8.3. In relation to Energy Infrastructure, the relevant policies include:

TIP33: *Support the sustainable development of the infrastructure required to assist the Midland Region in the delivery of renewable energy particularly in the context of the existing energy infrastructure in the region and the need to make a transition from peat to renewable energy.*

5.9. Offaly County Development Plan 2014 – 2020

5.9.1. Section 2.8 of the Plan addresses Rural Strategy. The following policies pertain:

RDP-07: *It is Council policy to support those who live and work in rural areas and who wish to remain on the land holding and accordingly the Council will favourably consider rural diversification intended to supplement farm income such as:*

o Specialist farming practices e.g. flower growing, equine facilities, poultry, mushroom growing, and specialised animal breeding.

o Farm enterprises such as processing, co-ops, farm supply stores and agri-business.

o The production of organic and specialty foods to meet the increase in demand for such products.

o The conversion of redundant farm buildings of vernacular importance for appropriate owner-run enterprises, as a way of supporting a viable rural community, subject to the proper planning and sustainable development of the area.

RDP-08: *It is Council policy to support the development of renewable energy in rural areas, where it is considered appropriate i.e. where it is demonstrated that such development will not result in significant environmental effects. Such development will be assessed on a case-by-case basis.*

5.9.2. Section 3.5 addresses Wind Energy. It notes that the characteristics of cutaway bogs appear to be particularly suitable for wind development. The individual sites on cutaway bogs are large and generally uninterrupted by hedgerows, streams, or other natural features. Many are already connected to each other via corridors i.e. bog railway routes, which allow for transmission infrastructure and roadways to be built between sites, avoiding impacts on the public road in terms of traffic and visual impact.

5.9.3. The areas where peatlands occur have a low density road network and are traditionally sparsely populated, and while they have not completely avoided sporadic urban generated one off housing, they are the least densely populated areas of the county.

- 5.9.4. Appropriate buffers should be provided, which shall be a minimum of 2km from town and village cores, European sites and NHA's. The EIA associated with any development should also assess the flight paths of any Annex 1 bird species present in order to minimise the potential for bird strikes.
- 5.9.5. Map 3.2 delineates two wind energy development areas in the county. The site is within the eastern designated area.
- 5.9.6. The following policies pertain:

***EP-01:** It is Council policy to support national and international initiatives for limiting emissions of greenhouse gases and to encourage the development of renewable energy sources.*

***EP-02:** It is Council policy to facilitate the continual development of renewable energy sources having regard to the proper planning and sustainable development of the area concerned, the protection of amenities, landscape sensitivities, European Sites, biodiversity, natural heritage, and built heritage, and where such proposals comply with policy contained in the County Development Plan, in the interests of proper planning and sustainable development.*

***EP-03:** It is Council policy to encourage the development of wind energy in suitable locations, on cutaway bogs within the wind energy development areas open for consideration identified in Map 3.2, in an environmentally sustainable manner and in accordance with Government policy, having particular regard to the Wind Energy Strategy for the County and Section 3.5.1, which states that appropriate buffers should be provided, which shall be a minimum of 2km from Town and Village Cores, European designated sites, including Special Areas of Conservation (SAC) and Special Protection Areas (SPA), and national designations, Natural Heritage Areas (NHA). Wind Energy developments on cutaway bogs should generally be developed from the centre out.*

The Area around Corracullin Bog, (Area 4 in Wind Energy Strategy), is omitted from the Wind Energy Development Area.

***EP-04:** Cumulative effects of wind farm development can arise as the combined consequences of proposals for more than one wind energy*

development within an area or proposal(s) for new wind energy development(s) in an area with one or more existing or permitted developments. Offaly County Council will monitor cumulative impact assessments of wind energy proposals over the lifetime of the plan and cumulative impacts will be a material consideration in the assessment of any planning application for wind energy development.

EP-09: *It is Council policy to require any applicant for energy generation facility to provide details of all transmission infrastructure associated with the development and to assess the impact of this infrastructure on both the environment and landscape as a material consideration of the planning decision.*

The following objectives are noted:

EO-01 - *It is an objective of the Council to achieve a reasonable balance between responding to government policy on renewable energy and in enabling the wind energy resources of the county to be harnessed in an environmentally sustainable manner. This will be implemented having regard to the Council's Wind Energy Strategy as follows:*

- 1. In areas open for consideration for wind energy development, as identified in Map 3.2, the development of wind farms and smaller wind energy projects shall be open for consideration.*
- 2. In all other areas wind energy developments shall not normally be permitted – except as provided for under exemption provisions and as specifically described in Section 5.4 of the Wind Energy Strategy and Policy EP – 05.*

EO-02: *It is an objective of the Council to facilitate the promotion and construction of energy efficient developments throughout the county.*

EO-05: *It is an objective of the Council to assist the Midland Energy Agency in delivering energy efficiency solutions, stimulating the increased uptake of renewable energy sources and the promotion of clean and sustainable transport.*

- 5.9.7. Section 8.23 sets out Development Management Standards for wind energy. All planning applications for wind energy turbines or windfarms shall be assessed against the DEHLG's publication Wind Energy Development Guidelines, 2006, (and any subsequent guidelines) and the Offaly County Council's Wind Strategy.
- 5.9.8. Chapter 7 deals with heritage and landscape. The site is located within an area of 'low sensitivity' and 'moderate sensitivity' landscape. Areas of low sensitivity in general can absorb appropriately designed and located development. Moderate sensitivity areas are areas which are generally 'open' in character with intrinsic quality and moderate capacity to absorb new development. Some form of development subject to appropriateness/conditions is considered possible.
- 5.9.9. Table 7.11.2 and 7.11.3 sets out the landscape characteristics and sensitivities as applicable to low and moderate sensitivity areas respectively. It is noted that for areas of low sensitivity due to the rural nature of the area, development should be screened by appropriate natural boundaries that are sympathetic to the landscape generally, where possible. It is noted for moderate areas that some cutaway bog landscapes are more robust and may be considered for other uses and may be appropriate for other sensitively designed and located developments including renewable energy (wind farms, biomass crops) and/or industrial use. The Council recognises the need for a land use plan for the future development of large areas of cutaway bog within Offaly.

***LAO-01** it is an objective to preserve and enhance the character of the county's landscape where, and to the extent that in the opinion of Offaly County Council, the proper planning and sustainable development of the area requires it.*

The proposed development site is not located within an Area of High Amenity.

- 5.9.10. The *Wind Energy Strategy for County Offaly Methodology Statement 2014* forms part of the Offaly County Development Plan 2014-2020. The objective of this methodology statement is to evaluate and analyse the potential wind energy resource within County Offaly, to define environmental and planning considerations for wind energy development and to make recommendations on wind energy resource development policy and practice.

- 5.9.11. Figure 8 delineates areas of wind energy development potential. The site is within Area 2 Clonygowan to Clonbullogue. As per Table 1, having regard to the very low levels of existing dwellings, large land holdings, reasonable access to grid, reasonable road access and existing cut-over bogs this area is suitable for large scale windfarm development. The decision is that core areas of cutover bog are suitable for windfarms with scope for more dispersed clusters of smaller developments over the remainder of the area.
- 5.9.12. Following on from this analysis section 5 sets out the wind energy strategy for the county. Figure 9 indicates the areas that are deemed suitable for all scales of wind energy development on account of a combination of factors including:
- Available access to suitable grid connections (within 10 kilometres);
 - The absence of overwhelming environmental constraints; and
 - Low densities of adjacent residential development.
- 5.9.13. Applications for wind turbines in these areas are acceptable in principle, subject to conformance with all other requirements of the County Development Plan, including objectives relating to landscape protection and the protection of residential amenity. The rationale behind this policy is to minimise the impacts of large-scale developments on the environment of Co. Offaly as a whole, while maximising the potential for optimal and efficient grid connection. The strategy anticipates that all wind farm sites within the Suitable Area for Wind Energy Development will be intensified in future by:
- Taller turbines with larger swept areas;
 - Higher densities (closer spacing of turbines);
 - More advanced technology with higher efficiencies of energy capture.
- 5.9.14. The boundaries of the current Strategy Areas will be reviewed once substantial wind energy development has occurred within them – with a view to extending or contracting them having regard to:
- the alteration to the landscape character of the area due to the proximity of established windfarm projects;
 - the requirements for alternative energy at that time;

- the future configuration and availability of grid connections; and
- relevant environmental and social constraints.

5.10. Natural Heritage Designations

There are five designated sites within 15km of the site. They are:

- Charleville Wood SAC (Site Code 000571) c.15km north-west of the site.
- Raheenmore Bog SAC (Site Code 000582) c.13.4km north of the site.
- Mountmellick SAC (Site Code 002141) s.6.4km south of the site.
- River Barrow and River Nore SAC (Site Code 002162) c. 3.1km south of the site
- Slieve Bloom Mountains SPA (Site Code 004160) c. 11.9km south-west of the site.

6.0 The Appeal

6.1. Grounds of Appeal

Two third party and one first party appeals were lodged. The two third party appeals were lodged by the owners of a stud farm to the west of the proposed entrance and by the Geashill Wind Information Group. In summary they include:

Heather Crest Stud

- The boundary of the stud farm known as Heather Crest Stud is within 340m of Wind Turbine no.1. The proposed entrance is within 85m of their paddocks and 220m of their home. There are 4 turbines within 1.5km of the stud farm with Turbine no.2 within 800m of the farm.
- There are already 83 wind turbines constructed or permitted within 15km of the site. If permission is granted there would be 95 turbines.
- The stud farm has been in existence for 10 years and relies on the peaceful rural setting to pre-train and breed thoroughbred horses. The proximity of the windfarm will render their livelihood unviable with trainers and breeders confirming that horses will be withdrawn from the stud farm.

- Thoroughbred horses are particularly sensitive to noise and visual impacts. Adverse risks are too great for the health, safety and wellbeing of the horses and their riders.
- Independent opinions from the equine industry are provided as part of the appeal which indicate that there is a high risk of the horses being spooked by shadow flicker, sight and sound of the turbines. The Irish Thoroughbred Breeders Association (ITBA) have continuously advocated for significant setback distances from stud farms. Impacts of windfarms on stud farms have been well documented.
- A stud farm is a noise sensitive location and should be assessed accordingly.
- Proposal will set an undesirable precedent for other similar windfarms.
- Reference made to planning application ABP Ref. PA0041 which was refused permission by the Board in May 2018 for the proposed Maigne Windfarm. It is noted that the Inspector recommended a reason for refusal relating to stud farms. However, the Board did not include it as a reason for refusal, noting lack of specific evidence that windfarms pose a threat to the welfare of horses. It is considered that there is documentary evidence enclosed with this appeal that demonstrates there will be an adverse impact on Heather Crest Stud, as well as evidence which illustrates that horses will be withdrawn from the stud farm should permission be granted.
- The Landscape and Visual Impact Study is fundamentally flawed. The photomontages do not depict the impact of a wind turbine within 340m of the appellant's stud farm and within 725m of their dwelling.
- The EIAR is misleading and misconstrued as it identifies farm buildings but does not identify the true extent of the stud farm, i.e. the fields and paddocks which are used daily.
- The shadow flicker studies do not adequately assess the true impact on their rural business – no assessment carried out on training grounds and paddocks.
- Proposal is contrary to the policies and objectives of the Development Plan with regards to protecting the rural community and is premature pending the

publishing of the updated Wind Energy Guidelines. The 2006 Guidelines are outdated with obsolete standards. The EIAR report confirms that the proposal may not comply with the new Guidelines, therefore cannot be assessed in light of pending new guidelines.

- In this instance the windfarm will result in the closure of a rural business and as such it is not in accordance with the proper planning and sustainable development of the area.
- It will give rise to significant dis-amenity in terms of visual intrusion and overbearing effect, shadow flicker and noise nuisance. A significant quantum of dwellings are located within 1km of the site.
- Site entrance requires existing trees to be removed within their ownership.
- Project Splitting: Project is circumventing the EIA Directive.

Geashill Wind Information Group

- Disappointed that the Further Information request was not deemed significant and therefore not re-advertised to permit the public to comment further.
- No community fund can compensate for the loss of amenity. The proposed walkway of 0.6km is rather limited. Those wishing to participate in the community fund are landowners or extended families involved.
- Questioned the validity of the application in the absence of the actual grid connection and route to the grid forming part of the planning application. Accepts the assessments of cable routes for complying with requirement of EIA but this leaves legitimate concerns relating to likely associated impacts as a result of the route.
- Laying of extensive network of cables within rural roads that are substandard raises legitimate concerns about public health and safety as well as laying alongside other utilities. The level of disruption caused locally can be reasonably regarded as not acceptable.
- Attention drawn to the local road the L1013 at Ballykean which is considered extremely narrow and in a poor state of repair. Difficult to see how any widening of the road can be achieved. The local roadway is already highly

trafficked providing a main artery between Walshtown and Geashill. The Council have not adequately considered the risk of the entrance on this road.

- Reference made to the Heather Crest stud farm.
- There is a strong demand for housing in the area – difficult to square the circle in terms of the zoning of the area as open for windfarm development which provides no further classification as to the extent or level of windfarm development that might be allowed.
- Commissioned UK Landscape Architect to review methodology used for landscape and visual impact assessment, including a siting and design review. Preliminary Report enclosed due to time constraints. That report concludes that methodology in EIAR is ambiguous, and the conclusions are either untenable or questionable. These points raise question marks over the suitability of the zoning in the CDP.
- Proposal will amount to overspill in the area. Decision relies on various policies including the National Policy for the Development of Renewable Energy etc. Critical of the failure and lack of engagement on real issues. Policies do not remove the requirement for a full EIA.
- Contend that policy EP04 provides the basis for the refusal as area cannot sustain or assimilate this additional development and the accompanying Report on Landscape and Visual Impact (as part of the appeal) places serious doubt over the methodology used by the applicants and the local authority.
- 2006 Guidelines were drawn up when turbines had an average height of 49m not the 169m being applied for. Refer to Marshall Day Report from which it is clear that a consequence of increased turbine height is proportionally linked to increased noise. Therefore, directly proportionally increased setback distances can have a mitigation value. There are a number of properties within 750m of the turbines.
- Note that while condition no.3 omits turbines 5 and 7 in the interest of visual amenity, it does not address overall concerns in relation to residential and visual amenity.

