An Bord Pleanála

Inspector's Report ABP-300686-18

Development	Ten-year planning permission for a 13 turbine wind farm with a 30-year operational life. An EIAR and NIS accompanied the application
Location	Coole, Monktown, Camagh (Fore by), Doon, Clonsura, Mullagh, Boherquill, and Joanstown, County Westmeath
Planning Authority	Westmeath County Council
Planning Authority Reg. Ref.	17/6292
Applicant	Coole Wind Farm Limited
Type of Application	Permission
Planning Authority Decision	Refuse Permission
Type of Appeal	First-Party v. decision
Appellant	Coole Wind Farm Limited
Observers	(See Appendix D)
Dates of Site Inspections	24th September, 16th October and 26th November 2018
Inspector	Colm McLoughlin

Contents

1.0 Site Location and Description

1.1. The appeal site comprises five parcels of land in the northwest of County Westmeath, close to the boundary with County Longford. The largest of these parcels is irregular in shape and would contain the proposed wind farm turbines. In addition, the application site includes a parcel of land proposed to accommodate a borrow pit for the development, located approximately 1.1km to the southeast of the wind farm site. The three other parcels of land would accommodate works to the haulage route to facilitate the proposed development, at locations between 1.6km and 10.7km to the south and southwest of the wind farm site. The immediate surrounding settlement pattern is characterised by rural villages and one-off rural housing dispersed along the local and regional road network. The landscape is defined by a mix of pastoral fields, cutaway bog, commercial peatlands and commercial forestry.

1.2. The main body of the site proposed to accommodate the wind farm is located adjoining and to the northeast of the R396 regional road, which connects Coole village with Granard, and to the southwest of the R394 regional road, which connects Finnea village with Castlepollard. It is stated to measure 439ha and much of the site is presently in use as commercial peatlands, alongside fringe areas of commercial forestry (measuring c.9.5ha). Peat harvesting is stated in the Environmental Impact Assessment Report (EIAR) submitted with the application to have taken place on these lands since the 1940s with turf harvested on the site for supply to Dublin in the late 1950s. The village of Coole, the nearest identifiable settlement to the proposed wind farm site, is located approximately 2.5km to the south. The largest settlements in the vicinity include Abbeylara, located approximately 5.5km to the northwest, Castlepollard, located 7.4km to the southeast, Granard, located 8.1km to the northwest and Edgeworthstown, located 14.2km to the west. According to the Central Statistics Office (CSO) data, the population density in 2016 of the two Electoral Divisions (EDs) comprising the main wind farm site ranged between 11 and 20 persons per square km. It is stated in the application that there are 12 houses within 1km of the proposed turbine locations.

1.3. The borrow pit site is rectangular in shape, with a narrow strip of land 200m in length connecting the pit site with the L-5755 local road. The borrow pit site comprises

open agricultural land measuring approximately 6.2 hectares, surrounded by mature hedgerows and trees.

1.4. The remaining elements of the application site comprise a winding linear strip of land adjacent to the west of Coole village, connecting with the R395 and R396 regional roads and bypassing the village. This would partially provide an off-road haulage route to serve the proposed development and would run through farmlands, peatlands and along agricultural tracks. This portion of the site is 1.6km to the south of the main turbine site. Lands at Boherquill townland, 4.9km to the southwest of the main turbine site, at the junction of the L-1927 and the L-5828 local roads, also forms part of the appeal site. This part of the site currently comprises the southwest corner of an agricultural field that is bounded by mature hedgerows. The fifth part of the site comprises a narrow wedge of the roadside verge at the junction of the N4 national road and the L-1927 local road, 0.6km southeast of Rathowen village.

1.5. The vast majority of the wind farm site comprises operational commercial peatlands, bordered by trees and hedges and with fringe areas of commercial forestry. The land is quite flat, ranging generally between 60-73m Ordnance Datum (based on OS Discovery Series).

1.5.1. The Glore River flows through the turbine site, draining in a northwest direction before flowing into the River Inny, which marks the county boundary between Longford and Westmeath and the western boundary of the turbine site lands. Approximately 2.2km to 4.2km upstream to the north of the site, the River Inny drains from Lough Sheelin, Lough Kinale and Derragh Lough, before ultimately draining into the Shannon at Lough Ree, approximately 35km to the southwest of the site.

2.0 **Proposed Development**

2.1. The proposed development can be described as follows:

- erection of 13 no. wind turbines of 175m tip height including construction of piled foundations (for 12 turbines) and hardstanding areas, providing for a maximum export capacity (MEC) of up to 50mw (estimated installed capacity of 49.4mw). The turbines would typically be 4m in diameter at the base, tapering to 1.9m at nacelle, with a foundation base c.22.2m in diameter and c.4m in depth;

- hardstanding areas of c.25m x 50m (c.1,250sq.m), plus temporary set-down hardstanding areas, per turbine;
- construction and upgrade of approximately 7.6km of site tracks (standard width of track is indicated as 5m wide), with passing-bays, associated drainage and adjacent parallel services trenches for cabling. Indicative depth of excavated tracks would vary typically from 0.5m for a new track and 0.3m over an existing widened track, and indicative depth of floating roads over peat level would be 0.9m for an upgrade to an existing floating road and 1.2m for a new road. Construction material would be imported from the off-site borrow pit, and any shortfall would be from local quarries;
- provision of an off-site borrow pit and associated infrastructure, measuring a stated 6.2ha, to provide an estimated 200,000m^3 of rock and hardcore material. The borrow pit would be located in the townland of Mullagh, c.1.1km from the turbine site, to be accessed from a new vehicular entrance off the L-5755 local road. Proposals include removal and reinstatement of road boundaries to provide sight visibility, maintaining of perimeter hedgerows and installing of fences and gates. The borrow pit would have a maximum depth of 2.9m, to be reinstated to 2.7m depth;
- all associated drainage, peat management and sediment control;
- two watercourse crossings on the turbine site, including a 5m clear-span bridge replacing the existing timber bridge over the River Glore and a 3m clear-span bridge over the main drain to the south of proposed turbine T01;
- an electricity substation compound (c.0.25ha) enclosed by a 2.65m-high fence, encompassing a single-storey control building (stated gross floor area of 130sq.m) with welfare, office and switchroom facilities, electrical infrastructure, external yard area, wastewater holding tank, all associated infrastructure, parking, services and site works;
- installation of underground electrical cabling and optic fibre cabling along access roads between the proposed turbines and the proposed substation;
- indicative provision of connection to the national grid at the existing Irishtown substation at Mullingar, via c.25.9km underground electrical cabling, stated to

be in accordance with ESB/EirGrid requirements, and associated communications cabling following and under the public road, with joint bays approximately every 500m, 16 no. watercourse crossings and a rail crossing, passing through the villages of Coole and Multyfarnham (subject of further consent processes);

- provision for uprate of existing transformers or installation of a dedicated transformer to the Mullingar 110kv substation;
- provision of a temporary construction compound at the proposed entrance off the R396, including temporary work accommodation and associated ancillary infrastructure, including parking, storage, wash and waste management area. The typical compound layout extends to c.0.6ha in total;
- upgrading of an existing entrance to the proposed main turbine site off the R396 regional road, including boundary clearance for sightlines and additional hardcore areas for turbine delivery access. Provision of a new entrance and upgrade of an existing entrance both off the L-5755 local road at Camagh townland to serve the turbine site, to include boundary clearance for sightlines;
- construction of a new link road, with a stated length of 1.2km linking the R395 and R396 regional roads at Coole village, measuring 5m in width (widening on bends) and including additional hardcore areas for turbine delivery access, an entrance off the R395 regional road and an exit onto the R396 regional road;
- to facilitate turbine delivery access, boundary treatment clearance and hardsurfacing are required at the junction of the L-1927 and L-5828 local roads in the Boherquill townland, with boundaries to be reinstated post-construction;
- upgrade works are required at the junction of the N4 national road and the L-1927 local road in the townland of Joanstown to facilitate the proposed turbine delivery route, comprising boundary treatment clearance and hardsurfacing, with boundary treatments to be reinstated post-construction;

- felling of commercial forestry areas amounting to approximately 9.5ha to facilitate turbine bases, roads and associated infrastructure, with a potential replacement replanting area identified off-site;
- 10-year permission and 30-year operational life from date of commissioning of entire wind farm.

2.1.1. In addition to the standard contents, the planning application was accompanied by an EIAR including multiple appendices, a Book of Photomontages, a Natura Impact Statement (NIS) and two letters from parties stated to be the relevant owners of lands pertaining to the site consenting to submission of the application.

3.0 Planning Authority Decision

3.1. Decision

3.1.1. The Planning Authority decided to refuse to grant permission for the proposed development for the following reason:

- 'Variation No. 2 of the Westmeath County Development Plan 2014-2020 provides separation distances between wind turbines and existing residential dwellings which when applied to the proposed development eliminates all but 2 of the proposed 13 wind turbines. Accordingly, the proposed development would materially contravene Policy P-WIN 6 of the Westmeath County Development Plan 2014-2020 and would, therefore, be contrary to the proper planning and sustainable development of the area'.

3.2. Planning Authority Reports

3.2.1. Planning Reports

The Planning Authority report addressed the site location and context, the planning history, submissions, planning policy and development contributions. The report also addressed EIA, Flood Risk, Appropriate Assessment (AA) and planning assessment conclusions. The main points of the report can be summarised as follows:

- accepts that the location of the site would be supported by national and regional planning guidelines, including the Wind Energy Development Guidelines 2006, and also by planning policy P-WIN-2 of the Westmeath County Development Plan 2014-2020. In the conclusion of their assessment the Planning Officer states that the 'proposed development is capable of being integrated successfully at the subject site, without undue impact on the amenity of the area. However, Variation No.2 of the Development Plan comprised an additional policy, P WIN 6, which applies restrictions on the locations of wind turbines relative to residential dwellings and the height of the wind turbine generator. A separation distance of 1.5km from a turbine to a dwelling would be required in this case, while only two turbines are capable of achieving this separation distance;
- reference to the Transport Infrastructure Ireland (TII) submission and the Area Engineer's report stating that matters raised by TII and the Area Engineer are largely addressed in the EIAR and could be further dealt with via conditions.

A synopsis of the various topics addressed in the EIAR submitted is provided and the following specific environmental matters are referenced:

- **EIAR** – subject to compliance with mitigation measures proposed and attachment of conditions, there are no objections to the proposed development from an environmental perspective;
- **Shadow Flicker** - potential exceedance of 30 hours per year limit at one residence;
- **Noise & Vibration** - the details of predicted noise emissions are noted, including the exceedance of noise criteria at three non-residential properties. Proposals are considered to be in compliance with respect to noise limitation standards outlined with the Wind Energy Development Guidelines 2006 (WEDG). Planning Authority also refer to conditions required to be applied by the Health Service Executive (HSE);
- **Visual Amenity & Landscape** - the overall effect of the development is considered to be slight to moderate. Cumulative visual impacts would not arise, given a 16.4km separation distance to the closest permitted turbine.

- **Material Assets** – reference to the mitigation measures proposed and a submission from the Department of Culture, Heritage and the Gaeltacht (DCHG) highlighting potential for archaeology and their request for Archaeological Assessment.

3.2.2. Other Technical Reports

Matters raised within the technical reports can be summarised as follows:

Area Engineer

- the Office of Public Works (OPW) Preliminary Flood Risk Assessment (FRA) map designates part of the site as being at risk within the indicative 1% annual exceedance probability (AEP) for both pluvial and fluvial flooding, the latter from the River Inny and the River Glore;
- detailed conditions are set out with respect to roads, including sightlines along local roads, complying with TII regarding works to the N4 national road, detailed survey of haulage routes, use and reinstatement of haul routes, undertaking of improvement works at post-construction stage and traffic management;
- the Area Engineer also sets out a requirement for the grid connection to be subject of a separate application to the Planning Authority and the Planning Authority would not be liable for costs associated with any future need to relocate a high-voltage line;
- conditions relating to surface water run-off, culverting, fuel interception from hardstanding areas and drainage at site entrances, are set out;
- foul sewerage and effluent should be discharged only by a licensed waste contractor, drinking water standards should be met and a cash bond of €451,746 should be provided to contribute towards the repair of public infrastructure;
- Area Engineer has no objections, subject to conditions.

National Roads Office

- grid connection route may need to realign as part of the proposed N4 Mullingar to Longford (Roosky) scheme;

- seeks confirmation from the applicant that they will co-operate with the Authority regarding temporary and permanent relocation works for the cable route.

Environment Section

- 18 no. Natura 2000 sites are located within 15km of the site and 16 of these are screened out. Conclusion outlined in the NIS are accepted;
- the site is within an area with a low probability of flooding (Zone C);
- proposals for water supply and wastewater treatment both at construction and operational phases are acceptable;
- construction phase proposals for the management of surplus concrete and concrete washings are considered to be acceptable;
- the measures to be employed to address interactions between the proposed development and peat activities, including the setting up of an Interactions Management Group (IMG) are acceptable;
- conditions are suggested to be attached with respect to address 'collection, storage and disposal of wastewater during construction phase', 'foul and wastewater disposal during operational phase', 'details required for oil and fuel storage', 'control of surface water run-off', 'noise (construction phase, off-site levels, turbine levels)', 'waste management', 'litter control' and 'excavation waste disposal'.

Heritage Officer

- should the pre-construction archaeological assessment identify previously unknown archaeological features, further mitigation and/or redesign may be required in advance of the proposed development;
- a couple of discrepancies are noted within the EIAR referring to the distance between recorded monuments and the appeal site.

3.3. **Prescribed Bodies**

The main points raised and recommendations of prescribed bodies can be summarised as follows:

3.3.1. **Department of Culture, Heritage and the Gaeltacht (Environment)**

NIS

- clear rationale for choosing a 15km ecological zone of influence for the proposed development is not provided for and this is queried with respect to bird migration patterns. Accuracy of collation methods for bird migratory data is queried;
- the potential cumulative effects of the proposed development on aquatic ecosystems, when combined with the existing peat extraction operations are of concern;
- consideration as to whether or not the NIS submitted complies with the definition of an 'NIS' is required from a legislative perspective;

EIAR

- certainty is not provided regarding the management of areas of exposed peat. It is unclear if reseeding would be necessary or would occur as part of the proposals;
- studies regarding bird migratory patterns did not focus on night-time movements. This would be important given the migratory route for Greenland white-fronted geese from Wexford slobs and the overwintering of these geese at Lough Iron SPA, 14km to the southwest;

Bats

- bat surveys undertaken at low altitude, therefore activity of high-flying species, such as Leisler's bat, may have been underestimated;

Hedgerow Loss

- 288m of hedgerow and 160m of treeline would be removed during the excavation of the borrow pit. No plans to mitigate for this loss are proposed;

Project Ecologist

- the Department welcome the proposal to employ a Project Ecologist during all stages of the proposed development.