First Party Appeal

- Does not understand the rationale for omitting 2 no. turbines. i.e. up to 16% of the generating capacity and request that this condition is omitted.
- Proposal is fully compliant with policy documents. There is no objection in principle to the proposed development. Site is in area identified as open for consideration for windfarms. The Board previously considered Mountlucas c.5km to the north, Yellow River c.16km to the north, and Cloncreen c.10km to the north-east to be acceptable development which suggests that proposal is located in one of the more suitable landscape types.
- The EIAR concludes that proposal will not have a significant negative impact on key considerations as set out in EP-02.
- The site is not designated as being of high amenity. A minimum setback of 2km from the closest settlements has been achieved.
- Historic pattern of development is a key consideration – the long established commercial peat milling operations present the landscape as a highly moderated and robust working landscape.
- It is clear the Council considers that due to the separation distance that negative cumulative effects will not occur.
- Planner's Report recommendation to omit T5 and T7 appears to be based on a single photomontage in respect of each turbine. Submit that photomontages, while individually accurate, are a single and static representation from specific viewpoints. On the ground visual amenity and visibility are dynamic and informed by moving through a locality in different directions with both near and distant focal points depending on the degree of local screening or openness.
- Landscape Architects comment: Turbine 5 – VRP01 is representative of one of the more open views – extent of visibility beyond local road varies continually. Sequence of images provided from north to south through the settlement of Moanvane. Views when travelling southwards have constantly changing degrees of enclosure. This characteristic will result in turbines coming in and out of view. It is contended that T5 will not be 'quite significant'

when considered in the overall locality of Moanvane as distinct from one particular fixed vantage point.

- Similarly, for T7 the photomontage from Bogtown is a static image from a specific viewpoint. This image was requested for further information. At the vantage point, house no.167 and T7 are almost aligned and the image is static. The distance between the house and the turbine is foreshortened and difficult to appreciate. To illustrate the distance better, an additional viewpoint has been prepared from the south of Ballyshear looking towards the house and accompanies the appeal. Comparison of the two photomontages reveals a better sense of distance. While T7 is the most apparent it will come in and out of view at different locations. Contend that it cannot be considered to be 'substantially dominant' in relation to any dwelling when considered in the wider landscape.
- A number of images of other windfarms are provided to illustrate the acceptance of the culture of windfarms which were considered and approved by the Board.

6.2. Applicant Response

The applicant was provided an opportunity to respond to the third-party appeals. The applicant responded to each point made in both appeals. In summary it includes:

- Noise and Shadow Flicker effects on Heather Crest stud farm: Potential for effects was addressed in Chapter 10. Within 10 rotor diameters (assumed at 1400m) two no. stud farms were identified. There is no reference to wind turbine effects (noise or shadow flicker) on bloodstock activity in the Windfarm Planning Guidelines and there is no published scientific research known to the applicant that suggests operational windfarms have any ongoing effect on the bloodstock industry.
- The applicant is committed to zero shadow flicker at occupied residential receptors within 10 rotor diameters.
- Equine concerns raised in the appeal appear to be based on the perception that horses will be impacted rather than detailed or expert analysis.

- Refer to the 2014 Marshall Day noise assessment as detailed in the EIAR which examined horses in stables, breeding mares and race horses. Contend that there are already examples of existing windfarms being located on or near stud farms, equestrian centres and horse-riding trails in the UK and Ireland. Examples provided.
- Refer to the Maighne Windfarm and the Board's decision not to include the Inspector's refusal reason relating to the equine industry. Reference made to Kill Hill Windfarm in Tipperary (AP PL23. 221656) for 19 turbines. The Inspector's Report considered that there was not enough evidence to demonstrate that the proposal would have a significant negative impact on the equine industry (inter alia) to warrant a refusal of permission.
- Important to note that turbines are fixed in position with the movement of blades alternating at a slow pace thereby avoiding any sudden movements.
- There are many examples of horses in proximity to busy roads, trains and planes. They have become habituated to the visual, acoustical, vibrational, shadows and pulses of air pressure change. There are well known stud farms adjacent to the main Cork to Dublin high speed railway line. The turbines will not appear suddenly and startle the horses but will form part of the landscape.
- Noise assessment and receptor locations: Map produced in the appeal was of noise monitoring locations and not the receptor locations. Appellant's dwelling identified as receptor 97. Receptor 97 was not identified as one of the most exposed dwellings. Receptor 197 relates to the farm buildings. It is noted that at wind speeds of 7m/s to 10m/s the noise level is slightly above 45dB limit based on worst case scenario. There are no exceedances in relation to residential dwellings.
- Site entrance: Trees at the proposed entrance will be removed. Sightlines of 160m available in both directions.
- Project Splitting: The EIAR assessed the entire project – precedent for this approach.
- Visual Impact: The LVIA is comprehensive in its assessment. Photomontages were taken from publicly accessible areas only – not private land. Final

selection of views was representative of the range of possible views. The visual effect is considered to be locally significant when open views are afforded, but alternately moderate or slight over the wider locality where immediate screening is partial or more complete.

- Grid connection and current state of the road network: The Further Information response illustrated how the cable will be laid in the public road. Condition no.13 requires a full pavement analysis of the turbine delivery route from the junction of the R420 and R402 up to the site entrance on the L1013.
- Disruption to services: Requirements of conditions 13, 14 and 16 will ensure that there is no risk to public health and safety and that the integrity of the local road will be maintained. General traffic management measures are detailed in the Outline Traffic Management Plan.
- Sightlines: Local roads experience very low volumes of traffic.
- Landscape submission from Consultant on behalf of Geashill Wind Information Group: The EIAR LVIA is comprehensive and clear. Effects are fully documented.
- Proposal is located within Low Sensitivity/Rural and Agricultural areas. There are smaller interspersed areas of moderate sensitivity landscape. Mountlucas and Cloncreen are entirely located within moderate sensitivity landscapes. It is located in an area identified in the Offaly County Wind Energy Strategy that is suitable and identified in the Development Plan as an area 'open for consideration' towards wind energy. The landscape is considered robust.
- There are limited locations from where the entire scope of the development will be visible, and these areas are generally at considerable distance on more elevated grounds.
- The cumulative effect in combination with existing and permitted will range from imperceptible through slight to occasionally moderate. The separation distance between developments is also important and are all sufficiently far from each other to minimise cumulative effects. With one windfarm existing in east Offaly and two others permitted, windfarms have become a familiar but not defining feature of the landscape.

6.3. **Planning Authority Response**

No response from the Planning Authority was received within the appropriate period.

6.4. **Observations**

Two observations to the appeal were received. In summary they include:

- In final stages of completing house which will be close to the windfarm. Strongly object due to incompatible noise issues.
- Retained the services of a Noise and Vibration Consultant. Report attached to observation.
- Planning permission was granted with conditions on permitted noise levels which are not in line with Departmental Guidelines which are in turn obsolete and not fit for purpose.
- ETSU-R-97 clearly states wind turbine levels between 35 and 40dB for the daytime and a higher limit of 43dB at night. The condition that allows 43dB at day and night is a limit which is 3-8dB higher than what is proposed in ETSU-R-97 guidance which has been in existence since 1997.
- Property is a low noise environment and noise should be within 35-40dB.

Transport Infrastructure Ireland (TII)

- TII request the Board to have regard to the observation submitted to the Council which originally requested the Council to abide by official policy in relation to development on/affecting national roads.

6.5. **Further Responses**

6.5.1. The third parties were provided an opportunity to comment on the other appeals lodged. In summary they include:

- Both third parties in full support of the other.
- Heather Crest Stud Farm concur that recreational amenity trail is limited in length and offers no real community benefit.

- Project splitting has occurred with the omission of the grid connection and route along narrow rural roads is a serious traffic hazard.
- Existing land use of stud farm has not been considered and location of entrance was never agreed with stud farm owners.
- Strongly support key points made in Landscape Report submitted by Geashill Wind Information Group.
- A large multinational company should not take precedence over the local rural economy, should not prejudice the local environment and should be considered premature pending the adoption of the new Wind Energy Guidelines.
- Strongly object to first party appeal. Development is only 'open for consideration' subject to compliance with relevant policies.
- First party states 12 turbines will not have a significant adverse effect on the overall landscape character, which is contrary to the EIAR which notes significant effects within 2km.
- The visual impact on the dwellings with respect to the 2 turbines omitted by condition remains significant whether the view is static or moving. View of turbine 1 will also be overbearing and dominating.
- Cases quoted by applicant as precedent are completely different to subject development.
- Should permission be granted, 95 wind turbines will be in operation within 15km of their premises.
- Geashill Wind Information Group submitted the revised Landscape Report prepared by Mark Steele Consultants UK which now includes fieldwork assessment to follow up on the initial desktop study carried out for the appeal and this report is considered to supersede the previous report lodged.
- The MSC Report has 4 main conclusions which include: EIAR conclusions on landscape and visual effects are untenable or questionable; incidence and extent of significant landscape and visual effects would be substantially greater than identified in the EIAR; Condition no.3 should also omit turbine 6

but this would not alter the findings of significance; and none of the issues raised in this LVIA review were addressed in the Planner's Report.

- The Heather Crest appeal is fully supported, and it is considered that no assessment was carried out by the applicants into the effects on the livelihood of the stud farm nor was it assessed by the Council.

6.6. Oral Hearing Request

A request for an Oral Hearing was submitted with the appeal lodged by Heather Crest Stud Farm. The Board decided on the 24th July 2018 that there was sufficient written evidence on file and decided to refuse the request for an oral hearing.

7.0 Planning Assessment

The main issues in this appeal are those raised in the grounds of appeal and I am satisfied that no other substantive issues arise. I address environmental issues and appeals relating to environmental issues in Section 8 below. The planning assessment of the appeal issues can be dealt with under the following headings:

- Principle of Development
- Material Contravention of Offaly County Development Plan
- Sightlines and entrance
- Landscape and Visual Amenities
- Noise
- Procedural Issues

7.1. Principle of Development

- 7.1.1. The appellants query the principle of a windfarm in an unzoned area. The subject proposal is considered urban in nature and it is stated that it is difficult to get permission for a house. It is stated that the County Development Plan provides no further classification as to the extent or level of windfarm development that might be allowed or considered compatible with proper planning and sustainable development of the area. Another appellant considers that the NPF states that renewable energy

generation needs to be accommodated on large tracts of land that are located in a rural setting '*while also continuing to protect the integrity of the environment and respecting the needs of people who live in rural areas*'. It is considered that the proposed development in this unzoned area will eradicate a rural business.

- 7.1.2. Wind energy and support for windfarms is clearly laid out in various policies from national to regional to county development plan level. The county policy documents require appropriate buffers to be provided. Policy EP-03 seeks to encourage the development of wind energy in suitable locations, on cutaway bogs within the wind energy development areas open for consideration identified in Map 3.2. Map 3.2 indicates a large tract of land in east Offaly as a 'Wind Energy Development Area'. The subject site is located within this area as well as the Mountlucas, Cloncreen and Yellow River windfarms. Furthermore, having regard to Figure 9 in the Wind Energy Strategy for Offaly and having regard to precedence, I consider the subject proposal is acceptable in principle.
- 7.1.3. With respect to landscape sensitivity, the turbines are for the most part located in an area of 'low sensitivity' and within smaller areas of 'moderate sensitivity'. This is considered further within Section 8 below, but from a policy perspective, I am satisfied that the location of the subject site is acceptable. It is in an area that is manifestly suitable for the development of windfarms and is clearly identified within the County Development Plan and the Wind Energy Strategy as such.
- 7.1.4. Within the Wind Energy Strategy which is part of the County Development Plan, it is stated that Area 2 (from Clonygowan to Clonbullogue) is suitable for large scale windfarm development '*having regard to the very low levels of existing dwellings, large landholdings, reasonable access to the grid, reasonable road access and existing cut-over bogs*'. I consider this description applies to the subject site.
- 7.1.5. One of the appellants raises concerns with the impact of the proposal on their livelihood (Heather Crest Stud Farm). It is considered that in this instance the windfarm will result in the closure of their rural business, and as such it is not in accordance with the proper planning and sustainable development of the area.
- 7.1.6. Turbine no.1 is the turbine which is specifically referred to by the appellant as being only c.340m from the curtilage of their fields and paddocks. I have addressed the potential impact on the stud farm further below and in Section 8. The Wind Energy

Guidelines 2006 do not identify stud farms as being sensitive receptors. I note the appellant considers that they are out of date and not fit for purpose, however these are the existing guidelines and I am satisfied that the lack of updated guidelines do not result in a policy vacuum whereby no assessment can be carried out.

7.1.7. In conclusion, I am satisfied that the principle of a windfarm in this location is in accordance with planning policy at national, regional and county level. It is located in an area identified at county level as being suitable for large scale windfarm development; as required by the Wind Energy Guidelines, the assessment has been conducted within the context of a 'plan led approach'; and is consistent with the proper planning and sustainable development of the area.

7.2. Material Contravention of the Offaly County Development Plan 2014 – 2020

7.2.1. The appellants consider that the proposal is in contravention of the Development Plan. They state that the proposed development is not permitted in principle but is only open for consideration where such a development is consistent with the proper planning and sustainable development of the area, and where it can demonstrate compliance with relevant policies. They consider that it contravenes a number of policies and objectives relating to the rural economy, protection of rural community and residential amenity.

7.2.2. It is stated that the Development Plan seeks to support the role of agricultural businesses within the rural economy. The owners of the Heather Crest stud farm consider that the subject proposal will eradicate their business which is contrary to the vision of the Development Plan. Letters accompany the appeal indicating that horses will be withdrawn from the stud farm in the event of the subject proposal proceeding. Other letters refer to the detrimental impact that windfarms have on horses. The applicants in response to the appeal state that there are many examples of horses in proximity to busy roads, trains and planes and that horses become habituated to the visual, acoustical, vibrational, shadows and pulses of air pressure change. It is further stated that there are well known stud farms adjacent to the main Cork to Dublin high speed railway line.

7.2.3. The Development Plan clearly supports the role of the equine industry as well as supporting the development of renewable energy projects throughout the county.

Conflicting evidence has been presented by both parties, however no specific evidence has been presented by the appellant to demonstrate a seriously negative impact on stud farm activities as a result of windfarms. I accept that a letter accompanies the appeal stating that horses will be withdrawn from the stud farm, but no evidence has been produced to indicate that this is the case on other stud farms in proximity to existing windfarms.

- 7.2.4. The Board may wish to omit Turbine no.1 which is the turbine closest to the paddocks and fields of the stud farm. However the turbine is in excess of 700m from the applicant's dwelling and there is intervening vegetation and trees between the turbine location and the closest field which I consider provides some degree of screening, albeit it will never be fully screened.
- 7.2.5. I do not accept that the subject proposal contravenes the Development Plan as no evidence is forthcoming to demonstrate that the proposal is contrary to policy RDP-07. The proposal in my opinion is fully supported by policy RDP-08 which seeks to support the development of renewable energy in rural areas.
- 7.2.6. In conclusion, I am of the view that the proposal is not a material contravention of the Development Plan and in fact fully accords with the policies and objectives therein.

7.3. Sightlines and entrance

- 7.3.1. One of the appellants expresses concern with the sightlines and the entrance. It is submitted that the proposed development cannot be safely accessed and is substandard. It is further stated that some trees to be removed are on their lands and no approval has been forthcoming to remove the trees. As well as this the visual impact of the tree removal has not been assessed.
- 7.3.2. The applicant in response states that only trees within the planning boundary at the proposed entrance are to be removed and minor roadside hedgerow trimming will be required.
- 7.3.3. Having visited the site, I am satisfied that the proposed entrance is acceptable. There will be a requirement for hedgerow/tree removal which according to the applicant will not affect the adjoining property. Having regard to the existing sightlines and the measures detailed in the outline Traffic Management Plan, I am satisfied that there will not be a significant adverse impact on the amenities of the

surrounding neighbours. There will be some disruption during construction, but this will be for a short period only and can be managed and will include the use of flagmen if necessary. There will be negligible traffic during operations.

7.4. Landscape and Visual Amenities

- 7.4.1. The appellants expressed particular concern with the impact of the proposal on the landscape and their visual amenities. One of the appellants appointed a Consultant to review the chapter and a report is enclosed with the appeal. The applicant is appealing a condition omitting two turbines which were omitted on visual amenity grounds.
- 7.4.2. From my site visit I can confirm that there are open or partial visibility areas which will provide views of some turbines from sections of the road, particularly towards the lower half of the development. The turbines are therefore going to be perceived as prominent new elements in the landscape. There are substantial sections of road from which they will not be visible, particularly in areas where there is forestry and mature hedgerows. As such the presence of turbines in the landscape will be intermittent.
- 7.4.3. 'Overspill' is raised as a concern by an appellant. The Landscape Report submitted by one of the appellants refers to the sensitivity of the area (being classed as low and moderate sensitivity in the Development Plan), and tests whether the proposed development would be '*screened by appropriate natural boundaries*' within low sensitivity areas, and whether it is '*sensitively designed and located*' within moderate sensitivity areas. It is stated by the appellant that the proposal would cause significant landscape character effects over a more extensive area.
- 7.4.4. I am satisfied that from a planning precedent (Mountlucas, Cloncreen etc) and a planning policy point of view, it is reasonable to conclude that the landscape in which the proposal is to be located is one of the more suitable landscape types within the county, subject to further consideration of impacts on specific viewpoints.
- 7.4.5. In total 28 Photomontages were submitted and are included in Volume 4 of the EIAR and the Further Information response.

- 7.4.6. I have reviewed all the photomontages and visited the site and am satisfied that they are representative of the likely views. While the decision regarding viewpoints is queried by the appellants I am satisfied that they are representative.
- 7.4.7. There is a road to the south of Turbine no.6 which the applicant states is private. It is in extremely poor condition and unlikely to attract anything other than local vehicular traffic and working vehicles. With the exception of this road, no other public roads run through the site and this of itself is a mitigating measure.
- 7.4.8. I specifically address views highlighted by the appellants and the applicant in their respective appeals below. A consultant on behalf of one of the appellants queried the methodology used to determine the level of landscape and visual effects arising. The consultant provides an alternative assessment and concludes that the incidence and extent of significant landscape and visual effects would be substantially greater than identified in the EIAR accompanying the application.

Turbine No.5 (T5)

- 7.4.9. The first party is appealing the omission of T5. The observer to the appeal notes that he is in the middle of building a dwelling identified as no.199 in the EIAR but is mainly concerned with noise impacts. Having regard to the intervening vegetation I am satisfied that T5 is not significantly different in view to T6 from this viewshed. Having regard to the intervening vegetation, I am of the opinion that T5 will not cause a significant visual domineering impact. It will be visible from the open parts of the road, but I consider this acceptable and do not consider it necessary to omit T5.

Nearest settlements

- 7.4.10. Viewshed Reference Points (VRPs) and photomontages from the nearest settlements (Clonygowan, Walsh Island, Portarlinton and Geashill etc.) are included. I am of the view that there will not be a significant visual impact from these settlements having regard to distances and intervening buildings and vegetation. Those views are illustrated in VRP6 and VRP8 and from VRP13 to VRP24.
- 7.4.11. The appellant's consultant considers that views from Geashill are representative of road users rather than residents (VRP13 and 14). I am satisfied having regard to distance and topography that there will not be a significant impact on the residents of Geashill.

Turbine no.7 (T7)

- 7.4.12. Additional photomontages were requested by the Planning Authority which informed their decision to seek the omission of T7. The local road is listed in the photomontages as being the L5021 local road (i.e. containing dwellings 135, 136, 137 and serving dwellings 166 and 167).
- 7.4.13. The key photomontage with respect to T7 is (iii) in the Further Information response. The image does present T7 as being domineering over dwelling no. 167. As part of the appeal the applicant submitted another photomontage taken from the local road L5021, in the vicinity of dwelling no.136 looking towards dwelling no.167 and T7. The applicant states that the photomontage presented at Further Information stage is static, and the distance is foreshortened and difficult to appreciate.
- 7.4.14. The photomontage submitted with the appeal from the L5021 road is considered by the applicant to present the turbine as less domineering than that presented in the original Further Information image. I note that as part of the Further Information response, another image (iv) was taken from the same general area as the appeal image, i.e. between building 133 and 134 on the L5021 local road and provides another image of T7 from the locality.
- 7.4.15. I have driven all these routes and can confirm that this section of the site is one of the most open. I draw the Board's attention to the hedgerows in the photomontages which are lower than others in the general area as well as the limited forestry, and I can confirm that there are open views on both sides of the local road, L5021, in and around dwelling no's.135, 136, 137, 166 and 167.
- 7.4.16. I further note that dwellings no's. 135 and 167 are some of the closest dwellings being c.600m from the nearest turbines.
- 7.4.17. However, I am of the opinion that the omission of T7 will not significantly reduce the impact along these roads. The photomontage submitted with the appeal indicates that there will be views of other turbines in the area as well as T7. Having regard to the open nature and intermittent screening along these particular roads, I am of the opinion that the proposal will have a local visual impact in this particular locality and on residential properties therein, however I do not consider that the omission of one turbine will significantly alter this. Other turbines will remain in view and will be seen as a feature in the landscape with or without T7.

7.4.18. The omission of T7 has to be balanced and seen against the fact that the landscape is a highly moderated working landscape which is relatively robust and is identified in the Wind Energy Strategy for County Offaly 2014 and as an area that is “*likely to be suitable for all scales of wind energy development on account of a combination of factors....*”. Thus, the area has been identified as suitable for wind energy which is a material consideration.

7.4.19. In conclusion, should the Board consider granting permission I do not recommend that the Board omit T7, because I consider that turbines will be a prominent landscape feature along this road and the omission of T7 is not going to change that fact. The proposal will result in an intermittent local visual impact within this immediate locality, but this has to be balanced against the need to develop key strategic infrastructure to meet the strategic aims of the Plan and of importance, the context which is that of a working and altered landscape.

Heather Crest Farm

7.4.20. The consultant on behalf of Heather Crest stud farm does not consider that the landscape and visual impact assessment provides a sufficiently clear and accurate picture of the impacts on their business, having regard to the proximity of their dwelling and business to the development. It is further stated that there has been no assessment of the visual impact of the removal of trees to accommodate the entrance.

7.4.21. I am satisfied that the views chosen were representative of the wider area and did not avoid open or partially screened or direct views of the site.

7.4.22. I acknowledge that there will be some locally negative effects, particularly in areas where there is limited roadside vegetation and gaps in trees etc. such as described above, but this should be seen within the context of a working environment. However as also noted above, this has to be balanced against other key aims of the Development Plan and the other regional and national aims with respect to renewable energy.

7.4.23. In conclusion, I am satisfied that there will be changes to the landscape, but that this has to be seen in the context of a working and robust landscape. There will be some adverse impacts on visual amenities, particularly when viewed from the local road L5021. However, I do not consider those views warrant a refusal of permission. I am

satisfied that the omission of T5 and T7 will not significantly alter the fact that there will be new prominent features in the landscape, should the Board grant permission for the development.

7.5. Noise

- 7.5.1. Noise is of significant concern to the appellants and the observer. The appeal from Heather Crest Stud refers to impacts of windfarms on stud farms including noise. It is stated that horses hearing is much more sensitive and keener than humans and will be more adversely affected by the noise arising from wind turbines. Various research papers are quoted regarding the sensitivity of horses hearing.
- 7.5.2. The appellants state that wind turbine noise can start up suddenly and unexpectedly, and in circumstances where there is an array of wind turbines the perceived noise or visual threat to horses comes from many locations. It is concluded that the proposed windfarm which is within 350m of the training grounds (Turbine no.1) will have detrimental impacts on the thoroughbreds. Regarding the applicant's reference to habituation, it is stated that mares are short term visitors to stud farms, and there would be no opportunity to become accustomed to the noise and erratic movement of the turbines.
- 7.5.3. The appellants consider that the noise assessment has completely ignored the stud farm and further note that the proposed entrance is within close proximity. It is highlighted that the applicant acknowledges that the noise exceeds the limit of 40dBA at the farm building (i.e. the stables, receptor no.197).
- 7.5.4. The applicant states that there is no known published scientific research that suggests operational wind turbines have any ongoing effect on the bloodstock industry, and equine concerns appear to be based on perception rather than any detailed or expert analysis. Examples are provided of existing windfarms being located near stud farms, equestrian centres and horse riding trails in the UK and Ireland.
- 7.5.5. Conflicting evidence has been presented by the appellants and the applicant, but in my opinion insufficient evidence has been provided by the appellant, as well as having regard to the numerous examples provided by the applicant whereby the

equine industry operates in proximity to windfarms, to demonstrate that the proposal would pose a threat to the welfare of the horses.

- 7.5.6. Turbines are fixed in location with the movement of the blades alternating at a slow pace in response to changing wind conditions, with any noise emanating altering at a slow pace thereby avoiding any sudden movement. I note that the only turbine in close proximity to the stud farm is turbine no.1. There is not an array of wind turbines in the vicinity, and therefore the perceived noise or visual threat to horses will not be coming from many locations.
- 7.5.7. I do not accept that a noise monitor was specifically required for the stud farm. I consider that the locations chosen for the noise monitoring are representative of the wider environment, and in particular note the locations of monitors beside some of the nearest dwellings to turbines T6 and T11 (N4 and N11). I accept the findings that indicate that the windfarm will be in compliance with the noise limits at all occupied and permitted dwellings including the home of the appellants. The data at receptor no.197, i.e. the stables, indicates that at higher wind speeds of 7m/s to 10m/s the noise level is exceeded but I consider this is worst case and can be addressed by way of monitoring conditions.
- 7.5.8. The *'Information Note, Review of the Wind Energy Development Guidelines 2006 "Preferred Draft Approach"'* which has been published ahead of the revised Wind Energy Guidelines focusses on Noise Limits. I note that the applicant states should the revised Guidelines be finalised in advance of a decision, and where mitigation is required to comply with any revised noise limits this could be implemented through the control system of the turbines by operating turbines where required in reduced modes of turbine operation.
- 7.5.9. The observer to the appeal also refers to noise concerns and includes a noise assessment report prepared by a consultant from his property that is under construction. His dwelling is referenced as both no.119 and no.199 throughout the documentation. House no.199 is indicated as being a planning permission in Figure 6.1 of the EIAR and I assume this is the correct reference.
- 7.5.10. The observer's consultants are of the opinion that there are errors in the EIAR chapter. It also considers there has been an under-prediction of transformer noise at the substation.

- 7.5.11. They have carried out a noise assessment at house no.199 and compare the findings with those within the EIAR.
- 7.5.12. With respect to the turbines the consultants state that the turbine noise level at 41dB_{LA90} at 5m/s is marginally in excess of the ETSU-R-97 daytime limit. With respect to night-time it is considered that the ETSU limiting level of 43dB_{LA90} does not appear to be exceeded although the change in the night-time noise climate will be significant as background levels are currently very low, i.e. the change will be 15dB higher than ambient at 3m/s, 16.5dB at 4m/s and 18dB at 5m/s. Therefore, they disagree with the comment in the EIAR that there are no significant increases in noise level or at worst-case there is a minor increase of 3-5dB over background at two locations.
- 7.5.13. Based on the information on file, I am satisfied that the proposal will comply with the noise limits as expressed in the Wind Energy Guidelines. I note that the observer's consultant indicates that there will be a large difference in the existing night-time levels and the predicted. However, the Guidelines state that in very quiet areas the use of a margin of 5dBA above background noise is not necessary to offer a reasonable degree of protection and may unduly restrict wind energy developments. It clearly states that a fixed limit of 43dBA will protect sleep inside properties at night-time. The "Preferred Draft Approach" does not propose to alter the 43dBA limit.
- 7.5.14. In conclusion, I am satisfied that the noise from the windfarm will not cause a significant injurious impact and is in accordance with the requirements of the Wind Energy Guidelines.

7.6. Procedural Issues

- 7.6.1. The appellants consider that project splitting has occurred because the applicant is not seeking planning permission for the grid connection. I am satisfied that the grid connection has been fully assessed in both the EIAR and the AA documentation. I do not agree that project splitting has occurred.