3.3.2. **Department of Culture, Heritage and the Gaeltacht (Archaeology)**

- pre-development archaeological testing and surveying should be carried out;
- test trenches chosen by an assigned archaeologist should be excavated at locations, including construction and excavation areas;
- where archaeological material/features are shown to be present, preservation in situ, preservation by record (excavation) or monitoring may be required.

3.3.3. **HSE**

Noise

- should the specification for the turbine to be used, differ from that of the turbine used for noise prediction modelling, the developer should demonstrate the noise prediction modelling for the turbine to be used;
- the revisions to the WEDG should be considered as part of the planning assessment;
- noise level monitoring should be carried out post-construction and corrective measures should be employed where exceedances occur;

Shadow Flicker

- mitigation measures regarding shadow flicker should be extended to address impacts on five former residential buildings that may in future be reoccupied;
- a preference for complete avoidance of shadow flicker to residential properties is stated;

Air & Climate

- significant potential for dust nuisance would arise and conditions to monitor dust emissions throughout all phases of the development should be attached.

3.3.4. **Longford County Council**

- reference to planning policy contained in the Longford County Development Plan 2015-2021 with respect to wind energy;
- comments provided regarding the photomontages taken from the county Longford area, including the need to ensure proper perspective is obtained

and the need to consider road safety matters as part of the visual impact of the proposals;

- a substantial number of designated sites are within 15km of the site.

3.3.5. **Inland Fisheries Ireland (IFI)**

Context

- the site is bound by the River Inny and River Glore and two smaller rivers run through the site, the Monktown and Mayne;
- this section of the River Inny is an important holding area for adult salmonids and an important spawning channel for coarse fish;
- the River Glore is an important spawning and nursery river for brown trout with significant numbers of Lough Sheelin trout coming to this river to spawn;
- attention is drawn to the 'Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters' and 'Protection and Conservation of Fisheries Habitat with particular reference to Road Construction', both of which are attached to the submission;
- references to the requirements of the Water Framework Directive (WFD) with regard to water quality;
- welcomes the proposed maintenance of angling access along the banks of the River Inny and River Glore;

Water Crossings

- detailed design, including Works Method Statement should be provided regarding culverting and cabling works;

Road, Borrow Pit and Turbine Base Construction

- attention needs to be paid to road construction details to avoid impacts on hydrology, in particular road capping materials;
- detailed Works Method Statements should be agreed in advance for roads, borrow pit and turbine base construction;

Site drainage, Pollution Control and Mitigation

- settlement ponds should be sized to allow for a minimum of 24 hours retention. It is unclear at present if adequate capacity has been provided for to deal with run-off during construction and wet weather periods;
- drainage requirements are outlined, including the need for all drainage to be designed to achieve a discharge to surface waters with suspended solids concentration of no more than 25mg/l;
- detailed Works Method Statements should be agreed in advance to address drainage;

Water Monitoring Programme

- IFI should be consulted in relation to the water monitoring programme and have some concerns regarding the extent of monitoring outlined within the CEMP for the construction phase;
- IFI should be notified of any incidences of exceedance in minimum water qualities.

3.3.6. **TII**

- a number of operational issues would need to be resolved to address concerns regarding network maintenance and road safety;
- works at the N4/L1927 Joanstown road junction shall be subject of a Road Safety Audit;
- deliveries using the M4 motorway should be progressed with the motorway operators;
- applicant should clarify that structures along the national road sections of the haul route have adequate capacity to accommodate the abnormal weight load proposed;
- it is unclear whether or not alternative options for routing of the cabling has been considered by the applicant;
- location and size of joint pits should be agreed prior to a decision and licenses for trenching/cabling may be required;

- the cable route is located in a study area for a future national road scheme.

3.3.7. **An Taisce**

- application does not address all matters raised within the previous planning application (Ref. 17/6177);
- grid connection alignment is only indicative and therefore not definitive. Effects of the grid connection cannot be assessed and omission of the grid connection from the application amounts to 'project splitting';
- peat extraction on part of the site is subject of ongoing judicial review proceedings;
- locating wind farms in areas of relatively low wind power density would not represent an efficient use of resources;
- EIAR fails to fully consider alternative renewable energy sources, including the reducing costs of offshore wind and reducing costs and increasing efficiencies of photovoltaics;
- permission would be premature pending revised Ministerial guidelines, the proposed development would conflict with policy regarding tourism development and the restoration of peatlands;
- applicant has failed to demonstrate comprehensively whether or not the wind farm would result in bird mortality;
- proposals conflict with Policy P-Win 6 of the Development Plan and objectives relating to noise, shadow flicker and construction access, while failing to address cumulative impacts.

3.4. Third-Party Submissions

3.4.1. A total of 112 no. submissions were received by the Planning Authority during the prescribed period. These include submissions from individuals and families, interest groups and umbrella groups, as listed in Appendix A to this report.

3.4.2. A total of 100 no. submissions oppose the proposed development and 12 no. submissions support the proposed development. It is evident from the submissions made that there is considerable overlap in terms of the issues raised. In order to

avoid undue repetition and for comprehensiveness, the issues raised are primarily covered within the 'observations' section below, while the following other issues were raised in the submissions:

- queries as to whether or not the application should be considered under the Strategic Infrastructure Development (SID) legislation;
- queries regarding the validity of the planning application and EIAR (insufficient/differing site notices descriptions, absence of reference and location for the grid connection works in the development description, absence of significant features from drawings, grid connection lands excluded from the redline boundary and no site notices along the grid connection route);
- non-compliance with EU Directive 2014/52 in that the lands subject of the grid connection have not been included. Mitigation measures cannot be applied or imposed on the lands outside of the site, where works are proposed. The Planning Authority is precluded from carrying out an EIA;
- imposition of mitigation measures as part of AA, including those relating to cable crossings/trenching traversing watercourses is precluded;
- EIAR fails to refer to various buildings of historical and other merit in the vicinity of the site;
- a Conservation Architect should have been engaged as part of the project team;
- hazard to low-flying aircraft;
- Ireland already has sufficient wind farms;
- absence of Strategic Environmental Assessment (SEA) framework for National energy directives, projects and targets, with an inability for public participation;
- queries regarding the technical specification of the turbines;
- absence of wind energy data for the area and the project (questionable commercial viability);

- bird surveys did not take into account breeding areas supported by local loughs;
- the economic resource of the landscape needs to be considered.

4.0 Planning History

4.1. Appeal Site

4.1.1. The following historical planning application relates to the proposed main turbine area of the appeal site:

- Westmeath County Council (WCC) Ref. 98/1092 – permission granted (January 1999) for new forestry entrances onto the R396 regional road;

4.1.2. An initial pre-planning meeting was held between representatives of the Planning Authority and the applicant on the 17th day of November 2016 under Planning Authority Ref. PP4210 regarding a proposed development comprising 25 no. turbines with tip height of 169m, associated services and infrastructures, substation building, borrow pit, tree felling, grid connection and junction accommodation works. The development area generally comprised the area encompassing the main turbine development area of the subject appeal and also an additional area adjacent to the west of Coole Village on both sides of the R395 regional, including the proposed link road location. Minutes recorded by both parties refer to various matters including the proposal coming within SID thresholds requiring a direct application to be made to An Bord Pleanála. Based on the minutes on file, discussion also took place regarding site context, transport and roads, water supply, peatland management, views and amenities, archaeology, planning policy, consents, public consultation, surveys and project consultation. An information booklet prepared and stated to have been distributed by the applicant to households in the immediate vicinity of the windfarm project was submitted as part of the pre-planning file.

4.1.3. A second pre-planning meeting was held between representatives of the Planning Authority and the applicant on the 18th day of January 2017 again under Ref. PP4210. Notes provided as part of the application relating to the meeting refer to the revised proposals comprising 13 no. turbines on the northern portion of the original

site and possibly with a tip height of up to 177m. The grid connection would be underground via roads.

4.1.4. A planning application (Ref. 17/6177) was submitted to the Planning Authority on the 9th June 2017 and subsequently withdrawn by the applicant on the 6th October 2017 following a request for further information from the Planning Authority on the 3rd of August 2017:

- WCC Ref. 17/6177 – proposed development of a wind farm comprising 13 no. turbines with a tip height of 175m, substation, temporary construction compound, services and infrastructures, access roads, borrow pit, link road between the R395 and R396 regional roads and junction upgrade works at Boherquill (L1927/L5828) and Joanstown (N4) to facilitate turbine delivery. The application was accompanied by an EIAR and a NIS.

4.1.5. The further information requested information regarding 53 items including additional assessment, further details, clarification of matters and additional requirements. These items are listed and summarised in Appendix B to this report.

4.1.6. The Planning Officer's report states that two further planning meetings were held between representatives of the Planning Authority and the applicant on the 22nd day of August 2017 and the 28th day of September 2017. The Planning Authority has provided correspondence between both parties requesting and referring to these meetings, while the applicant outlines within the correspondence how it is intended to address the further information request items and to progress the project.

4.1.7. I am not aware of other planning applications directly relating to the land at the proposed link road location in the townland of Coole, west of Coole village, at the proposed borrow pit location in the townland of Mullagh or at the proposed temporary road widening works areas in Boherquill and Joanstown townlands.

<u>Referrals</u>

4.1.8. The following cases were referred to An Bord Pleanála under Section 5 of the Planning and Development Act 2000, as amended (hereinafter referred to as 'the Act'), and relate to the proposed turbine area on the appeal site:

- ABP Ref. PL25.RL2969 (April 2013) – 'Whether the drainage of bogland, peat extraction and handling, the creation of accesses from public roads and other

associated works are development or are exempted development' at Camagh Bog, Doon, Castlepollard, County Westmeath (request by Friends of the Irish Environment).

- ABP Ref. PL25.RL2975 (April 2013) – 'Whether the drainage of bogland, peat extraction and handling, the creation of accesses from public roads and other associated works are development or are exempted development' at Lower Coole, Mayne, Ballinealoe, Clonsura, near Coole and Fineagh, County Westmeath (request by Friends of the Irish Environment).

4.1.9. In April 2013, the Board decided that in both the above referral cases, the drainage of the bogs, peat extraction, accesses from public roads, peat handling activities and other associated activities are development and were exempted development until the 20th day of September 2012, after which it is development and is not exempted development. The area subject of referral RL2969 related to the Clonsura townland on the northeastern side of the wind turbine site (proposed to accommodate turbines 1, 2, 3 and 4), while the area subject of referral RL2975 relates to the lands to the west of Coole village, including the area proposed to accommodate the link road in the subject application.

- An Bord Pleanála (ABP) Ref. PL25.RL2815 – 'Whether certain peat extraction and associated works is development or not and whether it is exempted development or not' at Lickny, Newcastle, Doon and Carlanstown, townlands, County Westmeath (request by Friends of the Irish Environment).

4.1.10. In May 2013, the Board dismissed the above referral, based on the nature of the question to the Board not being sufficiently particular or detailed enough to enable a decision.

4.2. **Surrounding Areas**

4.2.1. The Planning Officer's report refers to the following historical application on a site 'adjacent' to the main turbine area of the appeal site:

- WCC Ref. 88/313 – retention permission granted (February 1989) for peat moss processing plant and buildings at Doon townland to the northeast of the appeal site.

4.3. Similar Applications

4.3.1. Multiple wind energy planning applications, including SID (Section 37) applications have been decided by the Board, a number of which are currently subject of legal proceedings. Below I set out recent and ongoing wind energy applications relating to County Westmeath and the neighbouring area. This does not purport to represent an exhaustive list of wind energy cases in the wider area.

- ABP Ref. PL 09.300746 – SID refused (May 2018) for Maighne Wind Farm consisting of 47 wind turbines with an overall tip height of up to 169m all associated infrastructure, structures and services works on sites within Counties Kildare and Meath, approximately 41km from the appeal site. Reason for refusal related to the need for a more spatially concentrated layout and the impacts on the local road network;
- ABP Ref. PL02.243776 (Cavan County Council 14/103) – permission granted for a revised location for a wind turbine with an overall height not exceeding 152m and all associated site development works to the south of Ballyjamesduff, County Cavan, approximately 16km to the northwest of the appeal site (at 110m OD);
- WCC Ref. 12/2054 – permission granted (July 2013) for a wind turbine with a hub height up to 64m and rotor diameter up to 48m and associated infrastructure, structures and services works at Dryderstown, Delvin, approximately 21km to the southeast of the appeal site;
- ABP Ref. PL 25.237728 (WCC Ref. 10/5009) – permission refused (May 2011) for 12 no. wind turbines, switch room, anemometer mast and all associated site works at a site to the southeast of Mullingar, approximately 28km from the appeal site. Reason for refusal related to the visual impacts on the historic landscape;
- WCC Ref. 08/2174 – permission granted (September 2008) for three wind turbines with a hub height of 78m to 85m and rotor diameter tip height up to 125m (amendment to ABP Ref. PL25C.205586) at Crowinstown Great, Delvin, County Westmeath approximately 25km to the southeast of the appeal site.

5.0 Policy Context

Energy policy planning documents from a European, National, regional and local perspective are outlined below. Appendix C to this report provides an additional list of reference documents relating to energy policy.

5.1. European Policy

5.1.1. Renewable Energy Directive 2009/28/EC

This Directive Concerns the promotion of the use of energy from renewable sources. Article 4 requires each member state to produce a national renewable energy plan to achieve an overall reduction in greenhouse gas (ghg) emissions of 20%, a 20% increase in energy efficiency and 20% of energy consumption across the EU to come from renewable energy by 2020. Member States are to achieve their individual binding target across the heat, transport and electricity sectors, apart from a sub-target of a minimum of 10% in the transport sector that applies to all Member States. There is flexibility for each country to choose how to achieve their individual target across the sectors. Ireland's overall target is to achieve 16% of energy from renewable sources by 2020. Ireland has set a non-legally binding target of 40% of renewable energy by 2020 (from a 2012 position of 19.6%).

5.1.2. 7th Environment Action Programme to 2020

This is an EU Action Programme which aims to guide the EU into a resource-efficient, green and competitive low-carbon economy.

5.1.3. The Paris Agreement, 2015

This is an agreement within the United Nations Framework Convention on Climate Change (UNFCCC) dealing with ghg emissions mitigation, adaptation, and finance starting in the year 2020, which aims to keep the global average temperature rise this century to below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius.

5.2. National Policy

5.2.1. Ireland's Transition to a Low Carbon Energy Future, 2015-2030

This White Paper on energy policy (Department of Communications, Energy and Natural Resources – Dec 2015) provides a complete energy policy update for Ireland. It sets out a vision to reduce ghg emissions of between 80% and 95% by 2050, compared to 1990 levels, falling to zero or below by 2100. The policy document recognises that the 2020 target of 40% renewables energy is likely to require a total of 3,500-4,000 MW of onshore renewables generation capacity, compared to the 2,500 MW available at the end of December 2014.

5.2.2. Strategy for Renewable Energy, 2012 – 2020

This Strategy reiterates the Government's position that 'the development and deployment of Ireland's abundant indigenous renewable energy resources, both onshore and offshore, clearly stands on its own merits in terms of the contribution to the economy, to the growth and jobs agenda, to environmental sustainability and to diversity of energy supply'. Strategic Goal 1 of the Strategy is to 'progressively more renewable electricity from onshore and offshore wind power for the domestic and export markets'.

The Strategy states that further strategic deployment of onshore wind projects will develop a base of indigenous and foreign companies and create employment in the short-term in wind farm construction, possible turbine component manufacturing and servicing, the opportunity to capture international supply chain opportunities and the manufacture of niche onshore renewable energy generating equipment.

5.2.3. National Renewable Energy Action Plan (2010)

The National Renewable Energy Action Plan (NREAP) was submitted to the European Commission in 2010. It sets out Ireland's approach to achieving its legally-binding targets, with a target of 40% of electricity consumption to be from renewable sources by 2020. The NREAP recognised that as Ireland moves towards achieving this target, the Irish grid increasingly has to cope with the challenges posed by large amounts of intermittent power and that EirGrid (the Irish Transmission System Operator) is involved in detailed examination of the issues and is pioneering several renewables facilitation studies, with a view to ensuring the

appropriate management of the grid and stability of the electricity system during this transition. A fourth progress report on the NREAP was submitted to the European Commission in February 2018. To meet the renewables energy target for 2020, the Action Plan states that it is expected that between 3,900 MW and 4,300 MW of wind needs to be connected.

5.2.4. **Climate Action and Low Carbon Development Act 2015**

This Act provides the statutory basis for the national transition objective set in the national policy position. It commits to a carbon neutral situation by 2050 and to also match Ireland's targets with those of the EU. It requires that the Minister for Communications, Climate Action and the Environment must make and submit to Government a series of successive National Mitigation Plans and National Adaptation Frameworks.

5.2.5. **National Mitigation Plan 2017**

The first National Mitigation Plan represents an initial step towards achieving the level of decarbonisation required. The Plan does not provide a complete roadmap to achieve 2050 decarbonisation objectives, but begins the process of developing medium to long-term mitigation choices for the next and future decades. The Plan recognises that onshore wind has to date been the most cost-competitive renewable electricity technology in Ireland, accounting for 22.8% of overall electricity generation in 2015. Furthermore, the Plan envisages that our electricity system will be one where onshore wind remains a key part of Ireland's electricity generation portfolio out to 2030 and possibly beyond.

5.2.6. **Project Ireland 2040 – National Planning Framework**

The National Planning Framework (NPF) is the Government's high-level strategic plan shaping the future growth and development of Ireland to the year 2040. Chapter 3 of the Framework addresses 'effective regional development' and includes the following policy priorities for the Eastern and Midland region:

- 'Harnessing the potential of the region in renewable energy terms across the technological spectrum from wind and solar to biomass and, where applicable, wave energy, focusing in particular on the extensive tracts of publicly-owned peat extraction areas, in order to enable a managed transition

of the local economies of such areas in gaining the economic benefits of greener energy'.

Under the heading 'Planning and Investment to Support Rural Job Creation', the following is stated within the NPF with regards to 'Energy Production':

- 'Rural areas have significantly contributed to the energy needs of the country and will continue to do so, having a strong role to play in securing a sustainable renewable energy supply. In planning Ireland's future energy landscape and in transitioning to a low-carbon economy, the ability to diversify and adapt to new energy technologies is essential. Innovative and novel renewable solutions have been delivered in rural areas over the last number of years, particularly from solar, wind and biomass energy sources'.
- 'In relation to peatlands, some of Ireland's cutaway bogs are suitable to facilitate the generation of energy, most notably wind/biomass'.

National Policy Objective 55 seeks to 'promote renewable energy generation at appropriate locations within the built and natural environment to meet objectives towards a low carbon economy by 2050'. The pretext to this Objective states that 'development of the Wind Energy Guidelines and the Renewable Electricity Development Plan will also facilitate informed decision making in relation to onshore renewable energy infrastructure'. National Strategic Outcome 8 relating to the 'Transition to Sustainable Energy' states that:

- 'New energy systems and transmission grids will be necessary for a more distributed, more renewables focused energy generation system, harnessing both the considerable on-shore and off-shore potential from energy sources such as wind, wave and solar and connecting the richest sources of that energy'.

5.2.7. **Draft Renewable Electricity Policy and Development Framework - Draft Strategic Environmental Assessment Scoping Report (2016)**

It is intended that the Renewable Electricity Policy and Development Framework will, inter alia:

- set out a clear national policy context to facilitate renewable electricity developments at large scale on land;

- broadly identify a limited number of suitable, strategic areas in Ireland for renewable electricity generation of scale (these can subsequently be incorporated into revisions of National Spatial Strategy, Regional Guidelines and Development Plans) having regard to considerations of amenity, heritage and efficacy;
- provide guidance to Planning Authorities, including An Bord Pleanála, when considering proposals for renewable electricity generation, supplementing the guidance contained in the existing WEDG.

5.2.8. **Wind Energy Development Guidelines (2006)**

The Wind Energy Development Guidelines (WEDG) provide statutory guidance for wind energy development, including consideration of environmental issues, such as noise and shadow flicker, design, siting, spatial extent and scale, cumulative effect and spacing, as well as the layout and height of wind turbines having regard to the landscape and other sensitivities. The Guidelines indicate the need for a plan-led approach to wind energy development.

In December 2013, the Minister for Housing and Planning announced a public consultation process in respect of revisions to the 2006 Guidelines. The revisions relate primarily to noise (including distance) and shadow flicker and have yet to be finalised and formally adopted. The main proposals are as follows:

- the setting of a more stringent absolute noise limit (day and night) of 40 decibels (dB) for future wind energy development. This limit is an outdoor limit and it is noted that in general the reduction of noise levels between the outside and inside of a dwelling is approximately 10 dB;
- a setback distance of four times the tip height between a wind turbine and the nearest point of the curtilage of any residential property, subject to a mandatory minimum setback of 500 metres for visual amenity purposes;
- proposes to attach a condition to all future permission for wind farms to ensure no shadow flicker at any dwelling within 10-rotor diameters of a wind turbine with the requirement that necessary measures are taken if shadow flicker does occur to eliminate same, such as turbine shut down;

- additional information required in relation to the operator of the turbine for the purposes of monitoring conditions applied.

A SEA will be undertaken by the Department on the preferred draft approach to the revised Guidelines. Subject to the SEA process, it is envisaged the new statutory Guidelines will be finalised and issued to Planning Authorities in 2018.

Departmental Circular Letter PL 20/2013 advised that Local Authorities should defer amending their existing Development Plan policies in relation to wind energy and renewable energy, as part of either the normal cyclical six-year review or Plan variation processes and should instead operate their existing Development Plan policies and objectives until the completion of a focused review of the WEDG. The content of Circular Letter PL 20-13 continues to be the advice of the Department.

5.2.9. **Interim Guidelines for Planning Authorities on Statutory Plans, Renewable Energy, and Climate Change (2017)**

These guidelines were issued under Section 28 of the Act. They focus on administrative procedure and do not replace or amend the existing WEDG 2006, which remain in place pending the completion of ongoing review. Section 28 of the Act requires both Planning Authorities and An Bord Pleanála to have regard to these interim guidelines and apply any specific planning policy requirements of the interim Guidelines in the performance of their functions.

The Guidelines provide specific guidance on making, reviewing, varying or amending a Development Plan, or a Local Area Plan, with policies or objectives that relate to wind energy developments. A Planning Authority shall acknowledge and document specific national strategy relating to energy policy, indicate how the implementation of the Development Plan or Local Area Plan over its effective period would contribute to realising overall national targets on renewable energy and climate change mitigation. Furthermore, the Planning Authority are required to demonstrate detailed compliance with the above in any proposal to introduce or vary a mandatory setback distance or distances for wind turbines from specified land uses or classes of land use in a Development Plan or Local Area Plan. This is reaffirmed in Departmental Circular PL5/2017.

5.2.10. **Code of Practice for Wind Energy Development in Ireland on Guidelines for Community Engagement (DCCAE, 2016)**

In December 2016, the DCCAE published a Code of Practice for Wind Energy Development in Ireland on Guidelines for Community Engagement. The Code cites ten key areas for delivery on the part of wind energy developers and includes measures relating to the various project phases and a guide regarding annual reporting.

5.2.11. **The Planning System & Flood Risk Management - Guidelines for Planning Authorities**

These Guidelines include comprehensive mechanisms for the incorporation of flood risk identification, assessment and management as part of the planning process and outline how this will be implemented and achieved through actions at various levels, including site-specific levels.

5.3. Regional Policy

5.3.1. **Regional Planning Guidelines for the Midlands Region 2010-2022 (MRA, 2010)**

The Regional Planning Guidelines (RPGs) address wind energy initially under the Section dealing with 'key strategic issues' for the economic development of the Midlands region. With respect to the industrial peatlands (Section 3.3.4.5), much of which are noted to be in control of Bord na Móna, the RPGs 'recognise that peat is a finite resource and that there will be a requirement to identify alternative uses for large areas of cutaway peatlands which have significant potential to contribute to the diversification of the rural economy'. Furthermore, the potential of the peatlands and associated cutaway to accommodate large-scale energy production in the form of wind farms and bioenergy fuel sources is acknowledged in the RPGs. A similar perspective on wind energy is offered within the RPGs under the heading 'renewable energy' (Section 3.3.4.6), where it is recognised that peatlands have a strong history of energy production and this provides opportunities for a smooth transition to renewable energy from fossil fuels.

Renewable energy, including wind energy, is recognised as a key sectoral opportunity for the region, with the following stated under Section 3.4.6.1:

- ‘The RPGs support the development of wind energy generation throughout the region, subject to appropriate siting considerations as set out in the Wind Energy Development Guidelines, DoEHLG (2006), Local Authority Wind Strategies and compliance with environmental and landscape designations. 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’.

5.3.2. **Draft Regional Spatial & Economic Strategy for the Eastern and Midlands Regional Assembly**

The Draft Regional Spatial and Economic Strategy’ is a strategic plan and investment framework to shape the future development of the Eastern and Midlands Region to 2031 and was published in November 2018. The Draft Strategy supports an increase in the amount of new renewable energy sources in the Region, including the use of wind energy, both onshore and offshore. The Strategy outlines that energy production, including renewable energy in the form of wind, solar and biomass, have to date largely been provided in rural areas and the location of future renewable energy production is likely to continue to be met in rural areas. The potential of peatlands and associated cutaway to accommodate large-scale energy production in the form of wind farms and bioenergy fuel sources is acknowledged, as is their potential for amenity, environmental and economic uses.

5.4. **Local Policy**

5.4.1. **Westmeath County Development Plan 2014-2020**

Chapter 2 of the Development Plan includes the following Strategic aims:

- vi - Supporting the role of rural areas and the countryside in sustaining the rural economy and its role as a key resource for agriculture and agri-food, forestry, energy production and reduction, tourism, recreation, mineral extraction and/or other new and emerging rural based enterprises;
- vii - Supporting and promoting the growth of the tourism sector in the county;
- viii - Supporting and promoting the growth and development of the renewable energy sector in the county;

- ix - Protecting the county's natural assets by maintaining and/ or improving the quality of the lakes, water and groundwater, landscape, parks, open spaces, architectural, archaeological and cultural heritage and material assets.

Wind Energy

Policies and objectives relating to wind energy are primarily addressed under Chapter 10 of the Development Plan, titled 'Energy and Communications'. The Plan acknowledges various energy policy documents and recognises the national target of 40% electricity to be sourced from renewable resources by 2020. The following energy policies of the Plan are of particular relevance to this appeal:

- P-EN1 – 'To promote renewable forms of energy where it is consistent with the proper planning and sustainable development of an area';
- P-EN2 – 'To support local, regional, national and international initiatives for limiting emissions of greenhouse gases through energy efficiency and the development of renewable energy sources which make use of the natural resources in an environmentally acceptable manner, and having particular regard to the requirements of the Habitats Directive';
- P-EN4 – 'To support the National Climate Change Strategy and, in general, to facilitate measures which seek to reduce emissions of greenhouse gases';
- P-EN5 – 'To 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 need to make a transition from peat to renewable energy'.

Chapter 10.5 of the Plan specifically addresses wind energy and sets out the context for this energy regime, matters for consideration when dealing with wind energy proposals and refers to the 'Wind Energy Development Capacity Map' of the Plan, as a guide to whether or not a wind farm development would be open for consideration in a particular area. This map was varied as part of Variation No.1 of the Development Plan and, as previously provided for, it identifies the appeal site as being located in a 'low capacity' area for wind energy development. Of the 11 no. landscape character areas, ten are identified as having 'low-capacity', with the

'Uisneach' area approximately 25km to the south of the proposed main turbine site having 'no-capacity'. Chapter 10.5.2 of the Plan addresses 'industrial-scale wind farms' and sets out that following on from national and regional guidance 'the preferred locations for large-scale energy production, in the form of wind farms, is on cutover cutaway peatlands in the county, subject to nature conservation and habitat protection requirements being fully addressed'. The Plan confirms the intention to review policies and objectives in relation to industrial-scale wind farms following focussed review of the WEDG.

Specific guidance relating to wind energy applications is outlined in Section 10.5.3 of the Plan, including the need for wind energy developments proposed on peatlands, to adhere to the construction guidelines specified in Appendix 4 of the WEDG. Section 10.6 of the Plan states the policies and objectives for wind energy in County Westmeath, the following of which are relevant:

- Policy P-WIN1 – 'To encourage the development of small-scale wind energy development and single turbines in urban and rural areas and Industrial Parks, provided they do not negatively impact upon environmental quality, landscape, wildlife and habitats or residential amenity';
- Policy P-WIN2 – 'To strictly direct large-scale energy production projects, in the form of Wind Farms, onto cutover cutaway peatlands in the county, subject to environmental, landscape, habitats and wildlife protection requirements being addressed. In the context of this policy, industrial scale/large-scale energy production projects are defined as follows: Projects that meet or exceed any of the following criteria:
    - Height: over 100m to blade tip, or
    - Scale: More than five turbines
    - Output: Having a total output of greater than 5MW';
- Policy P-WIN3 – 'To ensure the siting and development of wind turbines is carried out in accordance with the requirements of the DoEHLG Wind Energy Development Guidelines 2006, and as otherwise amended';
- Objective O-WIN1 – 'To prepare and implement a Management Plan for the Industrial Peatlands in the county, in consultation with stakeholders and

adjacent Local Authorities, during the lifetime of the plan. Said plan shall focus on recreational opportunities, renewable energy, hydrological and ecological considerations and shall be subject to environmental assessment and the requirements of Article 6 of the Habitats Directive'.