8.0 Environmental Impact Assessment

8.1. Introduction

- 8.1.1. Under Section 172 of the Planning and Development Act 2000, as amended, a planning application 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 is carried out for the project type proposed, i.e. Class 3(i), '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'.
- 8.1.2. The Environmental Impact Assessment Report (EIAR) accompanying the application has been prepared by Fehilly, Timoney & Company, and is presented in the grouped format in 5 no. separately bound documents.
- 8.1.3. The EIAR structure is as follows:
- Volume 1: Non-Technical Summary (NTS) (including figures)
 - Volume 2 – Main EIAR
 - Volume 3 – Appendices to the Main EIAR (Appendix 7 is in a separately bound folder)
 - Volume 4 – Landscape and Visual Maps and Photomontages.
- 8.1.4. Volume 4 was supplemented with additional photomontages as part of the response to Further Information.
- 8.1.5. It is noted that the applicant refers to the 2011 EIA Directive as well as the 2014 Directive throughout the documentation and refers to documentation as being an EIAR and an Environmental Impact Statement (EIS) throughout.
- 8.1.6. This appeal was submitted after 16th May 2017, the date for transposition of Directive 2014/52/EU amending the 2011 EIA Directive. The Directive was transposed into Irish Legislation on 1st September 2018. It is proposed to apply the requirements of Directive 2014/52/EU herein.
- 8.1.7. I am satisfied that the information provided in the EIAR is sufficient to allow the Board to reach a reasoned conclusion on the significant effects of the project on the

environment and has been prepared by competent experts. I am satisfied that the information contained in the EIAR complies with the provisions of Article 3, 5 and Annex (IV) of EU Directive 2014/52/EU amending Directive 2011/92/EU. I am satisfied that the information contained in the EIAR complies with article 94 of the Planning and Development Regulations 2000, as amended.

- 8.1.8. As is required under Article 3(1) of the amending Directive, the EIAR describes and assesses the direct and indirect significant effects of the project on the following factors: (a) population and human health; (b) biodiversity with particular attention to the 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. It also considers the interaction between the factors referred to in points (a) to (d). Article 3(2) includes a requirement that the expected effects derived from the vulnerability of the project to major accidents and/or disasters that are relevant to the project concerned are considered. This is addressed throughout the EIAR.
- 8.1.9. I have carried out an examination of the information submitted by the applicant, including the EIAR, and the submissions made during the course of the application. A summary of the results of the submissions made by the planning authority, the applicant and the appellants has been set out at Section 6 of this report.
- 8.1.10. This EIA has had regard to the application documentation, including the EIAR, the appeals lodged, and the planning assessment completed in Section 7 above.

8.2. Alternatives

- 8.2.1. 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,

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 selecting the chosen option, including a comparison of the environmental effects.

- 8.2.2. The matter of alternatives is addressed in Chapter 14 of the EIAR 'Site Selection and Alternatives'. It is stated that a site selection process was undertaken at a macro level to take account of relevant international, national and regional policies and is accompanied by 6 Plates within the chapter outlining constraints. At a micro level a strategic search area of 25km was chosen focussing on the north-east midlands area, away from centres of population and with high grid capacity and in proximity to substations. The final site selection was influenced by a number of factors including landscape type/land-use, access and infrastructure, environmental considerations and constructability. It is stated that based on the above and the proximity to Mountlucas substation the applicant arrived within the environs of the selected site.
- 8.2.3. 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 sites and design considerations; alternative turbine layout/locations; alternative technology; and 'do nothing' alternative.
- 8.2.4. Options for the location of the borrow pit and the site entrance were considered. Alternative grid routes and substation locations were assessed.
- 8.2.5. Alternative energy options were explored including bio-energy, off-shore wind, solar energy, tidal and wave energies and do-nothing.
- 8.2.6. Having regard to the above, I am satisfied that the matter of the examination of alternatives has been satisfactorily addressed.

8.3. Likely Significant Direct and Indirect Effects

- 8.3.1. The likely significant direct and indirect effects of the development are considered under the following headings, after those set out in Article 3 of the EIA Directive 2014/52/EU but are addressed in the same format as presented in the EIAR:

- Air Quality and Climate

- Noise and Vibration
- Biodiversity
- Lands, Soils and Geology
- Hydrology and Water Quality
- Population and Human Health
- Landscape and Visual Impact Assessment
- Material Assets
- Archaeology, Architectural & Cultural Heritage
- Interactions

8.4. **Air Quality and Climate**

8.4.1. Air Quality and Climate are addressed in Chapter 5 of the EIAR. Appendix 5.1 contains the DRMB model outputs and Appendix 5.2 contains the Input and Output data to the Scottish Windfarm Carbon Assessment Tool.

8.4.2. **Existing Environment**

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. The climatic conditions have been derived from historical meteorological measurements compiled by Met Eireann at Mullingar synoptic station which is c.29km north of the site.

8.4.3. **Potential Effects**

If the project does not proceed local air quality and the micro climate 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.

During construction the principal source will be dust arising from construction works. According to the NRA Assessment Criteria the proposal would be considered a moderate construction site. Construction vehicles and plant emissions have the potential to increase compounds such as NO₂, Benzene, and PM₁₀. A screening

assessment indicates that the predicted traffic emissions would experience a slight increase in NO₂ and PM₁₀. Results are within limits.

Potential greenhouse gas emissions during construction at microclimate and macroclimate are not expected. Carbon losses are identified from turbine manufacturing, peat and tree removal.

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. Proposal will displace the emission of CO₂ from less clean forms of energy generation. Proposal is likely to have a positive effect on the climate.

Truck movements associated with removing turbines will be less than the construction phase.

Cumulative effects may arise if construction of Cloncreen windfarm c.10km north-east of the site occurs at the same time due to increased traffic emissions and dust. If mitigation measures are implemented there will be no significant cumulative effects. The proposal will act cumulatively in terms of climate in reducing CO₂ emissions.

Appendix 2.3 provides an assessment of the replant lands. Replanted areas contribute positively in carbon sequestration and production of oxygen, offsetting the production of greenhouse gases.

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

The Outline Construction Environmental Management Plan (CEMP) was prepared and included as Appendix 2.1 which outlines mitigation measures, including construction of access roads prior to commencement, availability of water bowser, measures in relation to the borrow pit, and use of gravel.

No impacts predicted on climate – no mitigation measures.

Mitigation unnecessary during operation.

Decommissioning will be similar to construction phase.

8.4.5. **Residual Effects**

Proposal may result in slight to moderate residual impacts from fugitive dust emissions. They will be temporary and localised in nature and will not result in any permanent residual effects.

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 5 above.

- 8.4.6. I have considered all the documentation in respect of air quality and climate. 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 also satisfied that while some cumulative effects may arise from the proposed development if constructed in a similar timeframe to the Cloncreen Windfarm these would be avoided, managed and mitigated by the measures which form part of the proposed development and through suitable conditions.

8.5. **Noise and Vibration**

- 8.5.1. Noise and Vibration are addressed in Chapter 6 of the EIAR. The rationale for selection of noise monitoring locations is described in Appendix 6.1.

Having regard to the house survey, the proposed borrow pit is 97m from the nearest dwelling, the nearest house is 12m from the cable trenching and the nearest house to the access track is 81m. Based on these separation distances vibration will not be perceivable by human receivers nor will building damage occur and as such construction vibration will not be considered further within the chapter. Vibration from operational windfarms is below human threshold of perception such that no significant effects are expected. As such, this aspect is not considered further and has been scoped out.

8.5.2. Existing Environment

Baseline noise monitoring was undertaken at seven receptor locations as illustrated on Figure 6.2. The closest dwellings are located c.600m to the nearest turbines (T6 and T11). The $35\text{dB}_{\text{LA90}}$ study area was described and reviewed to determine receivers to be considered for noise monitoring. I consider the locations to be reasonable, in accordance with recommended practice, and largely correspond with the nearest noise sensitive receptors.

The assumed prevailing noise levels at the 7 noise monitoring locations are presented in Table 6.4 in the EIAR. The standard approach to derivation of noise limits is to carry out baseline measurements at a number of properties around the proposed site. Noise limits are derived for the properties at which measurements are carried out. Properties near the measurement property are then assigned the same limit as the measurement property.

As a conservative exercise, a worst-case envelope based on the lowest average noise levels at all measurement properties was used to derive a site wide noise limit and the operational impact from the windfarm was appraised.

The derived noise limits with reference to the background noise environment found at dwellings surrounding the proposed development site, and meteorological conditions experienced during the survey are presented in Table 6.5. As a result, it is proposed that a fixed $40\text{dB}_{\text{LA90}}$ daytime noise limit corresponding to low background noise levels is applied at this site for measured 10m standardised wind speeds up to 3m/s and $45\text{dB}_{\text{LA90}}$ thereafter. A fixed $43\text{dB}_{\text{LA90}}$ noise limit is proposed for night-time periods.

8.5.3. Potential Effects

Potential construction impacts considered site traffic, borrow pit activity, preparation of access roads, hardstands & drainage, preparation of wind turbine foundations, erection of wind turbines, and grid connection works. It is noted that in some instances the maximum predicted noise levels may be above the noise limit $65\text{dB}_{\text{LAeq,1hr}}$. However, these noise levels are for short durations.

During operations noise predictions were performed for the 12 wind turbines for a range of 10m standardised wind speeds from 3m/s up to 10m/s – cut-out. Receptors within the $35\text{dB}_{\text{LA90}}$ noise contour were modelled and assessed against the derived

day-time and night-time noise levels. The predicted noise levels are presented in Table 6.15. Operational noise is predicted to meet the derived daytime and night-time noise limit at all occupied dwellings and planning applications for dwellings surrounding the windfarm, and no mitigation will be required.

The potential operational substation noise was assessed. The results of the operational transformer noise predictions show that the operational noise levels at the nearest residential location are not considered significant.

Noise would be of a lesser impact than during construction for decommissioning.

The Mountlucas farm and the permitted Cloncreen and Yellow River windfarms were examined for cumulative effects. The nearest turbines from Yellow River Windfarm are over 16km and the noise impact will result in a negligible cumulative effect and therefore Yellow River was not modelled. The cumulative operational effect of Mountlucas and Cloncreen were modelled and presented in Table 6.17. The noise levels presented are for worst-case scenarios with noise sensitive receptors located downwind. The operational predicted noise levels are compliant with the daytime and night-time noise limits at all occupied dwellings and planning applications in the vicinity.

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

An outline Construction Environmental Management Plan (CEMP) was prepared and included as Appendix 2.1 which outlines mitigation measures during construction.

The results show that the operational noise levels meet the derived daytime and night-time noise limits at all residential properties and no mitigation measures are required. It is noted that if the review of the proposed new Wind Energy Guidelines revise noise limits, and where mitigation is required to comply with any revised noise limits this could be implemented through the control system of the turbines by operating turbines where required in reduced modes of turbine operation.

Decommissioning will be similar to construction phase.

8.5.5. **Residual Effects**

With mitigation measures residual construction effects are not considered to be significant. There is potential for short term elevated noise levels due to grid connection works however these are for a short duration.

Operational noise levels meet the derived night and daytime noise limits at all properties surrounding the windfarm which is not considered to be of a significant effect.

The appellants and observer refer to concerns with noise which is addressed in the planning assessment above. I am satisfied that there will not be an unacceptable impact with respect to noise.

8.5.6. I have considered all of the written submissions made in relation to noise and vibration and 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 impacts in terms of noise and vibration.

8.6. **Biodiversity**

8.6.1. Biodiversity is assessed in Chapter 7 of the EIAR. The Board is advised that the application is accompanied by a Natura Impact Statement. Whilst there will be a degree of overlap, the NIS is dealt with in detail in section 9 below. It is noted that 21.49 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 2.3 of the EIAR.

8.6.2. **Existing Environment**

The proposed development is located in Hydrometric Area 14 – the River Barrow catchment. It is noted that the proposal has the potential to impact on the Cushina River catchment. Figure 1-3 in Appendix 7.7 (aquatic ecology report) show the principal watercourses in the study area. It is stated that there are 4 SACs and one SPA within 15km of the site (see Section 5.10 above for listing and Section 9 below

for appropriate assessment). There is one NHA and 4 pNHAs within 10km of the study area.

No rare or protected species were recorded during the surveys. Invasive species have been recorded within the 10km grid square.

The windfarm site is encompassed within a mixture of habitat types with Improved Agricultural Grassland, Conifer plantation, birch dominated Bog Woodland, cutover/degraded raised bog and scrub. Habitats along the cable route were also identified.

Terrestrial mammal's tracks and signs were recorded. Nine species were recorded as listed in Table 7.21.

Bat surveys were carried out over a number of years and months. No onsite bat roosts were identified over the course of all the surveys. It is stated that there are no suitable bridges for roosts along the cable route.

Ornithological surveys were carried out over 4 years. The second two years focussed on the study area. The observations of whooper swans over the survey years are listed. Swan and goose surveys were also carried out. Lapwing, Golden Plover, Greenland White-fronted geese, hen harrier, peregrine falcon, merlin, sparrowhawk, buzzard, kestrel, woodcock, snipe, curlew, mute swan, kingfisher, gull species, were all observed over the survey years.

In 2015, Inland Fisheries Ireland conducted a wide fish survey of the Barrow catchment which makes reference to the Cushina river. The Cushina is a relatively small sub-catchment of the Barrow. Tables 7.41 to 7.48 present the results of the various aquatic surveys over the years 2013 to 2016.

The Key Ecological Receptors are identified following the review of the existing environment.

8.6.3. **Potential Effects**

Existing environment and key receptors are likely to remain as described above if the project does not proceed.

There are no European designated sites within the development area. Sites hydrologically linked have the potential to be indirectly affected most likely during construction.

There will be habitat loss due to the construction of access roads, substation, hardstanding, borrow pit, cable trench etc. The footprint of the development will be 36.51 hectares or 5.86% of the study area. A total of 22.67 Ha shall be lost due to felling of trees. It is proposed to replace this loss with replant lands and this has been assessed as part of this EIAR.

Japanese Knotweed was recorded within the site. The proposal could facilitate the indirect spread of these invasive species.