Variation No.2 of the Plan

On the 19th day of May 2017, Variation No.2 was formally incorporated into the Development Plan, involving an amendment to the wind-energy strategy for the County, comprising the insertion of the following additional planning policy (P-WIN 6) to Section 10.6 of the Plan:

- P-WIN 6 – 'To provide the following separation distances between wind turbines and residential dwellings -

  500 metres, where height of the wind turbine generator is greater than 25 metres but does not exceed 50 metres.

  1,000 metres, where the height of the wind turbine generator is greater than 50 metres but does not exceed 100 metres.

  1,500 metres, where the height of the wind turbine generator is greater than 100 metres but does not exceed 150 metres.

  More than 2,000 metres, where the height of the wind turbine generator is greater than 150 metres'.

Peatlands

Section 5.11 of the Plan addresses peatlands, which cover 9% of the County terrain and are recognised as a valuable habitat. The following 'peatland' policies and objectives are of relevance:

- P-PTL1 – 'To protect the county's designated peatland areas and landscapes, including any historical walkways through bogs and to conserve their ecological, archaeological, cultural, and educational heritage'.
- P-PTL3 – 'To require the preparation of Hydrological Reports for significant developments within and in close proximity to peatlands, and to take account of same in the assessment of impacts on the integrity of peatland ecosystems'.

- P-PTL4 – ‘To plan and prepare for the future sustainable and environmentally sensitive use of large industrial bog sites when peat harvesting finishes and to encourage a balanced approach to the redevelopment of cutaway bogs, including habitat creation, in conjunction with adjacent Local Authorities. This plan will have regard to both National and Regional frameworks with regard to the future use of peatlands, including cutaway bogs’.
- O-PTL4 – ‘To consider designating peatlands at Coolnagun, Corlanna, Lower Coole, Mayne, Ballinealoe and Clonsura as archaeological heritage areas, where it is considered an ancient trackway or road may have been constructed’.
- O-PTL6 – ‘To support the preparation of a Sustainable Holistic Management Plan for the future use of the Industrial Peatlands in the county, which recognises the role of peatlands in carbon sequestration’.

Landscape

Landscape policies and objectives are set out under section 6 of the Plan, which identifies that the proposed development would be located within the ‘Inny River Lowlands’ Landscape Character Area 2, which features ‘extensive areas of cutaway bog, industrial peat production and conifer plantations’. The closest sites within Westmeath of high amenity value to the appeal site are located at Lough Derravaragh and Lough Lene, 3.8km and 8.9km respectively from the appeal site. The closest ‘views to be preserved or improved’, as identified within the Development Plan include a ‘panoramic view of the countryside from the top of the hill on the R395 Regional Road at Coole village’ (View 49), with other views (50 and 51) protecting views of neighbouring hills. Policy P-VP1 aims ‘to protect views that contribute to the character of the landscape and resist development that would detract from the preservation of such views’.

Other Sections

Other sections of the Plan relevant to consideration of this appeal include section 3.8, which proposes the development of North Westmeath in a sustainable manner and recognises the exceptional environmental character of the area. Sections 3.42 and 3.43 provide a discussion on the extractive industries, and includes development management criteria to be addressed in development proposals for extractive

industries. Section 5.31 addressing 'Archaeological Heritage', sections 8.15 to 8.17 addressing local, regional and national roads and section 9 addressing water, drainage and environmental services, including requirements relating to water quality, wastewater management, flood risk management, noise, air and light pollution and climate change are all relevant to consideration of this appeal. Section 3 of the Development Plan also addresses policy relating to tourism development and includes the following policy:

- 'P-GT4 – 'To protect and conserve those natural, built and cultural heritage features which form the basis of the county's tourism attraction and to seek to restrict development which would be detrimental to scenic and identified natural and cultural heritage assets'.

Sections 14.7 and 14.11 of the Development Plan provide development management standards relating to 'extractive development' and 'energy & communications' respectively.

5.4.2. Westmeath County Council has temporarily paused the current review of the Draft Westmeath County Development Plan 2020-2026 pending the adoption of the Regional Spatial & Economic Strategy (RSES) for the Eastern & Midland Regional Assembly area.

5.4.3. **Longford County Development Plan 2015-2021**

The northwestern boundary of the main turbine site adjoins Longford County boundary along the River Inny and the proposed development would be visible from locations within County Longford. The turbine site would adjoin 'Unit 5 Inny Basin' landscape character area identified within the Longford County Development Plan 2015-2021. This landscape is described as mainly comprising flat topography, with landcover dominated by peatlands including mixed woodlands interspersed with pastures of varying quality. This adjoining county landscape character is described as being of low sensitivity, but with medium to high sensitivity to development in the vicinity of protected woodlands and riverbanks. Policy LCA 3 of the Longford County Development Plan aims to preserve views and prospects, including full views from points F.S. 14, 15 and 16, which would be 4km to 10km to the northwest of the turbine site.

6.0 **The Appeal**

6.1. **Grounds of Appeal**

6.1.1. A first-party appeal of the Planning Authority's decision to refuse to grant planning permission was submitted and the principal grounds of appeal can be summarised as follows:

Wind Farm Site Location

- the Planning Authority decision to refuse permission is based on the proposed development materially contravening Policy P-WIN 6 of the Development Plan. This policy was inserted as Variation No.2 to the Development Plan and it is clear that the variation is inappropriate and contrary to National guidance and Government policy, as was recognised in the report of the Council Chief Executive;
- the WEDG suggest that a 500m setback provides an adequate separation distance between turbines and the nearest noise sensitive property;
- the closest occupied dwelling to any turbine within the proposed layout would be 700m and it is acknowledged that this does not comply with the separation distance of 2,000m that would be required under Policy P-WIN 6 of the Development Plan;
- existing uses of the site for commercial peat harvesting and forestry could continue with the wind farm project;
- key considerations for site selection purposes are outlined and it is stated that the site was identified following a nationwide search, with the lack of sufficient grid capacity for significant wind development in the west, southwest and northwest of the country focussing site selection to the midlands area;
- a lack of wind-energy developments in Westmeath was apparent with only one permitted turbine at Dryderstown (WCC 12/2054) and two turbines at Crowinstown (WCC Ref. 08/2174);

Planning Policy Context

- prior to lodging the subject application, the applicant considered and responded in detail to all 53 items requested by the Planning Authority under a previous application for a windfarm development on the appeal site (WCC Ref. 17/6177), as well as responding in relation to the comments of third parties and consultees;
- a thorough and comprehensive planning application has been submitted with mitigation measures incorporated where considered necessary. The proposed development has been guided by a range of expert input and both statutory and non-statutory consultation;
- submissions in support of the proposed development have been submitted to the Planning Authority, recognising the economic benefit the project could have for the Coole area;
- the RPGs recognise the potential for the cutaway peatlands to accommodate renewable energy developments and they support the improvement and expansion of the transmission network throughout the region;
- based on definitions contained within the Development Plan, the proposed development conforms to an 'industrial-scale' wind energy development and the preferred location for industrial-scale wind farms in Westmeath is on cutover cutaway peatlands;
- the appeal site is identified as being within a low-capacity landscape character area for wind energy developments based on the Development Plan;

Material Contravention

- the Planning Authority consider the proposed development would materially contravene the Development Plan and the Board will be aware of the provisions set out under Section 37(2) of the Act;
- there is a critical strategic and national need for the proposed development, based on national energy targets and ghg emission reduction targets. The proposed development would reduce future costs on the exchequer and could potentially provide power for 36,092 households annually;

- the proposed development fails to reach thresholds for a SID application in terms of turbine numbers;
- refusal of permission on the basis of Policy P-WIN 6 would effectively provide the precedent for restricting all wind energy development in County Westmeath over the lifetime of the Development Plan. Should the Board follow suit, this would give other Local Authorities across the Midlands the opportunity to vary their Development Plans in a similar vein and restrict renewable energy developments in the region. Consequently, this would significantly inhibit the ability for National targets regarding energy production and ghg emissions to be achieved and the proposed development is therefore of national and strategic importance;
- variation No.2 is in clear conflict with other relevant objectives of the Development Plan, contradicting and negating the aspirations and obligations of the Planning Authority to facilitate renewable energy development within the County. Maps prepared by the applicant are included with the grounds of appeal to illustrate the implications of Policy P-WIN 6 and the areas remaining for wind farms based on the separation distances, resulting in what the applicant considers would be an 'effective ban' on wind farms;
- Policy P-WIN 6 is unequivocally contrary to current national guidance contained in the WEDG and the RPGs and permission should be granted having regard to this, as per Section 37(2)(iii) of the Act;
- reference to previous Board decision under PL08.244066 relating to a wind farm development in County Kerry, where the Board decided to grant permission for the development, as it was not considered reasonable or appropriate to refuse planning permission on the basis of an impractical planning policy (EP-12 – which restricted windfarms in an area until 80% of permitted turbines were constructed or their permission was expired);
- reference to Board decision under PL23.221656 for a wind farm development in County Tipperary. The site in question was considered by the Planning Authority to be in an area identified as being unsuitable for the development, but the Board considered that the proposed development would be acceptable given the significant contribution the development would make to

national energy targets and given the conflicting designation of areas of 'landscape sensitivity for wind farm development' and 'the suitability of areas for wind farm developments' as provided for in the Development Plan;

Planning Policy P-WIN 6

- the proposed development has been designed in accordance with the WEDG and would follow the four key aspects included within the preferred draft approach to updating the WEDG;
- the Planning Officer's report states that the proposed 'windfarm is capable of being integrated successfully at the subject site without undue adverse impact on the amenity of the area and it is considered that the proposal complies with national and regional renewable energy policy';
- Policy P-WIN 6 inserted via Variation No.2 of the Development Plan, was recognised by the Department of Housing, Planning & Local Government, as effectively providing for a 'ban on wind energy projects' in Westmeath and an evidential basis for the imposition of the policy has not been provided;
- insertion of mandatory exclusion zones within Policy P-WIN 6, resulting in failure to maximise the potential from wind energy resources, is contrary to the WEDG, contrary to Departmental guidance (Circulars PL20-2013 and PL05-2017) and is premature pending the issuing of revised Guidelines;
- Policy P-WIN 6 obstructs Government policy in relation to renewable energy development, including those relating to reduction of ghg emissions;
- Policy P-WIN 6 of the Development Plan conflicts with other policies and statements of the Development Plan with regard to appropriate locations for renewable energy developments;
- the views of the applicant regarding the imposition of Variation No.2 are supported by statements from the Department of Housing, Planning & Local Government, the Eastern and Midland Regional Assembly, the Irish Wind Energy Association, Bord na Móna and the Planning Executive of Westmeath County Council. Members of Westmeath County Council ignored the advice of the Council Executive in adopting Variation No.2;

- concerns are raised regarding the procedure followed in adopting Variation No.2 and the applicant considers that the Council are effectively relying on other Counties to shoulder the burden in providing renewable energy;

Energy

- with renewables accounting for 27.2% of gross electricity consumption in 2016, according to an SEAI report, Ireland is not on track to meet the ambitious 40% target set by the Irish state;
- based on EirGrid figures, Ireland would need to install on average 340MW of extra wind energy capacity per annum up to 2020;

Roads & Traffic

- the applicant acknowledges that the cable route would be subject to further consents procedures by the competent authority;
- traffic access to the proposed development would avoid use of the L-18266 local road fronting Coole National School and any deliveries of abnormal loads would be scheduled to avoid disruption to peak-time work and school-related traffic;
- the size and shape of the turbine and blades would represent 'abnormal' loads, but the delivery vehicles for these components would ensure that the vehicles would not exceed the axle loadings permissible under the Road Traffic Regulations;
- TII would be consulted with regarding any additional consents relating to national roads, such as Road Opening Licenses;
- the EIAR identifies that traffic associated with the proposed development would only give rise to a short-term slight to moderate negative effect during the construction phase for the project;

Shadow Flicker

- the Planning Officer's report acknowledges that exceedance of DoEHLG limits on shadow flicker would only occur for one property. The applicant is committed to zero shadow flicker at occupied residences;

Noise & Air

- the proposed development and standards adopted would be within the noise limits contained within the WEDG. Robust analysis and mitigation measures, as set out within the EIAR, adequately address the noise impacts;
- following consultation with the neighbouring community, it has been decided that blasting would not be used as a proposed method of rock extraction for the borrow pit;
- the EIAR identifies that in the absence of mitigation, dust emissions could give rise to a short-term slight to moderate negative effect during the construction phase for the project, but the mitigation measures proposed would address this;

Health Effects & Safety

- third-party submissions raise concerns relating to the health effects of wind turbines on humans. Scientific evidence concludes that exposure to wind farms, including the noise emissions, does not adversely affect human health;
- the WEDG state that no specific safety considerations arise in operation of windfarms and vibration sensors to identify any imbalances due to icing would address potential for flying ice fragments;
- components would be installed to address lightning strikes to turbines;
- a site-specific Emergency Response Plan would be prepared prior to the commencement of the proposed development;

Visual Impact & Landscape

- 21 photomontages prepared for the project reveal that the proposed development would have an impact ranging from ‘imperceptible’ to ‘moderate’ and the visual impact would, therefore, not be ‘significant’ or ‘profound’;
- submissions by third-parties raising concerns regarding the visual impact are acknowledged including the perceived negative impacts;
- while the site is not within a high amenity area, photomontages to represent the visibility of the proposed turbines from these areas, designated areas and

protected views have been undertaken. From all these locations, the turbines would not obscure, dominate or detract from the main elements of the view;

- it is recognised that the submission from Longford County Council flags some concerns regarding photomontage locations, and it is stated that views from County Longford are well represented in the photomontages provided;

Height of the Proposed Turbines

- height of the proposed turbines has been accounted for within the assessments accompanying the planning application and the layout has been tested to optimise energy yield;
- the use of larger wind turbines would produce an increased energy output per unit rotor area and the size envelope has been selected to match the wind regime on site making maximum use of the wind resource;