Seven badger setts were noted within the study area. There is a potential for a direct impact to four setts due to excavation and tree felling. If construction was to be carried out in close proximity during the breeding season it is considered near certain that there will be a long term significant impact without mitigation. There is a possibility that red squirrel and pine martens breeding sites may be disturbed.

With respect to bats as no roosts were recorded it is considered near certain that the impact on bats will be long term slight to moderate and will require mitigation.

Potential impact during construction on avian fauna is the construction of the turbines and associated road network. The impact of habitat loss on passerine birds will be long term imperceptible. The impact of habitat loss to other target species is described in Table 7.55.

Disturbance of prey species is likely to occur during construction phase, however it is not considered that any change in the availability of prey is likely to impact upon bird of prey species.

The site is of very limited value for waders and waterfowl. Construction may cause some disturbance during the winter months from feeding locations during daytime hours, but feeding is mainly nocturnal and ample displacement habitat is available during daylight.

Kingfisher and Barn Owl potential impact is indirect for kingfisher and potential loss of nests (albeit none recorded) for barn owl.

With respect to aquatic species and habitats, no instream works are proposed, and clear span bridges shall be used where required. No significant effects on the drainage regime on the site are expected, minimising direct effects on watercourses

and aquatic ecology. Potential indirect effects arise via impacts on water quality due to alterations in drainage, silt run-off and pollution events.

The rotation of the blades may result in displacement of local wildlife due to avoidance by birds and may present a potential collision hazard, as well as increased noise which may cause disturbance. The NIS addresses potential effects on European designated sites. None of the nationally designated sites are hydrologically linked and as further excavation works shall not be required the risk to water quality shall be less.

The level of human activity associated with the operational windfarm will be infrequent. Any negative impact to terrestrial fauna is considered to be imperceptible. Collision risk is a potential issue in relation to bats.

The primary cause of direct impact on birds during the operational phase is collision risk. Not all bird species are equally susceptible to collision. A Collision Risk Model Report is presented in Appendix 7.6. The Barrier Effect whereby birds alter their migration flyways or local flight paths to avoid infrastructure is discussed in Table 7.60.

Operational windfarms are not considered to have potential to significantly affect the aquatic environments. Spills of oil or fuels is considered low.

Decommissioning activities will take place in a similar manner to the construction phase.

The main threats to the ecological resource are afforestation, agriculture, overgrazing and peat cutting. A review of planning applications was carried out and it is concluded that they are not likely to act cumulatively. A review of the existing and permitted windfarms was carried out and no cumulative effects are likely to occur.

8.6.4. 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 of the works will be kept to a minimum. A finalised Invasive Species Management Plan will be prepared (Outline Plan submitted as Appendix 7.2).

An ecologist shall supervise areas where vegetation, scrub and hedgerow removal will occur prior to and during construction – such works being carried out outside the

bird breeding season. Any site-specific issues not currently present (e.g. Badger setts) will be confirmed prior to commencement of works to allow for appropriate measures to be put in place. A pre-construction badger survey will be undertaken, and a badger derogation licence will be sent to NPWS. With respect to bats, existing vegetation will be cleared around all 12 turbines to provide a vegetation-free buffer.

The tree felling will be the subject of a Felling Licence and will be carried out in accordance with the conditions of such a licence. The planting of trees in replant lands is considered in the replanting impact assessment (Appendix 2.3). No significant increase in the rate of run-off is anticipated as a result of felling nor is the risk of downstream flooding or sedimentation due to erosion increased.

A minimum buffer of 50m distance between all site tracks and watercourses will be provided. The majority of all cables will be installed in existing roadways. Proposed drainage measures to protect the receiving waters from potential impacts are outlined in Chapter 9 of the EIAR (see below). An outline Construction Environmental Management Plan has been submitted (Appendix 2.1). A detailed plan will be drawn up in advance of any works taking place.

Mitigation measures will be implemented as outlined in Chapter 8 and 9 and will be implemented to prevent the identified indirect effects on water quality. The location of the Japanese Knotweed will be surveyed annually following the treatment of the species. A post construction monitoring programme will be implemented to confirm the efficacy of the mitigation measures on birds including Fatality Monitoring and Flight Activity Survey as well as monthly wildfowl census.

In relation to bats, the vegetation free buffer zones around the turbines will be managed and maintained during the operational life of the development. A monitoring schedule for bats is outlined in Table 7.63.

The same mitigation measures for the construction phase will apply to decommissioning.

8.6.5. 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 the nearby designated sites, habitats or fauna are expected from the development.

Of the bird species recorded Golden Plover was considered to be of significant conservation concern. The Collision Report Model indicates that collision mortality may have a significant impact on Golden Plover population but long term imperceptible impact on either the county or the all-Ireland population. Overall it is considered the proposal will have an imperceptible residual impact on golden plover at a county and all-Ireland level. Habituation to the site is likely to also reduce the proposed risk.

With respect to other birds the proposal will have a slight-imperceptible residual impact on birds.

Regarding the aquatic ecology, with the implementation of mitigation measures the proposal will have an imperceptible negative impact.

With the implementation of Forestry and Water Quality Guidelines and best practice measures, the residual effect of the works in the replant lands is considered to be an indirect, slight-imperceptible short-term, low probability impact.

- 8.6.6. One of the appellants refers to a reference in the Planner's Report that the development has the potential to have a significant impact on Golden Plover Birds. I am satisfied that this has been addressed and the proposal will have an imperceptible residual impact on Golden Plover at a county and all-Ireland level.

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 including monitoring conditions.

I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects in terms of biodiversity.

8.7. **Land, Soils and Geology**

- 8.7.1. Land, soils and geology are assessed in Chapter 8 of the EIAR. Desk studies and site walkovers were undertaken.

8.7.2. **Existing Environment**

The bedrock and overburden geology are summarised, and it is noted that the elevation of the site lies between 69 to 80mAOD. The site is located within three groundwater bodies as illustrated in Figure 8.5. Groundwater wells from the GSI dataset are listed.

The GSI database indicates that there were 6 landslides in Offaly, 4 of which were related to peat slippage.

A Peat Stability Assessment was carried out and included as Appendix 8.4. It concluded that the risks associated with peat instability are considered to be low and acceptable provided that appropriate mitigation measures are put in place as outlined in the CEMP.

The GSI Geological Heritage Database shows one site of significant geological heritage located 1.02km west of the development boundary – the Kilcormac Esker. The GSI database shows a number of active and historic quarries and mineral occurrences in the area. There are no known areas of soil contamination on the site or grid connection route. The location of the proposed borrow pit is identified by the GSI as having moderate potential for crushed rock aggregate.

The total quantity of soil to be excavated is estimated at 148,618m³. Preliminary calculations show that the amount of aggregate required will be of the order of 170,068m³. A small volume of excavated material from the grid connection will be taken to a licenced facility.

8.7.3. **Potential Effects**

If no development takes place, the current land uses will continue.

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, dewatering of excavations to control water levels may be required. This will be for a temporary period of 3-5 weeks. Excavations for the borrow pit will increase aquifer vulnerability locally which presents a temporary negligible to slight impact.

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

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

Dewatering of excavations could have indirect impacts such as reduction of yields to any nearby wells. The nearest wells are greater than 500m from any turbine and at these distances no impact is predicted.

Very few impacts are envisaged during the operational phase.

Due to distances from other windfarms no direct cumulative effect is predicted. There may be indirect effects placed on local quarries for aggregate. No cumulative effects are envisaged during operation.

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

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

Mitigation measures are detailed for slope stability, excavation, storage and removal of subsoils and rock, and borrow pit. Specific mitigation measures relating to the management of hydrocarbons are listed.

The dewatering of the foundation excavations is not expected to cause interference with domestic wells due to distances involved, however the database is not complete. Should wells be impacted alternatives will be provided. Dewatering of cable route is unlikely.

The substation and oil storage tanks will be in a concrete bund capable of holding 110%.

Mitigation measures will be similar to those applied during construction for decommissioning.

8.7.5. Residual Effects

There will be a change in the ground conditions which is a direct permanent change to the material composition of the site. Limited temporary decrease in water quality on a local level is likely to arise from the release of suspended solids and sediments during the excavation particularly following rainfall events after a sustained dry

period. This will be reduced naturally by dilution and managed mitigation measures prior to exiting from the site.

Changes in ground surfacing may result in increased runoff but it is anticipated that this will not have a major impact on hydrology. Drainage infrastructure will be in place as part of the roads and turbine development.

There are no cumulative residual effects over and above those considered for the turbines and on-site infrastructure.

8.7.6. I have considered all of the written submissions made in relation to lands, soil and geology, 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 land, soils and geology.

8.8. **Hydrology and Water Quality**

Hydrology and Water Quality are addressed in Chapter 9 of the EIAR. Desk studies and field assessment informed the EIAR. As part of the evaluation a flood risk identification and assessment was carried out. Windfarms are deemed to be water compatible and a Justification Test is not required. A cumulative flood risk assessment has been undertaken.

8.8.1. **Existing Environment**

The proposal is located across three waterbody catchments. The drainage from the proposal is at a distance of over 17km by hydrological links to the River Barrow which is part of the River Barrow and River Nore SAC. The existing farm and forestry tracks running through the site have an operational drainage regime. This comprises either 'over the edge' drainage or drainage to roadside swales leading to existing stream or drain crossings.

Flooding has been recorded at various points between 1km and 4km downstream of the site in the Cushina river. The indicative flood mapping indicates a number of the proposed access tracks to turbines crossing indicative floodplain.

The chemical water quality parameters measured are below the thresholds of the environmental quality standards tabulated.

There are two principal streams identified within the site. These are the Garrymona Stream and the Enaghan Stream which will be crossed by the windfarm internal access routes. The grid connection cable route crosses over the Garrymona. The width of these streams is recorded as 1.5m. Pluvial depressions and areas of potential pluvial flood were noted.

There are no rivers or streams located within the replant lands although the Blackwater River flows by the northwest boundary of the lands.

8.8.2. Potential Effects

If the proposal does not proceed it is likely that the land will continue to be largely used for agricultural and forestry uses. The impact on hydrology and water quality will remain largely unaltered as a result.

Tree felling and construction have the potential to contribute to a low level increase in run-off of 1.65% in the Cushina river catchment. This will reduce over time as vegetation is re-established.

Potential indirect effects could be caused by the increase in run-off, such as soil erosion and sediment release into the receiving watercourses. The recreational Amenity Trail makes use of existing forest and agricultural tracks and therefore no impacts are expected during the construction phase.

Excavations for cable route trenches and the temporary alterations for the turbine delivery route can have a direct permanent impact on exposed soils and rock in the form of increased erosion and sediment release that could also impact on water quality. No modifications are proposed at stream crossings to facilitate the turbine delivery route and therefore no potential hydrological effects are expected on the delivery route.

Potential effects from replant lands are assessed in Appendix 2.3.

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.

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

Existing and permitted development is assessed as well as replant lands. Insignificant to no impact is expected during construction and operation. The potential cumulative effect on hydrology and water quality is considered to be negligible.

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

There are no turbines proposed within the indicative floodplain. There will be no appreciable obstruction to flood flows in the floodplain as a result of new access roads or new hardstanding areas. The recreational trail makes use of existing tracks and therefore no effects are expected.

Kelly's bridge was assessed as this has flooded in past events. By the time the flow from the surface water draining the proposed development reaches this bridge any potential for increase in flooding is expected to be of low significance.

8.8.3. 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 largely be retained. New tracks and hardstanding areas will be drained as per the existing system.

Mitigation measures are contained in the CEMP. The CEMP contains an outline Site Drainage Management Plan which details the measures to be taken.

Mitigation measures for replant lands are outlined in section 9.7.2.

Construction of watercourse crossings will be carried out in accordance with the *IFI Guidance on Protection of Fisheries During Construction Works in and adjacent to Watercourses*.

The CEMP details mitigation measures for the cable trench and turbine delivery route. A detailed site-specific Construction Management Plan shall be completed.

It is not envisaged that the proposal will result in significant effects on the hydrological regime or water quality of the area as there will be no further disturbance of soils post construction. Maintenance will include appropriate remedial measures. A monitoring programme will be established to ensure water quality is maintained.

The drainage system will remain operational during the decommissioning phase and will serve to treat any sediment laden surface water run-off.

8.8.4. Residual Effects

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.

Specifications for cable installation will be in accordance with ESB requirements. The trench will be backfilled immediately following the installation of each section.

The residual impact during construction and operation will be negligible. It is not expected to contribute to any significant negative cumulative effect including the replant lands.

8.8.5. I have considered all of the written submissions made in relation to Hydrology and Water Quality, 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 of Hydrology and Water Quality.

8.9. Population and Human Health

8.9.1. Population and Human Health is addressed in Chapter 10 of the EIAR. This chapter addresses population, human health, socio-economic activity, land-use, recreation & amenity, tourism and shadow flicker. Each section within the chapter is addressed separately.

The potential effects on humans with respect to air quality (see section 8.4 above), noise (see section 8.5 above), traffic (see section 8.11.2) and visual impacts (see section 8.7) are addressed in the relevant chapters of the EIAR and referred to herein where appropriate.

With regard to the vulnerability of the project to risks of major accidents/disasters, natural disasters such as flooding are addressed in Chapter 9 and land-slides in Chapter 8. Consequently, I do not consider that the proposed development poses a substantial risk to population or human health in this regard.

The extent of the study area is identified in Figure 10.1. The extent of the replant lands is identified in Appendix 2.3.

8.9.2. Population

The settlements of Walsh Island and Clonygowan are the nearest to the on-site turbines with a population of 458 and 190 people respectively and are identified as Tier 5 villages. The nearest Key Service town is Portarlinton. The population density in the study area is 19.6 persons per square kilometre compared to the state at 70 and the county of Offaly at 39. This population density is clearly significantly below the rest of the county and the state. As such the proposed location complies with the requirements of the Wind Energy Strategy with respect to low population requirements.

The construction phase of the project is not expected to have an impact on the population of the area, therefore there are no mitigation measures required or residual effects.

8.9.3. Socio Economics, Employment and Economic Activity

Windfarms by their nature have both economic and social impacts on an area.

The construction and operational phases will provide employment. Rates payments in the region of €400,000 per annum are referred to within the EIAR which will contribute to the county funds.