Proposed Grid Connection

- the planning application for the proposed wind farm does not include connections to the national electricity grid, however, the EIAR submitted with the planning application contains detailed assessments of the proposed grid connection route, proposed works and potential impacts. A grid connection would be sought under the new long-term grid regime. The current application provides full details of the proposed grid connection within the EIAR, to enable the Board to conduct and complete a comprehensive EIA of the project;

Cultural Heritage

- extensive field surveys were undertaken of the project site development areas, including the haul route and the grid connection route, to identify any potential archaeological structures or features or items of architectural or cultural heritage merit;
- archaeological potential of the area is high and potential direct impacts to unknown sub-surface archaeological features may exist within bogs. Pre-construction testing and monitoring are proposed to mitigate any impact arising, in line with Departmental requirements;

Ecology

- The Appropriate Assessment (AA) Screening report and the NIS were both undertaken in strict accordance with the most relevant Guidelines and using logical systematic procedures;
- The NIS provides a detailed description of the proposed development, ecological consultation and surveys undertaken in relation to the screened in European sites;
- the Planning Authority stated that they are satisfied that the proposed development, individually or in combination with other plans or projects, would not adversely affect the integrity of European sites;
- works are confined to peatland areas that are actively milled, as part of the ongoing extraction activity. Annex I peatland habitats were not identified within or close to the development footprint;
- the various bird and other fauna surveys and assessments were undertaken in full accordance with the most relevant and up-to-date guidance, as fully described in the EIAR;
- the site is not of significance for invertebrates given its present use and the absence of vegetation;
- impacts on bats, including potential collision, are thoroughly and comprehensively discussed in the EIAR, including specific mitigation and monitoring;
- there would be no significant effects on any of the habitats and birds, mammals, reptiles, amphibians, invertebrates or other faunal species, following the sympathetic design of the development and the implementation of the effective and robust mitigation and best practice set out;

Ornithology

- in the absence of ornithological survey advice relating to wind farms in Ireland, the applicant referred to guidance applied in Scotland. A complete and comprehensive dataset for the assessment was collated during bird surveying;

- potential effects of the wind farm on birds in this location includes the potential for direct habitat loss, secondary habitat loss or displacement and collision with turbines;
- of the species of 'very-high sensitivity', only Whooper Swans were recorded at the site and its environs. 'Medium-sensitivity species' recorded include Golden Plover, Merlin, Peregrine Falcon, Woodcock, Lapwing and Black-Headed Gull;
- surveys for migrating Greenland White-Fronted Geese were undertaken for both the spring and autumn periods and this recorded three flocks at the site between October and November, flying at a height that suggested they were from the Wexford population heading south, rather than a local movement from the Lough Iron population approximately 12.8km to the southwest. Surveys undertaken indicate that there is no association between the Lough Iron Greenland White-Fronted Geese population and the site of the proposed turbines;
- use of radar as an alternative bird survey method is not best practise based on reference to Scottish guidelines and is only used to assess sites where there is likely to be high nocturnal activity of important species. Most geese and swan migration flights are diurnal, occurring at high altitudes;
- a single white-tailed eagle was recorded in November 2016 outside the site boundary. There is no indication that the appeal site is a regular area or breeding area for the species;

Other Matters

- there is no statistical evidence to support the contentions of third-parties that house prices in the vicinity of wind farms are effected prior to or post-construction;
- positive amenity and economic benefits for local communities may arise;
- there are no tourism or amenity attractions specifically pertaining to the proposed wind farm site and the proposed development would not adversely affect tourism infrastructure;

- concerns raised in submissions relating to the impact of the proposed development on telecommunications systems are noted, and that of the six telecoms providers contacted at scoping stage, one provider cited concerns regarding the impact on a telecoms link. Revised locations for four turbines at project design phase addressed any significant effects on telecommunications;
- The EIAR submitted addresses the issue of population and there is no evidence to support third-party contentions that the proposed development would pose a risk of depopulation. Furthermore, the proposed development would not impact on the Planning Authority's core strategy.

6.1.2. A copy of the September 2017 Monthly Meeting Minutes for Westmeath County Council', a copy of the Chief Executive's Report and Recommendation on Submissions to Variation No.2 to the Westmeath County Development Plan 2014-2020 dated 24th March 2017 are appended to the grounds of appeal.

6.2. **Observations**

6.2.1. A total of 37 observations were submitted in response to the grounds of appeal from local residents, community and business groups, a local primary school Parents Association, local businesses and residents of the wider area, including neighbouring Counties. A total of 9 no. observations were received in support of the proposed development, while the remaining 28 no. observations are opposed to the proposed development. A variety of references including extracts, links, articles and photographs were submitted to support the observations. The issues raised by the observers can be summarised as follows:

<u>Planning Policy - Context</u>

- the Planning Authority could have refused the proposed development for additional reasons to that cited in their decision;
- the proposed development would serve as the catalyst for further large-scale development, including wind energy, in the area;
- the WEDG are a non-statutory document and out-dated guidelines and should not be relied on, particularly as they cannot account for local situations or the

increase in height and scale of windfarms in the intervening period. Local planning policy takes precedence over these guidelines;

- in the absence of the revised WEDG, permitting the proposed development would be premature;
- the RPGs do not support the subject development, given the lack of enabling infrastructure i.e. roads and electricity connections;
- the existing peat extraction operations on the proposed wind turbine site are subject of two current applications for Integrated Pollution Control (IPC) licenses to the Environmental Protection Agency (EPA). Both of these license applications (EPA References P0914-01 and P0974-01) are understood to be on hold pending the outcome of Judicial Reviews (Bulrush Horticulture Ltd. vs An Bord Pleanála [2013] No. 398. Westmeath County Council vs Friends of the Irish Environment [2013] No. 424);
- the proposed development would be premature pending the outcome of Judicial Reviews relating to the peat extraction;
- following the outcome of Judicial Reviews, it has been confirmed that the peat extraction operations on the appeal site have been operating without planning permission since September 2012, which leads to questions regarding the future use of these lands and how this would tie in with the proposed development;
- Policy P-WIN 6 would not place a blanket ban on wind farms in the county. It would merely provide greater clarity and choice, whereby larger wind turbines would be feasible in remote areas, with a reduction in height to suit other areas. Even with a 1km setback to houses and excluding significant lakes, 17 areas within the County could possibly be available for wind turbines;

<u>Planning Policy - Wind Energy on Peatlands</u>

- the Planning Authority should not be predisposed to permitting large-scale wind energy developments on cutover or cutaway bogs, based on Policy P-WIN 6;
- while regional and national planning guidance may recognise the potential of peatlands to accommodate renewable energy developments given their

historical use for energy production and the associated electricity transmission network, the peatlands associated with the site for the proposed turbines would not fit into this category, as they are primarily used for peat products and also as the grid connection needs to extend to Mullingar;

Plan Variation Process

- the grounds of appeal are unfairly critical of the Elected Members of Westmeath County Council, who introduced Policy P-WIN 6 to the Development Plan and who were acting in the democratic interests of the local electorate and in the interests of the area;
- the Act does not restrict commencement of the variation of a Development Plan to the Executive of the Planning Authority, it is a reserved function and the Members of a Planning Authority can choose not to accept the recommendations of the Chief Executive regarding the variation of a Development Plan;
- it is reasonable to conclude that as the Minister did not issue a direction under Section 31 of the Act, directing the Planning Authority to delete Policy P-WIN 6 (Variation No.2) from the Development Plan, the policy is robust;
- in 2014, the Minister requested deletion of a similar policy in the Development Plan requiring a setback distance to be achieved from dwellings to turbines and the Development Plan was subsequently amended (Variation No.1);
- the Development Plan is in support of renewable energy projects and even supports large-scale wind energy developments on cutover or cutaway bogs, therefore, it is difficult to comprehend how Policy P-WIN 6 would be in conflict with other policies and objectives of the Plan;
- a scientific or evidence-based rationale for insertion of Policy P-WIN 6 to the County Development Plan is not necessary in planning terms, given the arbitrary nature of exemption thresholds set in the planning legislation and the ‘unscientific’ use of a 500m separation distance in the WEDG;

Energy

- it is a gross exaggeration to state that one wind farm would be critical to Ireland and the region achieving renewable energy targets. A more balanced

approach to achieving targets is necessary and should take on board small-scale installations and alternative forms of renewables;

- Ireland's projected failure to meet 2020 and 2030 energy targets and reduce ghg emissions are not contested, but the refusal of planning permission for this wind energy development should not be overturned, as in isolation the development would not allow targets to be met, and as these targets can be better achieved through other means including existing local schemes;
- Ireland has already met targets for renewable energy from wind;
- the applicant dismisses the potential for solar and the community-owned and operated wind farms and micro-generation in complementing large-scale wind energy provision and enabling renewable energy targets to be achieved;
- large-scale wind energy development should be restricted to locations where wind energy is high and efficient and where there would be no significant adverse impacts on wildlife, landscape and land use;
- solar energy is a more appropriate long term solution in energy provision given the costs, construction timeframes, visual impact and environmental impact;
- the EIAR does not quantify the lands and costs against other alternative renewable energies;
- as a piecemeal proposal, forming part of a larger 'greenwire' wind energy project in the Midlands, the developer has failed to adequately assess the cumulative impact of the development within the EIAR;
- Westmeath and the subject site area has low capacity for generating wind energy;
- Green industries are heavily subsidised by the state and the Irish tax-payer would have to foot the bill for the project, including any hidden costs;

<u>Grid Connection</u>

- the grid connection cannot be finalised until after finalisation of EirGrid's proposed new long-term regime. The conclusions of the EIAR and NIS cannot be relied upon given the statement of the applicant (Section 3.3.8 of

the EIAR) that ‘the details of the grid connection for the proposed wind farm will ultimately be decided by ESB/EirGrid’;

- the grid connection and the proposed grid cable route have not been comprehensively assessed in the EIAR and NIS submitted, as the proposed cable route is merely indicative;
- a comprehensive assessment of the impacts of works along watercourse crossings along the grid connection route and the works or additional lands to facilitate the cable route was not undertaken;
- the grid connection works have the potential to impact on groundwater locally and to effect groundwater-dependent designated sites;
- the grid connection does not form part of the proposed development subject of the planning application, and this is clearly a case of ‘project splitting’ with reference provided to the ‘O’Grianna’ High Court judgement (O'Grianna and others v. An Bord Pleanála [2014] IEHC 632) and the need for the grid connection to be considered as part of the project;
- two separate routes for the connecting cables have been chosen, therefore, the public do not know the precise route and therefore uncertainty arises;
- the length of the grid connection would significantly reduce the amount of electricity available;

Human Health

- there is a desire to maintain the rural character and quality of life of the area;
- infrasound and noise disturbance from the turbines above relevant standards, would result in ‘wind turbine syndrome’ (vibroacoustic disease), annoyance, stress, panic and sleep disturbance for local residents, including persons with existing medical conditions such as Asperger Syndrome and Autistic Spectrum Disorder (ASD), older and young persons;
- dust emissions from quarrying and operation of the borrow pit would result in suffering and disturbance for local residents, including persons with pre-existing medical conditions;

- low frequency noise from turbines can lead to sleep disturbance, which in turn can lead to mental health problems, and this provides further justification for adopting the separation distances set out in the Development Plan;
- noise emanating from the extraction works (rock breaking) at the borrow pit would have a significant negative impact on local residents;
- residents have a right to an environment that is consistent with human dignity and the well-being of citizens;

Shadow Flicker

- 37 dwellings would be within 2km of the turbines;
- turbines would be located within close proximity of occupied houses, whereas a 1km to 2km separation distance would be required based on Development Plan policy P-WIN 6;
- shadow flicker would exceed weekly and annual thresholds set in the WEDG;
- shadow flicker cannot be accurately modelled, as the precise model of the turbines have not been decided;

Community

- the proposed development would force people to leave the area, which would result in depopulation with children being transferred to other schools, impacting on various community organisations. Furthermore, the area would no longer be attractive to young families moving into the area;
- a neighbouring house to the turbine site serves adults with learning disabilities. Residents and patrons would no longer be able to enjoy walks in the locality;
- proposals would impact on the local primary school and Montessori, by virtue of shadow flicker, noise and dust, and this would negatively impact on the education, lives, health and safety of pupils, parents and staff;

Economy & Agronomy

- adverse impacts on livestock due to noise and shadow flicker, resulting in a reduction in milk production and increased levels of stress for cattle;

- negative impact on local businesses would arise, including devaluation of business;
- impact on telecommunication signals and reception;
- employment and economic benefits would be short-term;
- the proposed development would lead to devaluation of property, homes and lands. A similar approach to that taken in Denmark should be undertaken, whereby property owners are compensated for the loss in property values close to new wind farm developments;
- proposals would impact on the equine industry, with horses particularly sensitive to the perceived visual or auditory threats from wind turbines;

Tourism

- the appeal site and surrounding area has tremendous potential as a tourist destination, which could provide for additional employment in the area. The application fails to recognise the potential of the peatlands for educational and research purposes and for a range of outdoor amenities;
- tourists to the area are attracted by the beautiful scenery, natural unspoilt environment and the heritage of north Westmeath and the proposed wind farm would impact on this;
- wind farms are a deterrent to returning tourists and the proposals would be contrary to national policy and strategy 'protecting key tourism assets';
- there are numerous tourist attractions in the vicinity including Tullynally Castle, Fore Abbey, Lough Sheelin and Lough Derravaragh (fishing) and various other outdoor pursuits and activities (shooting, horse-riding);

Ecology

- pine martens, badgers, otters and the Irish hare are residents of the proposed turbine site, as well as white-clawed crayfish, buzzards, owls, kestrels, a white-tailed eagle, geese and the cuckoo;
- increased risk of depopulation of mammalian species due to the loss of woodland;

- this project would exacerbate the decline in fish stocks in neighbouring waters;
- risk of mortality to various bird species including swans and geese is significant, particularly given the size of the turbine span and the positioning of the turbines between various loughs, including Lough Sheelin and Lough Derravaragh;
- nocturnal studies of migratory species were not undertaken and surveys at a 2km radius vantage at dusk would not be accurate due to failing light. Surveys do not appear to have accounted for variable weather conditions, which can influence migratory birds;
- approximately 9,000 Greenland White-Fronted Geese migrate across Ireland to and from Wexford every autumn and spring;
- post-construction monitoring of birds, including strikes and breeding seasons, appears extremely limited;
- bats are vulnerable to turbine collisions and a precautionary approach should be adopted, particularly considering the absence of high-level surveys;
- the impact on invertebrates, particularly migrating invertebrates including 'red book species', has not been addressed in the EIAR;
- in ecological terms the site has been compared with the Mount Lucas wind farm in County Offaly, but this is not appropriate given the fact that Mount Lucas is a cutaway bog, while the appeal site features considerable depth of acidic catotelm peat. Restoration of the appeal site peatlands would have more benefits in terms of carbon sequestering, biodiversity and flood reduction;
- until recently the proposed replacement forestry site in County Offaly was formed of semi-natural grassland and scrub, which would have provided important habitat, accommodating marsh fritillary butterfly, an Annex II species, as well as meadow pipit, snipe and amber-listed snipe ('red-book listed');
- consultation should be undertaken with the NPWS;