A Community Benefit Scheme is proposed as part of the scheme in the range of up to €1.25 million over the lifetime of the scheme. It is stated that the value of this fund will be directly proportionate to the level of installed MWs. As part of the Community Benefit Scheme a Recreational Amenity Trail is proposed which will consist of a

walkway and cycleway of 6km which will be open to the public. In addition, a Local Household Dividend Scheme, Greener Homes Scheme and Community Ownership are proposed. While this scheme is referred to by the appellants as not being worth the dis-amenity caused by the development, it is nonetheless a benefit to the area.

It is stated that there is no evidence to indicate that windfarms have a negative impact on the Irish Property market. Reference is made to UK and US studies.

It is stated that the impacts are overall positive, so no mitigation measures are necessary.

A number of the appellants referred to concerns with property and effects on the local stud farm business. The Heather Crest Stud farm considered that the location of the windfarm will make their business unviable. I note that one of the letters which accompanies the Heather Crest stud farm appeal states that no one is going to choose to base their horses with them when there are alternative facilities available, and another letter states that horses will be withdrawn. No evidence has been submitted to demonstrate that this is a real impact following construction of windfarms elsewhere.

This is further addressed under each specific heading as outlined in their concerns, e.g. noise impacts, shadow flicker etc. as well as in the Planning Assessment above. I refer the Board to the specific heading.

I note that there is confusion about the size of the Recreational Amenity Trail. There is reference in the appellant documents to it being 0.6km in length. The applicant states that it is 6km in length. Taking a crude measurement from a drawing, it is clear that it is approximately 6km in length, which I consider to be a reasonable size and a positive benefit to the community.

8.9.4. Land Use

The proposed development site consists primarily of cutover peat bog, scrub and coniferous forestry. The area is located within an area of Strong Urban Influence. However, the land use within the area is particularly rural given the low population density of the area.

A minimum setback distance of 600m has been achieved between a turbine and closest dwelling with a minimum 2km setback from the village core of Walsh Island

and Clonygowan. The cable will be constructed along the public road and within private lands.

Within 10 rotor diameters (1400m) there are two stud farms as indicated on Figure 10.6. There is a stud farm located within 0.64km of Turbine no.1 (the appellant's stud farm) and another located 1.2km from Turbine no.8. There are no public horse trails or bridleways within 1400m.

With respect to potential effects it is stated that the impact on land use will be insignificant with none of the study area designated under a zoning. Given the distance from settlements it is unlikely that this land would be required for urban expansion. The impact of the Recreational Trail is considered to introduce a land use that is positive.

Reference is made to the equine facilities. It is stated that there is no reference to wind turbine effects on bloodstock industry in the Windfarm Planning Guidelines and there is no published scientific research known to the applicant that suggests operational wind turbines have any ongoing effect on the bloodstock industry. The 2014 Marshall Day Acoustics study is referred to, which assesses the impacts that varying levels of noise have on horses. Horses in stables, breeding mares and race horses were assessed within that report.

The applicant states that the scientific research supports the conclusion that horses exhibit adaptation, acclimation and habituation after repeated exposure to noise and visual stimuli. The applicant provides evidence of existing windfarms being located on or near stud farms, equestrian centres and horse riding trails in the UK and Ireland. Specific reference is made to the operational Mace Upper Windfarm in Co, Mayo. It is noted that an appeal to the Board was made (ABP Ref. 221313) in which the issue of the interaction with horses was raised. The issue was dismissed in the Inspector's Report. The applicant states that the experience of the owner of the Mace Upper Equestrian Centre with three turbines on his land has been positive. The three turbines are within 200m, 280m and 450m respectively of the equestrian centre buildings and where outdoor events are held.

Reference is made to the first onshore windfarm in the UK in Cornwall on the site of a stud farm. The windfarm has since been expanded and there are no reports of any

animal or activities disturbance. Another windfarm in Cambridgeshire was developed on a site adjoining a windfarm.

With respect to mitigation measures it is considered that none are required in terms of land use. It is proposed that during the construction phase the developer will engage with the equine facilities as well as the local community, so that people working with horses are aware of all activities during construction.

Residual effects are discussed, and no change will occur in relation to the existing rural land use which I consider acceptable.

As noted above the effect on the stud farm will be addressed throughout this assessment, however having regard to land use, I am satisfied that insufficient evidence has been provided by the appellant to indicate that there will be an adverse impact on their land use. While I accept that letters accompanying the appeal indicate that users of the stud farm will take their business to alternative facilities, no evidence has been provided to demonstrate that this is an actual issue to date experienced by stud farms in close proximity to windfarms. The applicant has referred to many instances whereby the location of a windfarm adjacent to various horse facilities has not resulted in negative effects.

Notwithstanding this, I note that there is only one turbine in close proximity to the stud farm, Turbine no.1, and the Board may wish to consider omitting Turbine No.1 to address any potential socio-economic impact.

The appellants consider that their land use of the stud farm has not been considered within the EIAR. I disagree with this assertion. It has been addressed in various sections including Section 10.5.2, 10.5.3 and 10.5.4 of the EIAR. I am also satisfied as noted in section 8.5 above that a monitoring condition with respect to noise is recommended.

8.9.5. Recreation, Amenity and Tourism

The main tourist attractions in Offaly are listed in the EIAR. It is noted that in close proximity to the subject site the Mountlucas walkway-cycleway has been provided by Bord na Mona and it is estimated that 500 people a week use it.

The proposed Recreational Amenity Trail is 6km in length and not 0.6km as referred to by appellants. I consider that this trail will have a positive effect on the area.

During construction there may be potential impacts to tourist traffic. I note that Clonbullogue Airfield was raised as a concern in relation to the Cloncreen windfarm by third parties. Having regard to the distances involved I do not consider that there will be an effect on the airfield as a result of this proposal.

While there may be a short-term negative impact on tourism during construction, I am satisfied that it can be managed and mitigated to avoid a seriously negative impact.

The visual impact of the proposal is addressed in Section 8.10 below. I am of the opinion that there will be a localised visual impact which may be considered to be a negative impact by some members of the local community. This may impact on their enjoyment of the local amenities.

Residual effects associated with the proposed afforestation will be imperceptible and temporary in nature.

8.9.6. Human Health

Health and safety issues are addressed in the EIAR.

Having regard to the Draft Guidelines produced by the EPA and as repeated in the 'Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment' (August 2018) it is stated that assessment of effects on population & human health should refer to the assessment of those factors under which human health effects might occur, such as under the factors of air, water etc. The EIAR sets out the potential effects in the context of Noise & Shadow Flicker, Electromagnetic Interference and vulnerability of the project to natural disasters.

Potential effects were assessed including the vulnerability of the project to flooding, fire and major accidents involving dangerous substances.

Reference is made to a recent case in Galway in May 2017 whereby a major fire incident took place close to the 169MW Galway Wind Park site in Cloosh Windfarm, given that part of the site is adjacent to forestry. An internal Coillte fire and security management plan is in place to control the potential spread of forest fires.

The proposed windfarm is not close to any Seveso site. It is considered that there are no potential effects.

It is considered that there are no mitigation measures with respect to human health. Air and climate and noise are not considered to have significant effects. Construction traffic is not considered to have a significant impact with respect to dust or emissions. In terms of residual effects, once construction measures are put in place issues of health and safety are to be considered similar to normal risks at typical construction sites. There are no operational risks associated with the operation of the wind turbines and cables and substation.

8.9.7. **Shadow Flicker**

Geodirectory data was obtained on house locations within 1400m of the proposal and was supplemented by house surveys. There are no habitable houses within 600m of a turbine. There is a total of 129 buildings including occupied, unoccupied and permitted located within 10 rotor diameters (1400m) and which have been included in the shadow flicker assessment. Of the 129 buildings, 105 are dwellings, 9 are derelict and 15 are non-residential.

The seven conditions for shadow flicker to occur are listed. It is stated that shadow flicker does not generally have an effect on health and safety but could present a brief nuisance for some human receivers.

The Shadow Flicker model calculates times throughout the year when a turbine viewed from the window of a building, is in line with the sun and therefore potential for shadow flicker exists. The model calculations were carried out at each building assuming it has a window at 2m. Combining the two probabilities of sunshine and wind direction an approximation of the 'estimated actual' shadow flicker occurrence has been calculated and is outlined in Table 10.9.

There are no exceedances of the daily (30 mins) or the annual (30 hours) shadow flicker Wind Energy Guideline limits. There is one exceedance for a farm building.

I note that the Review of the Wind Energy Guidelines "Preferred Draft Approach" proposes that technology and appropriate modelling at design stage to eradicate the occurrence of shadow flicker must be confirmed in all planning applications. Its effect will be to ensure no neighbouring property will experience the occurrence of shadow flicker.

The applicant has committed to zero shadow flicker at residential receptors.

The stud farm appellants express strong concerns in relation to shadow flicker, and in particular consider that the impact of shadow flicker on their paddocks and fields has not been assessed. The appellants state that shadow flicker can spook the horses. It is further stated that in the shadow flicker assessment submitted with the application, it is indicated that shadow flicker can occur for up to 16/17 minutes per day at receptor location 97 (i.e. their house) and 197 (their farm building), and it is considered that shadow flicker in excess of this could occur within training fields and paddocks, noting the proximity of turbine no.1.

I am satisfied that the applicant has committed to zero shadow flicker at residences. This commitment exceeds the requirements of the Wind Energy Guidelines which requires no exceedances of the daily (30 mins) or the annual (30 hours) shadow flicker. There is one exceedance for a farm building. Thus, the issue at hand is if the turbine could cause shadow flicker issues at the paddocks and fields and if so, if it is likely to cause an unacceptable and seriously injurious impact.

I am satisfied that the applicant followed correct procedures and the absence of specific results from the paddocks and fields is not a cause for considering the EIAR deficient. However, I am cognisant of the distance between the Turbine No.1 and the paddocks. Notwithstanding this, I note the Wind Energy Guidelines 2006 only refer to offices and dwellings. There is no reference to stud farms or any other type of facility. Having regard to the distances involved with neighbouring windfarms a cumulative assessment is not considered necessary.

In terms of mitigation the applicant is committed to zero shadow flicker at residential receptors. If it occurs at a residence, mitigation measures including turbine shutdown will be employed to eliminate the exceedance to zero shadow flicker.

Based on the mitigation measures outlined, I am satisfied that shadow flicker will not result in an unacceptable negative effect on residences in the vicinity.

8.9.8. 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 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 of Population and Human Health.

8.10. Landscape and Visual Impact Assessment

8.10.1. Landscape and Visual Impact are considered in Chapter 11 of the EIAR. The study area extends to 20km from the site boundary which extends into parts of Laois, Kildare and Westmeath and the EIAR gives due cognisance to the adjoining counties. The residential assessment has generally focussed on the 5km zone around the site area.

The appellants expressed particular concern with the impact of the proposal on the landscape and the visual impact. One of the appellant's appointed a Consultant to review the chapter and a report is enclosed with the appeal. The applicant is appealing a condition omitting two turbines which were omitted on visual amenity grounds which I have dealt with in Section 7.4 above.

The Planning Authority requested additional photomontages as part of the Further Information which form part of the assessment.

The proposal lies within a wider area of Low Sensitivity interspersed with smaller areas of Moderate Sensitivity landscape. It is noted that Mountlucas and Cloncreen windfarms are entirely located within Moderate Sensitivity landscape and both developments have obtained permission from the Board. Yellow River windfarm is similar to the subject site in terms of its location and it too has secured planning permission from the Board. The Wind Energy Strategy for County Offaly 2014 identifies the easternmost part of the county as Wind Energy Areas that are "*likely to be suitable for all scales of wind energy development on account of a combination of factors....*". Thus, the area has been identified as suitable for wind energy which is a material consideration.

The only scenic route that is within the study area is along the R421 southwards from Tullamore and is 17km west. Protected views are within the study area and include views from Croghan Hill c.14.5km north. The summit of Croghan Hill is privately owned.

8.10.2. Existing Environment

The site lies on generally flat land with elevations of c.69-80m. The extensive area of cutaway bog is the most characteristic aspect of the site. At ground level outward views to the wider landscape from the bog are limited due to coniferous forestry, woodland scrub and mature hedgerows around the periphery. The closest roads are small access roads and tertiary roads which are characterised by mature roadside hedgerows and treelines which give rise to high levels of visual enclosure. There are some partially screened and open views towards the site from sections of the road network.

The replant lands lie in an area with 'Low Sensitivity' which means that it will have the capacity to absorb new developments such as afforestation.

8.10.3. **Potential Effects**

Potential landscape and visual effects are identified through an iterative process of desktop studies and site visits and by a range of technical studies. The following presents the results of the technical studies including:

- Zone of Theoretical Visibility (ZTV)
- Route Screening Assessment (RSA)
- Viewshed Reference Points (VRP)
- Visual Effects on settlements, residential properties, roads and significant/designated landscape features.

A range of Viewshed Reference Points were identified and are shown in Plate 9. These include 10 within a 5km radius, 4 within a 5-10km radius and 6 within the 10-20km range, as well as the additional 4 views requested at Further Information stage. It is stated that the VRP provided represents one of the more open views from the locality.

The proposed replanting area is to be carried out in an area where there are already existing conifer plantations among agricultural fields.

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

Measures are listed including setback distances and ecological mitigation planting. Decommissioning and Do Nothing scenarios are addressed.

8.10.5. **Landscape and Visual Effects**

Landscape effects during construction will be temporary and confined to the immediate site and is expected to be 12-18 months.

Due to nature of development there will be no significant cumulative landscape and visual effects during construction.

Operational Phase: The following section set outs my assessment of the operational landscape and visual impact.

8.10.5.1. **Landscape:**

From my site visits I can confirm that there are open or partial visibility areas which will provide views of some turbines from sections of the road, particularly towards the lower half of the development. The turbines are therefore going to be perceived as prominent new elements in the landscape. There are substantial sections of road from which they will not be visible, particularly in areas where there is forestry and mature hedgerows. As such the presence of turbines in the landscape will be intermittent.

'Overspill' is raised as a concern by an appellant which I will address below under Cumulative effects. The Landscape Report submitted by one of the appellants refers to the sensitivity of the area (being classed as low and moderate sensitivity in the Development Plan), and tests whether the proposed development would be '*screened by appropriate natural boundaries*' within low sensitivity areas, and whether it is '*sensitively designed and located*' within moderate sensitivity areas. It is stated by the appellant that the proposal would cause significant landscape character effects over a more extensive area.