- proposals would negatively impact on protected bird species that use neighbouring designated sites;
- ecological studies failed to review the impact of the link road element of the proposals and this would have implications for bats, badgers and Irish hare;

Water & Hydrology

- concerns raised regarding the absence of comprehensive mapping for the drainage of the site and effective means for controlling discharges to local watercourses. There is no silt trap serving Drain D1 which flows into the River Inny;
- proposals have potential to lead to flooding, including areas downstream of the turbines;
- existing negative impacts of peat extraction on watercourses are outlined, including bridging points (photographs provided) and sedimentation of waters to Lough Bane proposed Natural Heritage Area (pNHA);
- cumulative impacts of inadequate silt prevention measures and untreated peat water discharges along with nearby peat extraction operations were not fully assessed in the EIAR;
- given the present shortcomings in drainage management, the Interactive Management Group (IMG) proposed to address this, to include the operators of the wind farm and the peat extraction facility, this would not instil confidence that drainage would be adequately addressed;
- works, including those at the borrow pit, would pollute drinking water including a neighbouring well and damage a septic tank;

Archaeology & Cultural Heritage

- it would not be adequate to simply ‘preserve by record’ any potential archaeological findings identified during testing and monitoring;
- sufficient reference has not been made to the various archaeological and cultural heritage features in the vicinity of the appeal site, including features proposed for inclusion in the Record of Monuments and Places, such as a

castle/towerhouse in Newcastle townland, east of the turbine site. The area is synonymous as an historical passage;

- peat extraction has resulted in significant damage to important archaeological sites, including an ancient (bronze-age) wooden trackway, referenced under Objective O-PTL4 of the Development Plan, the purpose, scale and alignment of which has not been fully substantiated;
- the Development Plan includes objectives to safeguard features or sites of archaeological significance and the proposed development would be contrary to this;
- the ancient archaeological landscape would be destroyed by the proposed development;
- there is no reference to Simonstown House within the application, despite this being on the National Inventory of Architectural Heritage (NIAH – No. 15400337) and the proposed grid connection is likely to damage the roadside curtilage wall to this property;

Roads & Traffic

- sufficient infrastructure is not available within the locality to facilitate the development, including the new roads, quarrying elements and construction traffic;
- additional traffic would increase risk of accidents for young persons;
- existing roads, which are used as walking and cycling routes, do not have capacity to facilitate the development and they would be damaged as a result of the proposed development;
- a number of local roads, including the L-5755 (Lickbla Road) and the L-5828 (Boherquill Road), do not have sufficient capacity and would be used by construction traffic;
- queries regarding the route that traffic would take when initially arriving at the borrow pit;

- traffic movements between the borrow pit and the turbine site would cause significant disturbance, inconvenience and safety concerns for residents and visitors;
- the proposed grid connection would cause significant disruption to traffic along the 26km route;
- overlooking of properties would result from passing traffic;
- traffic surveys are not accurate and the applicant has underestimated the number of construction vehicle deliveries to and from the site and therefore underestimates the congestion that would likely arise;

Landscape and Visual Impact

- appeal site is within a traditional farming area and the topography of the area is relatively flat, therefore, this landscape character area is not suitable for wind turbines;
- the borrow pit would not feature reinstated hedgerows based on the drawings submitted;
- rehabilitation of the peatlands would be a better option and the potential to achieve this would be greatly undermined by the project;
- the Hill of Mael/Maol, with a height of 241m and within 2km of the turbine site, would be completely dominated by the proposals;
- the sensitivity of landscapes to wind energy developments is not related to landscape designations;
- photomontages do not accurately portray the significant visual impact of the proposed development;
- the development would have a negative impact on two neighbouring counties and the area is already spoiled by pylons and cables traversing the countryside;

Public Consultation

- organisations have recognised that sufficient public engagement on large-scale development and infrastructure projects is the way forward;

- public participation is enshrined in the provisions of the Aarhus Convention and EU EIA Directives. In the absence of effective and meaningful local pre-planning consultation, the application should be refused;
- consultation undertaken by the applicant was meaningless;

Other Matters

- the area was targeted for the development based on the low density of housing in the area, which would reduce the level of opposition;
- impact on lifestyle of children, who are too young at present to voice their opposition to the development;
- questions raised regarding legal title of the land subject of the application, the laying of cables on private land and it is claimed that neither the written consent nor the authority from all relevant landowners has not been submitted;
- a request for the results of measurements from the anemometer on site;
- request for an oral hearing;
- the applicant should have specifically referred to the proposal to undertake 'quarrying' activity at the borrow pit;
- Further habitat and decommissioning details are required;

Positive Impacts

- economic benefits would arise in supplying materials and equipment for the project;
- employment in the area would be sustained and additional employment would arise;
- proposed development would provide additional rates to the locality which would be invested into road improvements;
- the community benefit package could rejuvenate the area, improve homes and reduce carbon emissions, including improvements to services and infrastructure and home upgrades;
- the area is ideally placed to accommodate a wind-energy project of this scale;

- the project would be important in shielding future generations from the challenges of climate change;
- alternatives to our overreliance on fossil fuels, such as wind energy, need to be harnessed;
- peer-reviewed studies regarding the impact of wind energy developments should only be relied on, as there is significant misinformation published;
- the proposed development is supported by Policy P-WIN 2 of the Development Plan and is in compliance with standards outlined within the WEDG;
- the population density and landscape of the area would appropriately absorb the development;
- the applicants kept the local community well-informed throughout the project.

6.3. Planning Authority Response

6.3.1. The Planning Authority did not respond to the grounds of appeal.

7.0 Assessment

7.1. Introduction

7.1.1. I consider the substantive issues arising in determining of the appeal and application to be as follows:

- Planning Assessment;
- Environmental Impact Assessment;
- Appropriate Assessment;
- Procedural, Legal and Other Considerations.

7.2. Planning Assessment

7.2.1. The Planning Authority decided to refuse to grant permission for the proposed development as only two of the 13 turbines would be a sufficient separation distance

from residential dwellings, based on standards applied within Westmeath County Development Plan 2014-2020. The Planning Authority accepts that the location for the proposed wind farm development would be supported by national and regional planning guidelines, including the Wind Energy Development Guidelines 2006 (WEDG), and also by planning policy P-WIN-2 of the Development Plan. In the conclusion of their assessment, the Planning Officer states that the 'proposed development is capable of being integrated successfully at the subject site, without undue impact on the amenity of the area and it is considered that the proposal complies with national and regional renewable energy policy'. Variation No.2 of the Development Plan comprises an additional policy, P-WIN 6, which applies restrictions on the locations of wind turbines relative to residential dwellings and the height of the wind turbine generator, which is located in the turbine hub. The proposed turbines would have a hub height of c.105m. Variation No.2 of the current Development Plan requires a setback distance of 1,500m between wind turbines and residential dwellings, where the height of the wind turbine generator is greater than 100m and does not exceed 150m.

7.2.2. The appellant asserts that the standards required by Policy P-WIN 6 are inappropriate, provide for an effective ban on wind energy projects in Westmeath and the policy is contrary to Government policy and national guidance, including that contained in the WEDG, which suggests that a 500m setback provides adequate separation distance between turbines and the nearest sensitive property. The observers to the appeal assert that Policy P-WIN 6 would not place a blanket ban on wind farms in the county, as larger wind turbines would be feasible in remote areas and the policy was introduced by the Planning Authority based on a democratic mandate. In reference to the RPGs, the applicant notes the potential for cutaway peatlands to accommodate renewable energy developments and the grounds of appeal assert that Policy P-WIN 6 is unequivocally contrary to current national guidance and permission should be granted having regard to this.

7.2.3. The Development Plan includes a 'Wind Energy Development Capacity Map' for use as a guide as to whether or not a wind farm development would be acceptable or not in a particular area. This map was varied as part of Variation No.1 of the Development Plan and, as provided for prior to the variation, it identifies the appeal site as being located in a 'low capacity' area for wind energy development. Of the 11

no. landscape character areas, ten are identified as having 'low-capacity', with the 'Uisneach' area approximately 25km to the south of the proposed main turbine site having 'no-capacity'. Chapter 10.5.2 of the Plan addresses 'industrial-scale wind farms' and sets out that 'the preferred locations for large scale energy production, in the form of wind farms, is onto cutover cutaway peatlands in the county, subject to nature conservation and habitat protection requirements being fully addressed', following from national and regional guidance. Specific guidance relating to wind energy applications is outlined in Section 10.5.3 of the Plan, including the need for wind energy developments proposed on peatlands to adhere to the construction guidelines specified in Appendix 4 of WEDG. The Plan confirms the intention to review policies and objectives in relation to industrial-scale wind farms following focussed review of the WEDG.

7.2.4. The requirement for a 1,500m separation distance is at variance with National policy as set out in the 2006 Guidelines, which recommends a 500m separation from neighbouring houses. It is also noted that the 'Review of the Wind Energy Development Guidelines 2006 – Update', issued by the Department of Housing, Planning and Local Government in 2017, states that the 'preferred draft approach' for setback distances should be four times the tip height between a wind turbine and the nearest point of the curtilage of any residential property, subject to a mandatory minimum setback of 500 metres and noise assessment. A minimum separation distance of 700m would be required for turbines within a tip height of 175m, subject to noise assessments.

7.2.5. The targeted review of the WEDG, addressing noise, proximity and shadow flicker, are yet to be finalised, and the WEDG remain the statutory guidance for wind energy development, offering advice to Planning Authorities in the determination of applications for permission. Whilst the WEDG do not constitute national or regional spatial policy, they include key considerations in the design approach for wind energy development in terms of siting, spatial extent and scale, cumulative effect and spacing, layout and height of wind turbines having regard to their location within one of six landscape character types and their particular sensitivities. The WEDG recommends different scales of spatial extent (generally either small or large) and turbines of different heights (short, medium or tall) as appropriate for different landscape character types. The application turbine site falls within the landscape

category '*flat peatland*', where the preferred approach is for a large-scale response and where tall turbines would be most appropriate. The visual impact of the development is considered in detail further below.

7.2.6. The WEDG advocate that a reasonable balance must be achieved between meeting Government Policy on renewable energy and the proper planning and sustainable development of an area. Projects should not adversely affect the integrity of European sites or have an adverse impact on birds or give rise to peat instability. Projects should not have a significant adverse impact on drainage patterns, cultural heritage, sensitive landscapes, the local road network or residential amenity, as a result of noise, shadow flicker or general disturbance. Each of these issues will be assessed within Section 7.3 below.

7.2.7. The EU and National renewable energy policy context for the proposed development is set out in detail in chapter 2 of the EIAR and is also referenced within observations to the appeal. National policy in this regard extends beyond existing EU binding targets, with onshore and offshore wind energy considered of broader strategic economic importance to the state and under Section 143(1)(b) of the Act, the Board is required to have regard to 'the national interest and any effect the performance of the Board's functions may have on issues of strategic economic or social importance to the State'. The NPF and the RPGs note that some of Ireland's cutaway bogs are suitable to facilitate the generation of energy, most notably wind/biomass and National Strategic Outcome 8 of the NPF relating to the 'Transition to Sustainable Energy' states that 'new energy systems and transmission grids will be necessary for a more distributed, more renewables focused energy generation system, harnessing both the considerable on-shore and off-shore potential from energy sources such as wind, wave and solar and connecting the richest sources of that energy'. There is a clear preference within local, regional and national planning policy for large-scale wind energy projects to be located on peatlands, particularly cutaway bog. I recognise that the appeal site does not fall into the category of cutaway bog, as there remains considerable depth of peat substrates and the applicant has acknowledged that the peat extraction operations would continue in tandem with the proposed development, if permitted. The RPGs recognise the potential of the peatlands in general and not just their associated cutaway to accommodate large-scale energy production in the form of wind farms.

7.2.8. The setback distances required under Policy P-WIN 6 of the Development Plan are at variance with national guidelines set out in the WEDG, which remain statutory guidance under Section 28 of the Act. The proposed windfarm would be compatible with European, National and regional planning and renewable energy policy, as set out in sections 5.1 to 5.3 above and it would contribute to the achievement of European and national renewable energy targets. I am satisfied that the proposed development is situated in a suitable area for wind energy development, including tall turbines, and the proposed development would comply with national strategic objectives and policies in maximising Ireland's renewable energy resources and supporting Ireland's transition to a low carbon economy.

7.2.9. In conclusion, the proposed development may be considered acceptable in principle in terms of policy context, subject to consideration of the proper planning and sustainable development of the area and to the carrying out of EIA and AA. Accordingly, planning permission should not be refused for this reason. Detailed consideration of the visual impact of the proposed development, as well as impacts on residential amenity, cultural heritage, and traffic safety and convenience, are addressed as part of the EIA directly below.

7.3. Environmental Impact Assessment

7.3.1. Introduction

7.3.1.1. This application was submitted after the 16th day of May 2017, the date for transposition of Directive 2014/52/EU amending the 2011 EIA Directive on the assessment of the effects of certain public and private projects on the environment. The application was submitted prior to the amended Directive being transposed into Irish legislation on the 1st day of September 2018, as part of the provisions of the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018). These Regulations transpose the requirements of the EIA Directive into planning law, providing a clear definition of EIA, further clarity regarding the process and the need to identify, describe and assess the direct and indirect significant effects of the project on specified environmental factors. The Minister for Housing, Planning and Local Government has published updated 'Guidelines for Planning Authorities and An Bord Pleanála on

carrying out environmental impact assessments (EIA)', replacing the 2013 Guidelines.

7.3.1.2. At present the new legislation does not make any changes to Annex 1 or 2 of Directive 2011/92/EU, which identifies projects for the purposes of EIA. Therefore, Schedule 5 of the Planning and Development Regulations 2001-2018, for the purposes of EIA, still applies. A 13-turbine wind farm comes within the scope of Part 3(i), which is a class of development requiring the submission of an EIAR:

- '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'.

7.3.1.3. In relation to the above, I am satisfied that a comprehensive description of the proposed development is provided within Section 3 of the EIAR. This includes details of the proposed connection to the national grid (see Sections 3.3.8 & 3.8.6 of the EIAR), which would be subject to a separate application, but which is required for the purposes of EIA. A description of the likely significant effects of the project on the environment, is addressed separately in relation to each subject examined in the EIAR. In relation to a description of the features of the project and/or design elements envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment, this is also provided within the EIAR.

7.3.1.4. I have carried out an examination of the information presented by the appellant, including the EIAR, and the submissions made during the course of the appeal and application. A summary of the results of the submissions made by the Planning Authority, prescribed bodies, the appellant and observers, has been set out in Sections 3 and 6 of this report. The main issues raised specific to EIA can be summarised as follows:

- the visual impact from the immediate and wider area and implications for tourism;
- the effect of show flicker and noise on human health;
- nuisance arising from traffic during construction;
- potential for birds to collide with the turbine blades, including migratory and commuter species;

- alterations to the wider drainage regime;
- potential for archaeological finds.

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

I am satisfied that the EIAR has been prepared by competent experts to ensure its completeness and quality, and that the information contained in the EIAR and supplementary information provided by the developer, adequately identifies and describes the direct and indirect effects of the proposed development on the environment, and complies with article 94 of the Planning and Development Regulations 2001-2018.

Alternatives

7.3.2. Regarding the exploration of reasonable alternatives, the applicant carried out a selection process and this is set out in Sections 2.4 and 2.7 of the EIAR. An initial nationwide assessment was undertaken based on various constraints and facilitators to identify a suitable region to accommodate the proposed development. The EIAR states that candidate sites were reviewed under the relevant key criteria for the siting of wind energy developments, and it was determined that taking into account the effects of the proposed development on the environment, as well as technical and policy-related criteria, the appeal site at Coole represents the optimum location for the proposed development, subject to detailed examination. Reasonable alternatives with respect to site design, development design, ancillary features, including grid connection route, access and land uses are also outlined within the EIAR. Within section 11.8 of the EIAR addressing landscape, the applicant outlines that 18 turbines were initially considered, however to increase separation distances from residential receptors, a revised layout with a reduced number of turbines was arrived at. Turbine locations were also revised to account for telecommunication signals (Section 13.2.3.2.2). The applicant clarifies in section 2.7.5.1 of the EIAR that the primary reason for discounting alternative renewable energy developments, such as solar and biomass, was primarily on the basis of the need to minimise the impact on the ongoing commercial peat operations, potential energy outputs and project cost. The option of avoiding the need for a borrow pit and serving the site via quarries only was assessed. Alternative renewable energy options and the ‘do

nothing' alternatives were also explored. Environmental and other reasons for discounting options are provided.

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

Likely Significant Direct and Indirect Effects

7.3.2.2. This assessment has regard to the receiving environment, the characteristics of the proposed development, the likely significant impact of the proposal on the environment both direct and indirect, and the development features proposed to eliminate, reduce or control effects on the environment. Cumulative impacts with existing and permitted development are referenced and assessed throughout, including ongoing operations on the associated peatlands and the cumulative effects arising. It is recognised that the existing drainage of the bogs, peat extraction, accesses from public roads, peat handling activities and other associated activities on the link road site at Coole and the turbine site at Cloonsura townland are subject of legal challenge with respect to Section 5 referral decisions issued by An Bord Pleanála (ABP Refs. PL25.RL2969 and PL25.RL2975). The Board decided that these peat extractions operations were only exempted development until the 20th day of September 2012, and after this date they would be development and not exempted development. Judicial reviews challenging the Board's decision were dismissed for both cases (under 2013 398 JR; 2013 424 JR) and the companies involved subsequently sought permission from the High Court to appeal this decision. The High Court refused leave to appeal the decision in December 2018. To date permission for the peat extraction has not been granted.

7.3.2.3. For the purposes of EIA, I will undertake my examination of the likely significant direct and indirect effects on the environment under the following headings, based on the Regulations - (a) Population and human health (b) Biodiversity (c) Land, soil, water, air and climate (d) Material assets, cultural heritage and the landscape, and (e) Interaction of the factors.

7.3.3. **Population and Human Health**

7.3.3.1. Chapter 4 of the EIAR is titled 'Human Beings, Population & Human Health'. Issues relating to noise, traffic and landscape, which would impact on human beings, are

addressed in other chapters of the EIAR. I propose to assess noise matters below, while traffic and visual impact are assessed under the heading 'Material Assets' in section 7.4.5 below. The issues addressed in chapter 4 of the EIAR refer to population, including economic activity and employment, land use, public perceptions, property values, health and safety, shadow flicker and residential amenity. It also deals with tourism, which I also propose to assess under the heading 'Material Assets' in section 7.4.5 below. I also propose to assess the issue of community gain at this juncture, while I assess dust emissions as part of the impacts on 'air' under section 7.4.4 below.

Employment

7.3.3.2. In total, it is stated that the project would create up to 75 jobs during the construction phase, which is expected to take between 12 and 18 months. One to two jobs would be created during the operation phase. Having regard to the relatively short nature of the construction phase and the long term employment projections, I am satisfied that the proposal would not have any significant long term direct effect on population levels in the area, although the short term benefits to the local economy and to local service providers in the area are acknowledged, including reference to a local business support strategy (section 3.4.4).

Property Devaluation

7.3.3.3. The area in question is relatively lightly populated with extensive commercial peat production predominating in addition to agricultural activities and commercial forestry. As such the agricultural and commercial interventions in the landscape are noted and form the primary backdrop for development in this area. Observers to the appeal assert that the development would lead to depopulation of the area. I am not aware of any evidence that supports the assertion that wind energy developments lead to depopulation.

7.3.3.4. It is also asserted in observations to the appeal that the proposal would result in the devaluation of property and that a similar approach to that taken in Denmark should be undertaken, whereby property owners are compensated for the loss in property values close to new wind farm developments. Section 4.6 of the EIAR and the grounds of appeal respond on this matter and note that there have been no empirical studies carried out in Ireland. With reference to a number of American and British

studies it is asserted by the applicant that it is a reasonable assumption that the development would not impact on property values and reference is made to positive impacts for property values arising from a study of house prices in Scotland.

7.3.3.5. While the prospect of the proposed development may become a factor in the short term and the potential for impact on values is plausible, the submissions made both by the applicant and observers are not conclusive in relation to the impact, in particular, the long term impact on property values. The WEDG do not refer to the impact on property values, but they do set standards in terms of appropriate setback between properties and turbines, noise and shadow flicker. Therefore, if property values are not to be adversely affected, it would be necessary to ensure that the WEDG standards are achieved and that noise and shadow flicker levels are controlled, in order to protect residential amenities.

Shadow Flicker

7.3.3.6. Within the grounds of appeal the applicant outlines that they are committed to zero shadow flicker at occupied dwellings. The WEDG recommend that shadow flicker at dwellings within 500m of a proposed turbine location should not exceed a total of 30 hours per year or 30 minutes per day and where this is not achieved, I would consider the impact of the development to be significant. The Guidelines consider the risk of shadow flicker to be very low at distances greater than 10-rotor diameters from a turbine. A 140m rotor diameter, as proposed, would equate to a 10-rotor diameter of 1,400m, which is greater than the 500m WEDG threshold. There is an absence of directly applicable standards in terms of the daily or annual receipt of shadow flicker for dwellings in the 500m to 1,400m range. Review of the WEDG has not been finalised and this matter is subject of a targeted review by the Department.

7.3.3.7. In order to present a worst-case scenario an assessment was undertaken and presented in the EIAR for all occupied properties located within 10-rotor diameters of the proposed turbines. A total of 45 no. buildings have been identified within the 1.4km radius, which includes 37 dwellings, eight of which are stated to be derelict, one of which is permitted, but not yet constructed, and one of which is stated to be subject to planning permission. I note that the permitted house has since been constructed. The nearest occupied dwelling is property ID14, located approximately

702m to the west of turbines 8 and 10, and four dwellings (property IDs 21, 22, 23 and 42) located between 711m and 775m to the east of turbines 4 and 5.

7.3.3.8. To address the potential for shadow flicker the software package Windfarm Version 4.1.2.3 was used by the applicant. In addition, the following worst-case conditions are assumed:

- 100% sunlight during all daylight hours;
- absence of any screening;
- the sun is behind the turbine blades;
- the turbine blades are facing the property and moving;
- turbine rotor is considered as a sphere, rather than an ellipse;
- wind is always assumed to be within the operating range of the turbines, so that the rotor is turning at all times.

7.3.3.9. While observers assert that shadow flicker cannot be accurately modelled, as the precise models of the turbines have not been decided, I am satisfied that the scenarios envisaged provide a reasonable assessment of the potential situation, including a worst-case scenario.

7.3.3.10. Of the said 37 dwellings the modelling predicts that 22 may experience some shadow daily flicker in excess of the WEDG threshold of 30 minutes per day, although five of these are considered to be derelict by the applicant. Table 4.9 of the EIAR details the properties that may be affected and the relevant turbines.

7.3.3.11. Following the application of a regional 33.3% average sunshine during daylight hours through the year (a figure taken from Met Éireann data recorded at Mullingar over a 30-year period) and a wind direction reduction factor of 34% based on the most onerous wind direction, as well as readings from a local met mast, one dwelling (ID14) may exceed the annual shadow flicker threshold of in excess of 30 hours per annum.

7.3.3.12. To address excessive shadow flicker, in the first instance I would suggest that it would be preferable to consider same by avoidance through the omission of those turbines that contribute to the excessive levels of shadow flicker. It would seem that no consideration was given to this option by the applicant. Section 4.9.3.9 of the

EIAR sets out the features to be employed to limit the incidences of shadow flicker at any affected property, which entail established practices, including a screening assessment, screening measures and/or wind turbine control measures. As noted above Table 4.12 of the EIAR lists the turbines that could be programmed to switch off to reduce daily shadow flicker to a maximum of 30 minutes. The EIAR does not outline the days that the associated 'offending' ten turbines (2, 3, 4, 5, 8, 9, 10, 11, 12 and 13) could be programmed to shut down to reduce the daily and annual shadow flicker to associated dwellings below WEDG thresholds. The potential for cumulative shadow flicker is discounted in view of the extent of separation between proposed and existing turbines.

7.3.3.13. In relation to the concerns raised by observers, regarding the potential health impacts of shadow flicker on persons, including those who are sensitive to changes in light, and to local schools, I note that the WEDG do not specifically address such matters. I note that the nearest schools, include Coole National School, 2.5km to the south and Naomh Micheal National School, 2.6m to the northeast of the nearest proposed turbines, each of which are well outside the 10-rotor diameter distance, where the risk of shadow flicker would be very low.

7.3.3.14. Taking into consideration the application of the worst-case scenario, assumptions as set out above and the application of Guideline thresholds referenced for properties within 500 metres of a turbine to all properties within the 10-rotor diameters, in addition to the actions to be employed should the relevant parameters be exceeded, I consider the assessment to be robust. The potential impact arising from shadow flicker on properties in the vicinity would not be significant with the exception of 'shut-down days' to be outlined with respect to turbines 2, 3, 4, 5, 8, 9, 10, 11, 12 and 13, to ensure the daily and annual shadow flicker to the nearest dwellings (as outlined in Table 4.9 of the EIAR) is below the 30 minutes per day and 30-hour per year threshold. I consider that the issue can be adequately addressed by way of a condition comparable to that employed in other applications for wind farm development, whereby provision is made for the implementation of a wind farm shadow flicker compliance and monitoring programme, details of which to be agreed with the Planning Authority. Accordingly, I am satisfied that the human health impacts would not arise from shadow flicker caused by the movement of turbine

blades, as this would be addressed via the separation distances achieved and by operational paramaters to include shut down times.

Noise

7.3.3.15. Section 10 of the EIAR deals with Noise and Vibration. The primary sources of noise relating to human activity existing on site and in the immediate area arise from commercial peat operations, agricultural operations, quarrying and traffic movements. The WEDG acknowledge that noise is unlikely to be a significant problem where the distance from the nearest turbine to any noise sensitive property is more than 500 metres. In this case the nearest property has a separation distance of 702 metres. In terms of the baseline monitoring undertaken, four stations were monitored, as delineated in Figure 10.2 and photographed in Appendix 10.2 of the EIAR. Noise monitoring did not take place at the closest residential property to a proposed turbine (property ID14, which is 702m west of turbines 8 and 10), which I would consider to be one of the more sensitive noise receptors. However, noise-monitoring station C was located in a similar environment and at a similar separation distance, approximately 753m from a proposed turbine. Accordingly, I consider the station locations to be representative and to accord with recommended practice, such as that contained in the Environmental Protection Agency's (EPA) 'Guidance Note on Noise Assessment of Wind Turbine Operations at EPA Licensed Sites (NG3)'. The assumed sound power levels of the proposed turbines cannot be conclusively estimated as the manufacturer's details for the proposed turbines are not available, as the final turbines would be subject of a tendering process according to the applicant. The duration of monitoring outlined in Table 10.4 of the EIAR also accords with the recommended practice of two weeks minimum. I note that the use of a noise descriptor of $L_{90, 10min}$, is provided for in the WEDG and also within the Department of Trade and Industry (UK) Energy Technology Support Unit (ETSU) publication *The Assessment and Rating of Noise from Wind Farms*, 1996 which informed the WEDG.

7.3.3.16. The derived $L_{A90, 10min}$ daytime and night-time background noise levels for the area, as indicated in Table 10.6 can be considered typical for a rural area with low noise levels particularly during periods of low wind speeds. The night-time background noise levels at the measured locations are less than 35 $L_{A90, 10min}$ for wind speeds up

to 6m/s, whilst there are no day time levels over 40 $L_{A90, 10min}$ at wind speeds up to 7m/s.

7.3.3.17. The WEDG state that, in general, a lower fixed limit of 45dB(A) or a maximum increase of 5dB(A) above background noise at nearby noise sensitive locations is considered appropriate to provide protection to wind energy development neighbours. However, in very quiet areas, the use of a margin of 5dB(A) above background noise at nearby noise sensitive properties would not be necessary to offer a reasonable degree of protection and it may unduly restrict wind energy developments, which should be recognised as having wider national and global benefits. Instead, in low noise environments where background noise is less than 30dB(A), it is recommended that the daytime level of the $L_{A90, 10min}$ of the wind energy development be limited to an absolute level within the range of 35 – 40dB(A).

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

- 40dB $L_{A90,10min}$ for quiet daytime environments of less than 30dB $L_{A90,10min}$
- 45dB $L_{A90,10m}$ for daytime environments greater than 30dB $L_{A90,10min}$ or a maximum increase of 5dB(A) above background noise (whichever is the higher), and
- 43dB $L_{A90,10min}$ or a maximum increase of 5dB(A) above background noise (whichever is higher) for night time periods.