Windfarms by their nature will have long term but not permanent effects and are reversible. I am satisfied that from a planning precedent (Mountlucas, Cloncreen etc) and a planning policy point of view, it is reasonable to conclude that the landscape in which the proposal is to be located is one of the more suitable landscape types within the county, subject to further consideration of impacts on specific viewpoints.

8.10.5.2. **Visual Effects:**

In total 28 Photomontages were submitted and are included in Volume 4 of the EIAR and the Further Information response.

Each VRP presented in Volume 4 includes general photos from the locality as well as the photomontage. I have reviewed all the photomontages and visited the site and am satisfied that they are representative of the likely views and impact. While the decision regarding viewpoints is queried by the appellants I am satisfied that they are representative.

I specifically address views highlighted by the appellants and the applicant in their respective appeals in section 7.4 above, but I have assessed all the views. A consultant on behalf of one of the appellants queried the methodology used to determine the level of landscape and visual effects arising. The consultant provides an alternative assessment and concludes that the incidence and extent of significant landscape and visual effects would be substantially greater than identified in the EIAR.

I have referred to the local views from the L5021 road above in the Planning Assessment. Having regard to the open nature and intermittent screening along this particular road, I am of the opinion that the proposal will have a locally significant visual impact in this particular locality and on residential properties therein. This impact has to be balanced and seen against the fact that the landscape is a highly moderated working landscape which is relatively robust and is identified in the Wind Energy Strategy for County Offaly 2014 as an area that is "*likely to be suitable for all scales of wind energy development on account of a combination of factors....*". Thus, the area has been identified as suitable for wind energy which is a material consideration.

The proposal will result in an intermittent local visual impact within this immediate locality, but this has to be balanced against the need to develop key strategic infrastructure to meet the strategic aims of the Plan and of importance, the fact that the landscape is a working and altered landscape.

Cumulative Effects during the Operational Stage

Within the study area there are three other existing and permitted windfarms – Mountlucas existing (c.5km distance north) and the permitted Cloncreen (c.10km distance north-east) and Yellow River (c.17km distance and north-east of Croghan

Hill). There is separation distance between each one in the order of 5-10km. Other windfarms outside of the study area and other developments have been assessed in the EIAR including the replant lands.

Cumulative effects are more visible from elevated points in the landscape including Croghan Hill, the Slieve Bloom mountains and Dunamase. The appellants are of the opinion that the area is now saturated and overspill of windfarms in the area is occurring. I accept that there are a number of windfarms and turbines existing and permitted but having regard to views from various elevated points, I am satisfied that there will not be an adverse significant visual cumulative effect.

VRP18 is taken from Croghan Hill. Views from Croghan Hill towards the Slieve Bloom mountains are protected, albeit the summit of Croghan Hill is privately owned. Panoramic views of the existing Mountlucas windfarm are visible from the lower slopes of the hill from the roadside. I visited the site on a windy and wet day with poor visibility but Mountlucas windfarm can still be seen in the distance. I am of the opinion that the addition of the proposed wind turbines will not add to the cumulative effect of wind turbines due to distances involved. The subject proposal is c. 5km south of Mountlucas and will not have a significant visual impact from Croghan Hill. It will be seen in-line with Mountlucas and will not be perceived as an additional intervention into the landscape from this viewpoint.

Having visited the sites and travelled as far up Croghan Hill as possible (in vehicle) I am satisfied that the cumulative views will not result in a significant visual impact.

8.10.6. 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.

I am satisfied that the majority of 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 of the view that there will be some intermittent locally negative visual impacts, in particular from the local road L5021 and on the properties therein. This has to be considered in the context of a highly moderated working landscape which is relatively robust. Furthermore, the visual character of the wider landscape has changed and will change further as a consequence of the existing and permitted wind energy developments.

Notwithstanding the conclusion reached in respect of the inability of the proposed measures to fully mitigate the local visual impact, 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.

8.11. Material Assets

8.11.1. Material Assets are addressed in Chapter 12 of the EIAR and it considers Traffic and Transport, Aviation, Telecommunications and Renewable, Non-Renewable & Utility Infrastructure. The impact on the local roads and in particular during the laying of the cables was of particular concern to the appellants.

8.11.2. Traffic and Transport

8.11.2.1. Existing Environment

The proposed haul routes and the Turbine Delivery Route (TDR) as well as the grid connection route are assessed. Transport to and from the indicative quarry locations are assessed. Estimates of the volumes of traffic at all stages are assessed.

The TDR and the grid connection route are shown in Figure 12.2. The proposed site entrance is along the L1013 road and has been identified to provide the best visibility in both directions. The location of watercourse crossings is identified.

Traffic volumes were counted on local roads to supplement existing data.

8.11.2.2. Potential Effects

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 12.1 with respect to the turbine deliveries.

With the cable route there will be 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.

Trip generation was established for the construction of the windfarm, the substation and the grid connection works.

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

The traffic impacts will be far less significant than those required during the construction phase during decommissioning.

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.

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

Mitigation by design is described in section 12.2.8.1. It is stated that some sections of hedgerow and a small number of trees will be removed to facilitate the entrance design and sightline requirements. Where required the entrances will be controlled by flagmen.

A detailed Traffic Management Plan (TMP) incorporating all mitigation measures set out in the outline TMP submitted as part of the outline CEMP is included and will be finalised and agreed with relevant parties.

A programme of turbine deliveries will be agreed with the Council.

The road works associated with the cable works will be agreed with the Council. One of the appellants expressed major concerns with the disruption caused and queried how the cable would run in the public road given the presence of other services. The narrow width and condition of the road in parts was raised. The applicant as part of the Further Information response addressed how this work would be done and included an Outline Cable Installation Plan which I consider addresses the concerns with existing drainage and services.

No mitigation measures are required during operation.

Decommissioning measures identified in the Outline CEMP will be included in any decommissioning plan.

8.11.2.4. **Residual Effects**

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 slight 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 be only be required at certain times.

It is anticipated that there will be a direct minor temporary negative residual impact on the road network and its users, but long-term residual impacts will be avoided by implementing the recommendations of the outline CEMP. I am satisfied that with appropriate monitoring condition in place, there will not be a significant effect on the public road or its condition.

There will be no significant residual impacts during operation.

There will be no significant residual impacts during decommissioning.

8.11.3. **Aviation**

Consultations took place with the IAA and the Department of Defence. There are no major airports in the immediate vicinity of the site. The location of all airfields are identified in Figure 12.7. Reference is made to the report prepared for Cloncreen Windfarm with respect to Clonbullogue Airfield which is owned by the Irish Parachute Club. No impact is predicted with Cloncreen and having regard to the increased distance between the subject site and Clonbullogue, it can be inferred that the subject proposal will not have an impact.

A lighting regime is proposed with the turbines at the periphery to be illuminated with medium intensity fixed red obstacle lights.

No cumulative effects are expected.

No residual effects are expected.

8.11.4. **Telecommunications**

Potential impacts arise from electromagnetic interference on existing telecommunication services as a result of the rotating blades. It is possible that houses in the immediate vicinity of turbines could require some remedial measures in relation to television receptors.

Consultation was carried out with all known Telecommunications Operators (TO) that could potentially be affected. Obtaining the cooperation of the TO's was a key aspect of the process. There are 6 telecommunication towers within proximity of the study area which influenced the location of the turbines.

Potential effects during construction are deemed to be insignificant.

During the operational phase, potential effects can be mitigated by ensuring sufficient separation distance between the turbine and any telecommunication link or masts. A standard Protocol Document has been prepared by RTE/2rn for the proposed development which has been signed by the developer and a copy included in Appendix 12.4.

The separation distance is deemed sufficient to ensure that telecommunications will not be adversely affected by the development.

8.11.5. Renewable, Non-renewable Resources and Utility Infrastructure

The 2013 SEAI Wind Speed Atlas identifies the site as having a wind speed of between 7.25m/s and 7.5m/s. An existing 80m meteorological mast has been measuring wind speed since July 2013. It is considered that the proposal will have a positive impact in terms of carbon reduction and climate change. There will be a requirement to fell some coniferous forestry, but this will be replaced with replant lands which have undergone an environmental impact assessment included within Appendix 2.3 of the EIAR. It is estimated that the potential impacts are neutral or positive in terms of land use and landscape impact.

There is a strong existing electricity network traversing Co. Offaly. There will be no requirement for overhead lines

The windfarm will have a minor impact on mineral or rock extraction in the surrounding area. Stone material required for access tracks and hardstanding areas will be sourced from the Borrow Pit or from registered quarries.

Mitigation measures are not considered necessary. There are no residual effects associated with material assets.

8.11.6. 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.

8.12. Archaeology, Architectural Heritage & Cultural Heritage

8.12.1. Cultural Heritage is addressed in Chapter 13 of the EIAR.

8.12.2. Existing Environment

The bogland archaeology is described. 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 7 sites within 1km of the boundary.

There are no Protected Structures, NIAH sites or ACA's within the site boundary. There is a defined ACA in Geashill village.

There are 11 undesignated sites of cultural heritage interest within the boundary which are identified in Table 13.8. Of these only 3 will potentially be affected.

A non-invasive field inspection was carried out. No new cultural heritage or archaeological features were identified. A windshield survey of the proposed grid route and the TDR was carried out. There are relatively few cultural heritage assets located within a 2km radius and even fewer with an above ground presence.

8.12.3. Potential Effects

There will be no direct impacts on UNESCO, National Monuments, RMP/SMR sites, or Protected Structures on the site or the replant lands site. There is potential to impact on below-ground undesignated features.

It is possible that previously unknown archaeological subsurface features and finds can be uncovered in greenfield areas.

The TDR will require the partial removal of a hedge that may be associated with Ballychristal House (RPS 35-25). The magnitude of impact is considered low.

Removal of this section of mature boundary would have an overall indirect slight negative temporary impact on the setting of Ballychristal House.

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

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

Cumulatively the location of the turbines from each of the other windfarms will not add to any effects experienced by sensitive archaeological and or historical receptors.

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

During the construction phase all mitigation measures will be undertaken in compliance with national policy guidelines and statutory provisions for the protection of cultural heritage.

During operation 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.

8.12.5. Residual Effects

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

8.12.6. 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.

8.13. Interrelations between the factors

- 8.13.1. I have also considered the interrelationships between factors and whether these might as a whole affect the environment, even though the effects may be acceptable when considered on an individual basis.
- 8.13.2. In my assessment of each environmental topic I have considered the likelihood of significant effects arising as a consequence of interrelationships 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.
- 8.13.3. In conclusion, I am satisfied that there are no such effects and, therefore, nothing to prevent the granting of permission on the grounds of interaction between factors.

8.14. Reasoned Conclusion on Significant Effects

- 8.14.1. Having regard to the examination of the environmental information contained above, and in particular to the EIAR and supplementary information provided by the applicant at Further Information stage, and the submission from the prescribed body and appellants in the course of the application, it is considered that the main significant direct and indirect effects of the proposed development on the environment are as follows:

- **Landscape and Visual:** Localised significant visual impact from intermittent sections of the local road L5021, and on local properties therein, of the development which will not be avoided, mitigated, or otherwise addressed by means of condition.
- **Biodiversity:** There will be habitat loss due to the construction of access roads, substation, hardstanding, borrow pit, 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, invasive species management plans, and the appointment of a Project Ecologist.

- **Lands, Soil and Geology:** Inappropriate storage and handling of excavated peat and soil could increase landslide risk during construction. Excavations for the borrow pit will increase aquifer vulnerability locally. Soils will be exposed and subject to wind erosion and rain which could deposit silt in streams with an indirect impact on water quality. Mitigation measures are detailed for slope stability, excavation, storage and removal of subsoils and rock, and borrow pit in Appendix 8.1 and the outline Construction and Environmental Management Plan. Specific mitigation measures relating to the management of hydrocarbons are included.

- **Hydrology and Water Quality:** 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 includes an outline Site Drainage Management Plan which details the mitigation measures to be taken to mitigate any significant effect.

- **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.

Notwithstanding the conclusion reached in respect of the inability of the proposed measures to fully mitigate the localised visual impact from sections of the L5021 local road, 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.

9.0 **Appropriate Assessment**

9.1.1. The areas addressed in this section are as follows:

- Compliance with Articles 6(3) of the EU Habitats Directive
- The Natura Impact Statement

- Appropriate Assessment

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

9.3. The application was accompanied by a Natura Impact Statement (NIS) which described the proposed development, the project site and the surrounding area. The NIS contained a Stage 1 Screening Assessment which concluded that a Stage 2 Appropriate Assessment was required. The NIS outlined the methodology used for assessing potential impacts on the habitats and species within several European Sites that have the potential to be affected by the proposed development. It predicted the potential impacts for these sites and their conservation objectives, it suggested mitigation measures, assessed in-combination effects with other plans and projects and it identified any residual effects on the European sites and their conservation objectives.

9.4. Having reviewed the NIS and the supporting documentation, I am satisfied that it provides adequate information in respect of the baseline conditions, does clearly identify the potential impacts, and does use best scientific information and knowledge. Details of mitigation measures are provided and they are summarised in Section 6.5 of the NIS. I am satisfied that the information is sufficient to allow for appropriate assessment of the proposed development.

9.5. **Stage One - Screening**

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

9.5.2. The Stage 1 Screening Report is set out in Section 5 of the separately bound document which accompanies the planning application. It notes that there are five European sites within 15km of the site. Of these, four are cSACs and one is an SPA. There are no European sites within the proposed development area. Six additional SPAs outside of the 15km buffer have been included to consider the potential impact to Greenland White-fronted Geese. Table 5.1 in the NIS lists the designated sites located within 15km of the site and includes their qualifying interests, conservation objectives, unit size, and known threats, as well as the additional six Greenland White-fronted Geese sites.

9.5.3. Table 5.1 includes summary descriptions for each European site as extracted from the site synopsis available on the NPWS website (accessed 29th August 2017). 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 (km)
Slieve Bloom Mountains	004160 SPA	11.9	13.3
Charleville Wood	000571 cSAC	15	17.3
Raheenmore Bog	000582 cSAC	13.4	9.7
River Barrow and River Nore	002162 cSAC	3.1 overland and 15.7 via watercourse	6.2
Mountmellick	002141 cSAC	6.4	8.9
All Saints Bog	004103 SPA	46.9	46.5
Dovegrove Callows	004137 SPA	44.6	44.5
Mongan Bog	004017 SPA	46.8	44.6
River Little Brosna	004086	47.7	47.5

Site	Site Code & Designation	Approx. distance from windfarm site (km)	Approx. distance from cable route (km)
Callows	SPA		
Wexford Harbour and Slobs	004076 SPA	89	91
The Raven	004019 SPA	103	105

9.5.4. 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 two of the European sites referred to above, namely the River Barrow and River Nore SAC (Site Code 002162) and the Slieve Bloom Mountains SPA (Site Code 004160).

9.5.5. The remaining sites namely Charleville Wood SAC, Raheenmore Bog SAC, Mountmellick SAC, All Saints Bog SPA, Dovegrove Callows SPA, Mongan Bog SPA, River Little Brosna Callows SPA, the Raven SPA and the Wexford Harbour and Slobs 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 nine European Sites in view of the sites' conservation objectives and a Stage 2 Appropriate Assessment is not therefore required for these sites.

9.6. Stage Two – Appropriate Assessment

9.6.1. **Relevant European sites:** The Conservation Objectives and Qualifying Interests for these sites, are set out below.

Site Name	Qualifying Interests	Distance
<p>1. River Barrow and River Nore SAC (Site Code 002162)</p>	<p>Desmoulin's whorl snail <i>Vertigo moulinsiana</i></p> <p>Freshwater Pearl Mussel <i>Margaritifera margaritifera</i></p> <p>White-clawed crayfish <i>Austropotamobius pallipes</i></p> <p>Sea Lamprey <i>Petromyzon marinus</i></p> <p>Brook Lamprey <i>Lampetra planeri</i></p> <p>River Lamprey <i>Lampetra fluviatilis</i></p> <p>Twaite shad <i>Alosa fallax</i></p> <p>Atlantic Salmon <i>Salmo salar</i></p> <p>Estuaries</p> <p>Mudflats and sandflats not covered by seawater at low tide</p> <p>Atlantic salt meadows</p> <p>Otter <i>Lutra lutra</i></p> <p>Mediterranean salt meadows</p> <p>Kilarney Fern <i>Trichomanes speciosum</i></p> <p>Nore Freshwater Pearl Mussel <i>Margaritifera durrovensis</i></p> <p>Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation</p> <p>European Dry Heaths</p> <p>Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels</p> <p>Petrifying springs with <i>tufa</i> formation</p> <p>Old sessile oak woods with <i>illex</i> and <i>Blechnum</i> in the British Isles</p> <p>Alluvial Forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i></p>	<p>3.1km overland and 15.7km via watercourse to windfarm site and 6.2km to cable route</p>

Site Name	Qualifying Interests	Distance
2. Slieve Bloom Mountains SPA (Site Code 004160)	Hen Harrier <i>Circus cyaneus</i>	11.9km to windfarm 13.3km to cable

9.6.2. River Barrow and River Nore SAC (Site Code 002162)

9.6.2.1. Brief Description of the Site

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.

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.

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 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.

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.

9.6.2.2. **Conservation Objectives**

A copy of the detailed conservation objectives for the site are set out in Table 6.2 of the NIS, along with an evaluation as to whether there is potential for the conservation objectives to be affected by the proposed development. The overall aim of the objectives is to maintain or restore the favourable conservation status of habitats and species of community interest.

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.

9.6.3. **Slieve Bloom Mountains SPA (Site Code 004160)**

9.6.3.1. **Brief Description of Site**

The Slieve Bloom Mountains SPA is situated on the border between Counties Offaly and Laois, and runs along a north-east/south-west aligned ridge for approximately 25 km. Much of the site is over 200m in altitude, rising to a maximum height of 527m at Arderin. The mountains are of Old Red Sandstone, flanked by Silurian rocks. Several important rivers rise within the site, including the Barrow, Delour and Silver.

The Slieve Bloom Mountains SPA is of ornithological importance because it provides excellent nesting and foraging habitat for breeding Hen Harrier and is one of the top sites in the country for the species. The presence of three species, Hen Harrier, Merlin and Peregrine, which are listed on Annex I of the E.U. Birds Directive is of note.

9.6.3.2. **Conservation Objectives**

With regard to the Slieve Bloom Mountains SPA only a generic conservation objective has been prepared (NPWS site accessed 7th September 2018). This is ‘*To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA’ – namely the Hen Harrier*’.

9.6.4. **Potential Impacts on Key Species and Key Habitats**

No direct impacts are predicted on any European site as the application site is not directly located within a Natura 2000 site. In the event of a large release of suspended sediment or a release of other pollutants into onsite 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 this in turn could affect species such as otter.

The key sensitive receptors are considered to be:

- White-clayed crayfish
- Sea Lamprey
- Brook Lamprey
- River Lamprey
- Twaite Shad
- Atlantic Salmon
- Otter

In relation to the Hen Harrier in the Slieve Bloom Mountains SPA, this species has been observed intermittently over the period of 2013 – 2017 in the vicinity of the

study area. No breeding or roosting takes place within the site. Given the low numbers of observations of hen harriers over the period the study area does not represent a prime foraging area for this species and so impacts are not likely to be significant. During construction phase, hen harriers are likely to avoid the site. During the operational phase the wind farm will present a new obstacle for birds in the area, however, given the low numbers of observations this will not present a significant impact on the population.

9.6.5. **Potential Impacts on the Integrity of the Sites**

The potential indirect effects on the conservation objectives of the qualifying interests of the River Barrow and River Nore SAC are detailed in Table 6.1 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 such as lamprey, salmon, shad, white-clawed crayfish and otter. This in turn could lead to reduced numbers of different age classes or reduced breeding success.

In terms of the Slieve Bloom Mountains SPA the integrity of the site is not likely to be significantly affected. The low numbers of Hen Harriers in the environs of the windfarm to date would indicate that there will not be a significant effect on the hen harrier population. Specific mitigation for hen harrier is not therefore required.

9.6.6. **Cumulative and in-combination effects** are considered in relation to windfarms within the greater area as well as other listed projects.

9.6.7. **Mitigation Measures**

Mitigation measures are listed in Table 6.2 of the NIS under a number of headings, which include and can be summarised as follows:

9.6.7.1. **Construction Phase**

- Appointment of Project Ecologist
- Implementation of Surface Water Management Plan
- Implementation of all measures included in the CEMP
- Brash Management including use of brash mats
- Area of works to be kept to a minimum

- Implementation of Invasive Species Management Plan
- Tree felling Management including extraction routes to be as short as possible
- Proposed drainage system including the provision of stilling ponds
- Silt protection controls
- Adequate bunding of stockpiled material and management of excavated soils
- Roadside drainage
- Method statement for bridge installation
- Appropriate preventative measures to prevent non-native aquatic/riparian species
- Management of standing water in the excavations of turbine bases
- Designated concrete wash down area and wheel washing facilities
- Fencing around all open water bodies
- Training of personnel
- Regular maintenance of silt traps, silt fencing, overland flow channels and swales
- Roads to be capped
- Re-fuelling onsite management
- Sanitary waste to be removed by authorised licenced waste contractor
- Daily visual examinations of watercourses

9.6.7.2. **Operation**

- Transformers will be banded
- Access to the site will be limited

9.6.8. **Residual effects/Further analysis:**

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

9.7. **Appropriate Assessment Conclusions**

- 9.7.1. Having regard to the works proposed, the hydrological distance between the site and the European sites 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 the Slieve Bloom Mountains SPA (Site Code 004160), or any other European site, in view of the site's Conservation Objectives.

10.0 Recommendation

Having regard to the documentation on file, the appeals and observation, the site inspections and the assessment above, I recommend that permission for the above described development be granted for the following reasons and considerations, subject to conditions.

11.0 Reasons and Considerations

In coming to its decision, the Board had regard to the following:

- (a) national policy with regard to the development of alternative and indigenous energy sources and the minimisation of emissions from greenhouses 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 Midland Regional Planning Guidelines, 2010 – 2022,
- (d) the policies of the planning authority as set out in the Offaly County Development Plan 2014 - 2020, including the Wind Energy Strategy for County Offaly Methodology Statement 2014,
- (e) the location of the wind farm site in an area which is identified in the Development Plan as an area 'Open for Consideration' where it is the policy of the planning authority to facilitate the development of appropriate wind energy proposals,

- (f) 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,
- (g) the characteristics of the site and of the general vicinity,
- (h) the pattern of existing and permitted development in the area, including other windfarms,
- (i) the distance to dwellings and other sensitive receptors from the proposed development,
- (j) the Environmental Impact Assessment Report submitted,
- (k) the Natura Impact Statement submitted,
- (l) the appeals made in connection with the planning application, and
- (m) 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 appellants, the observer and the prescribed body 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:

- **Landscape and Visual:** Localised significant visual impact from intermittent sections of the local road L5021, and on local properties therein, of the development which will not be avoided, mitigated, or otherwise addressed by means of condition.
- **Biodiversity:** There will be habitat loss due to the construction of access roads, substation, hardstanding, borrow pit, 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, invasive species management plans, and the appointment of a Project Ecologist.
- **Lands, Soil and Geology:** Inappropriate storage and handling of excavated peat and soil could increase landslide risk during construction. Excavations for the borrow pit will increase aquifer vulnerability locally. Soils will be exposed and subject to wind erosion and rain which could deposit silt in streams with an indirect impact on water quality. Mitigation measures are detailed for slope stability, excavation, storage and removal of subsoils and rock, and borrow pit in Appendix 8.1 and the outline Construction and Environmental Management Plan.
- **Hydrology and Water Quality:** 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 includes an outline Site Drainage Management Plan which details the measures to be taken to mitigate any significant effect.
- **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.

The Board 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, notwithstanding the conclusion reached in respect of the inability of the proposed measures to fully mitigate the localised visual impact from sections of the L5021 local road, 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

The Board agreed with the screening assessment and conclusion carried out in the Inspector's report that the River Barrow and River Nore SAC (site code 002162), and the Slieve Bloom Mountains SPA (site code 004160), are the only European Sites in respect of which the proposed development has the potential to have a significant effect.

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 Sites, namely River Barrow and River Nore SAC (site code 002162), and the Slieve Bloom Mountains SPA (site code 004160), in view of the site's conservation objectives. The Board considered that the information before it was adequate to allow the carrying out of an appropriate assessment. In completing the appropriate assessment, the Board considered, in particular, the following:

- i. the likely direct and indirect impacts arising from the proposed development both individually or in combination with other plans or projects,
- ii. the mitigation measures which are included as part of the current proposal, and
- iii. the conservation objectives for the European Sites.

In completing the appropriate assessment, the Board accepted and adopted the screening and the appropriate assessment carried out in the Inspector's report in respect of the potential effects of the proposed development on the aforementioned European Sites, having regard to the site's conservation objectives.

In overall conclusion, the Board was satisfied that the proposed development, by itself or in combination with other plans or projects, would not adversely affect the integrity of the European Sites, in view of the site's conservation objectives.

Proper Planning and Sustainable Development

It is considered that, subject to compliance with the conditions set out below, the proposed development would be in accordance with the National Planning Framework, the Midlands Regional Development Plan 2010 - 2022, the provisions of the Offaly County Development Plan 2014 – 2020 and would not have an unacceptable impact on the landscape, the residential amenities of the area, and would not adversely affect the archaeological or natural heritage of the area and would 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 submitted on the 27th day of February 2018, 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 shall be implemented in full by the developer, except as may otherwise be required in order to comply with the following conditions.

Prior to the commencement of development, the developer shall submit a schedule of mitigation measures and monitoring commitments identified in

the Environmental Impact Assessment Report, and details of a time schedule for implementation of the mitigation measures and associated monitoring, to the planning authority for its written agreement.

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 kept for 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 which was 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 30 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. This permission shall not be construed as any form of consent or agreement to a connection to the national grid or to the routing or nature of any such connection.

Reason: In the interest of clarity.

8.
 - 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

9. Details of the materials, colours and textures of all external finishes to the proposed substation and control building shall be submitted to and agreed in writing with the Planning Authority prior to commencement of development.

Reason: In the interest of the visual amenities of the area.

10. Within one year of the commissioning of the wind farm details of amenity and public access arrangements 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.

11. 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 be in accordance with the levels specified in the Environmental Impact Assessment Report.
- 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.

12. 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 for the written agreement of the planning authority a shadow flicker compliance monitoring programme for the operational wind farm.

Reason: In the interest of residential amenity.

13. 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.

14. 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.

15. Prior to commencement of development, a transport management plan for the construction stage shall be submitted to, and agreed in writing with, the planning authority. The traffic management plan shall incorporate details of the road network to be used by construction traffic, including over-sized loads, and detailed arrangements for the protection of bridges, culverts or other structures to be traversed, as may be required. The plan should also contain details of how the developer intends to engage with and notify the local community in advance of the delivery of oversized loads.

Reason: In the interest of traffic safety.

16. (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) 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.
 - (iii) Detailed arrangements whereby the rectification of any construction damage which arises shall be completed to the satisfaction of the planning

authority.

(iv) 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 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.

17. Water supply and drainage arrangements, including the attenuation and disposal of surface water, shall comply with the requirements of the planning authority for such works and services.

Reason: In the interest of public health.

18. 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:

(i) 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

(ii) employ a suitably-qualified archaeologist prior to the commencement of development. The archaeologist shall assess the site and monitor all site development works. The assessment shall address the following issues:

- (i) the nature and location of archaeological material on the site, and
- (ii) the impact of the proposed development on such archaeological material.

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

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

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

19. Prior to the commencement of development, the community gain proposals shall be submitted to and agreed in writing with the planning authority.

Reason: In the interest of the proper planning and sustainable development of the area.

20. 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.

21. 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 road. 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 route.

22. 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.

23. The developer shall pay to Offaly County Council 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. The contribution shall be paid prior to the 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 the Board 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.

Ciara Kellett
Senior Planning Inspector

1st October 2018