7.3.3.19. The justification for these parameters is set out in section 10.3.2.1 of the EIAR, including regard to the WEDG and EPA 'Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities', which proposes a daytime noise criterion of 40dB(A) in areas of low background noise [less than 30 dB(A)]. I consider the justification for the noise parameters to be reasonable and where daytime and night time limits are exceeded the impact would be significant.

7.3.3.20. A worst-case scenario assessment was taken assuming all noise locations are downwind of all turbines at the same time. Noise was modelled for 45 receptors, the results of which are set out in Table 10.16 of the EIAR. The predicted noise levels at each dwelling (noise sensitive) location for the various wind speeds does not exceed

the noise limit criteria adopted for the assessment. A noise contour for the rated power wind speed 7m/s (the highest noise emission) is provided in Appendix 10.7.

7.3.3.21. The predicted noise levels can be compared against the 40dB $L_{A90,10min}$ absolute criterion that has been put forward as part of the Department of Environment, Community & Local Government (DECLG) document 'Proposed Revisions to Wind Energy Development Guidelines 2006 – Targeted Review in relation to Noise, Proximity and Shadow Flicker'. The predicted levels are within the consultation criterion of 40dB $L_{A90\ 10min}$ for wind speeds of between 4m/s to 12m/s, with the exception of three buildings as detailed in Table 10.16, two of which are identified as in commercial use (storage and materials sheds) and one of which is derelict.

7.3.3.22. The applicant accepts that post-commissioning monitoring would be necessary to show compliance with planning condition noise limits, which I note would require the operational noise levels to comply with the relevant day and night time criteria. Continuous monitoring is not proposed and does not constitute a feature assigned to other windfarm development. Should specific issues arise during investigations, including noise monitoring, curtailment measures can be implemented for specific turbines in specific wind conditions.

7.3.3.23. Infrasound and low-frequency sound posing a threat to local residents are referenced within observations to the appeal, including reference to various studies. In this respect I note that these issues are not presently referenced in the WEDG, however, the EPAs 'Guidance Note on Noise Assessment of Wind Turbine Operations at EPA Licensed Sites (NG3)' published in 2011 does comment on same. Section 3.3.3 of this Guidance Note states that whilst the aerodynamic noise associated with wind turbines is broadband in nature and spread across the audible frequency range, there is a common misconception that there is a significant component of low frequency noise, which is not the case. The Guidance Note states that as distance increases from a noise source, the noise spectrum becomes more biased towards the low frequencies, as a result of the greater attenuation of middle to high frequencies by atmospheric effects, with reduced attenuation of low frequencies and, accordingly, this may be a significant characteristic for a large wind farm site when heard from a distance, although close to the turbines it would not be significant. With regard to high level sound at frequencies below 20Hz, the Guidance Note asserts that there is no significant infrasound arising from wind

turbines and that this was ‘a prominent feature of passive yaw downwind turbines where the blades were positioned downwind of the tower which resulted in a characteristic thump as each blade passed through the wake caused by the turbine tower’. With modern active yaw turbines, where the blades are upwind of the tower and the turbine is turned to face into the wind by a wind direction sensor on the nacelle activating a yaw motor, this is no longer a significant feature. It is not specified whether a modern active yaw turbine is proposed for this development, although the example turbine, used by the applicant to address the noise impacts, GE Renewable 3-6-137, is a modern active yaw turbine and the applicant has stated that in order to ensure the impacts remain valid, the actual turbine to be installed would be of no greater significance than that used for the assessment.

7.3.3.24. Should low frequency noise issues be identified, the applicant states that appropriate mitigation measures can be implemented, including detailed investigation to meet recommended guidance for low frequency noise outlined in the EPA document ‘Guidance Note for Noise: License Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)’. The applicant also outlines that site curtailment under conditions (i.e. wind direction/speed) that give rise to this issue can also be implemented through the turbine control system associated with the development.

7.3.3.25. To identify whether aerodynamic modulation (AM) is present and the extent to which it arises, the applicant sets out that a detailed noise survey, conducted by an appropriately qualified person, would be undertaken taking into account the number of locations, wind speeds and environmental conditions. Should AM be identified, based on the findings of this survey, a schedule of actions would be formulated and agreed with the Planning Authority, which would typically be envisaged to focus on control and regulation of the operation of turbine unit(s) in certain atmospheric and meteorological conditions.

7.3.3.26. There would be an increase in noise levels in the vicinity of the proposed development site during the construction phase, but this would be temporary in duration, estimated by the applicant to take between 12-18 months. The noisiest construction activities are associated with excavation, piling and pouring of the turbine bases and the extraction of stone from the borrow pit. The type of activity and equipment that would generate the noise at this stage of the proposed

development are much the same as those that would be used during other infrastructural works in the countryside, which have been the subject of EIA by the Board, including road schemes and quarrying. Based on typical wind farm turbine construction noise emission levels and the distance to the nearest residential properties, potential significant effects are not predicted. Similarly, the flow of traffic transporting material to and from the turbine and link road sites, is also likely to be a potential source of increased noise. Best practice measures are to be adhered to during the construction phase. The mitigation of the potential negative effects from construction noise by the imposition of a condition requiring the regulation of such activity is an established measure whose efficacy is well established.

7.3.3.27. While it is noted that piling would likely take place at all but one of the turbine locations, it can be reasonably concluded that no impact in terms of vibration is expected having regard to the separation distances involved between the turbine location and the nearest sensitive receptors. Rock breaking operations are proposed at the borrow pit site. The applicant has advised that following consultation with locals, no blasting would take place at the borrow pit site and that rock breaking would occur on site for an estimated three-month period during daytime hours. An assessment by the applicant of the predicted construction noise levels arising from the borrow pit operations, relative to the nearest residential properties, outlines that based on standards (65bB $L_{Aeq\ 1hr}$) outlined in the 'Code of Practice for Noise and Vibration Control on Construction and Open Sites' (British Standard BS 5228-1:2009+A1:2014), potential for significant noise impact would occur at two dwellings (ID11 & ID12), which are to the north of the borrow pit. Based on the standards (55bB $L_{Aeq\ 1hr}$) outlined in the Section 28 'Guidelines for Planning Authorities: Quarries and Ancillary Activities', I note that potential for significant noise impact would arise for two additional dwellings (ID09 and ID10). A host of measures are outlined in Section 10.6.1 of the EIAR to address potential significant noise impacts, including mufflers and acoustic screens and I would note that the aforementioned Guidelines allow for relaxation in the standard noise level limits to allow for temporary and short term operations, such as the three-month rock breaking activity on the borrow pit site.

7.3.3.28. I have no reason to doubt the veracity of the information contained in the EIAR in respect of the noise analysis undertaken, however, notwithstanding this conclusion,

there will be an onus on the applicant to comply with best practice as per the Guidelines in relation to noise generation. Based on this assessment, I am satisfied that the proposed development would not have a significant adverse impact on residential or other noise-sensitive properties arising from noise. Where significant concerns arise these can be addressed by way of control restrictions attached as conditions to the permission.

Risks of Major Accidents and / or Disasters

7.3.3.29. Section 5.7 of the WEDG state that there are no specific safety considerations in relation to the operation of wind turbines and that people and animals can safely walk up to the base of turbines. With regard to the vulnerability of the project to risks of major accidents/disasters, natural disasters such as peat slides are addressed in Section 7.4.4 and peat slides in Section 7.4.27. Matters pertaining to aviation are addressed under Section 7.4.5 below.

7.3.3.30. The issue of fire hazard needs also to be considered, particularly given the location of the turbines on operational commercial peatland, which are of higher risk of fire. Westmeath County Council's Fire Services Section has not commented on the application. The applicant states that the risk of significant fire occurring, affecting the wind farm and causing the wind farm to have significant environmental effects would be limited. Furthermore, the applicant has stated that components would be installed to address lightning strikes to turbines. The setback to be maintained between the turbines, the substation and the nearest dwellings would to some extent address concerns in this regard. The application does not specifically address the implications of a fire on the operational commercial peatlands during operation of the wind farm including the potential impact of a smouldering fire on moisture content and the resultant impact on turbine stability. However, I would note that the applicant has committed to the preparation of a site-specific Emergency Response Plan prior to the commencement of the proposed development and measures to be employed to address interactions between the proposed development and peat activities, would include the setting up of an Interactions Management Group (IMG). The Peat Management Plan submitted also outlines that movement monitoring posts would be installed to monitor possible peat movements. The health and safety of workers during both the construction and operational phases is a matter for the relevant contractor and the site operator and is not a planning consideration.

Community Gain

7.3.3.31. The 'Code of Practice for Wind Energy Development in Ireland on Guidelines for Community Engagement' prepared by the Department of Communications, Climate Action & Environment, outlines that a well-designed and well-executed community benefit scheme can provide material and lasting value to communities that host wind farms. As per section 3.4 of the EIAR, a community-benefit scheme is proposed by the applicant and this would amount to in the region of €1.25 million over the life of the project. This would be broadly in line with that applied in other wind farm developments in Ireland.

7.3.3.32. The applicant states that the benefit scheme has been development as part of their endeavours to develop new ways to direct increased gain towards local communities, with particular focus on those closest to the wind farm. Local economic and environmental sustainability schemes are proposed as part of the supports for the local population, including a local household dividend scheme and a greener homes scheme for occupied houses within 1km of the project. The applicant also outlines that they are working to develop a community ownership scheme that would allow the local community to invest in the wind farm and receive a return from their investment. A local business support strategy would also be undertaken as part of the community gains, whereby local supplies, contractors and businesses are considered for appropriate opportunities as part of the proposed development. A number of observers to the appeal consider that the community benefit package could rejuvenate the area, improve homes and reduce carbon emissions, including improvements to services and infrastructure and home upgrades.

7.3.3.33. I note that in recent decisions regarding wind energy developments, including planning permission (ABP-300460-17 in Donegal) and Strategic Infrastructure Development (PA0029 and PA0031 in County Mayo and PA0032 in County Offaly), the Board did not attach conditions addressing community gain. Following this approach, it can be taken that the commitment and details of the community benefit fund and the strategy, as outlined in the EIAR, form part of the proposed development.

Grid Connection

7.3.3.34. Third-party observations assert that a comprehensive assessment of the impacts of works along the grid connection route cannot be undertaken at this juncture. The applicant states that the EIAR addresses the cable route for the grid connection in full following an initial assessment of options. It is proposed to connect to the national grid by an underground cable of approximately 26km length from a substation on the wind farm site to the existing 110kV substation at Irishtown on the northwest side of Mullingar. The underground grid connection would be predominately located along the public hard surface roadway within shallow trenches. The grid connection may need to be laid in the three field areas adjacent to sections of road according to the Planning Authority, while the applicant clarifies that the preferred scenario for the laying of the grid connection, subject of further consent processes, would be solely via cabling along the public road. The Roads Design Office of the Planning Authority and TII have also advised that the grid connection route may ultimately need to be realigned as part of the proposed N4 Mullingar to Longford (Roosky) road scheme, a project which the applicant notes has been suspended at this point and is therefore not an existing or permitted road project. During the construction phase there would be some limited impacts arising on the movement of people and via temporary noise that would be generated while the grid connection is being undertaken. There would be no operational impact on population or human health as the grid connection cable would be laid underground. Therefore, in relation to the proposed grid connection, having regard to the all submissions and documentation provided, including the details contained in the EIAR, I am satisfied that this element of the project would not be likely to give rise to significant effects on population or human health.

Conclusion

7.3.3.35. I have considered all of the written submissions made in relation to population and human health. I am satisfied that the impacts identified would be avoided, managed and/or mitigated by measures forming part of the proposed scheme, and measures within suitable conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of population and human health. I am also satisfied that significant cumulative effects are not

likely to arise and that approval should not be withheld on the grounds of cumulative effects.

7.3.4. **Biodiversity**

7.3.4.1. Chapters 5 and 6 of the EIAR deal with flora and fauna. The Board is advised that the application is accompanied by a NIS. Whilst there may be a degree of overlap, the NIS is dealt with in detail in section 7.5 below.

Flora

7.3.4.2. The main turbine site is dominated by bog bordered and interspersed with conifer plantation habitats and bisected by the River Glore flowing in an east to west direction. The peat-milling production area is divided by parallel drainage channels, each spaced approximately 15m apart. The link road part of the site, west of Coole village, comprises cutaway bog to the west and improved agricultural grassland to the east, with a section of conifer plantation separating these habitats. The borrow pit site primarily comprises improved agricultural grassland. Vegetation surveys were undertaken during 2016 and 2017 and a list of species recorded is presented in Appendix 5.2 of the EIAR. Approximately 9.5 hectares of conifer plantation exist on the site, much of which is expected to be felled to facilitate turbine T05. Section 3.3.10.2 of the EIAR refers to replanting off site (in Offaly) to account for the loss of commercial forestry, as opposed to replanting on site.

7.3.4.3. The EIAR identifies key ecological receptors, including species and habitats occurring within the zone of influence of the development where potential effects are anticipated. The habitat types on site are generally of limited ecological importance and are widespread throughout the locality, with no protected or rare flora species recorded on site, including along the haul and grid connection routes.

7.3.4.4. Degraded raised bog is present in scattered locations on the main turbine site, but the habitat is not active according to the applicant and remnant areas are dried out and drained on all sides. For biodiversity purposes, these areas are categorised as being of ‘local importance (higher value)’ within the EIAR. Wooded areas along the fringes of the bog were not considered to conform to Annex I Priority Habitat ‘Bog woodland’ given the flora species present and the drainage regime of these areas. Consequently, these fringe wooded areas were assigned a local importance (higher

value) in the EIAR, along with hedgerows, treelines and the Glore and Inny river corridors within the site. All habitats of local importance (higher value) were considered as key ecological receptors in the EIAR. The EIAR also identified Annex I habitat in the form of a natural dystrophic lake and pond [Habitat Directive Ref. 3160] situated in the northern portion of the degraded raised bog. This lake habitat is assigned 'national importance' based on the presence of a viable habitat area. The development has been designed to avoid any direct loss of this Annex I habitat. It is stated that where sections of hedgerows and treelines are to be removed for the purposes of junction and road upgrades, these will be reinstated with native hedge and tree species. Drawing No.0339-39 suggests that a substantial section of the hedgerow and treeline along the Local Road (L-5755) would be permanently removed to provide adequate vehicular sightlines into and exiting the borrow pit. It is not specified if these trees and hedgerows would be reinstated. This matter is addressed further below with respect to the impact of the proposed development on material assets such as traffic and landscape.

7.3.4.5. The EIAR concludes that the development would not have significant residual effects in terms of loss or degradation of the key habitats identified.

Aquatic Biodiversity

7.3.4.6. An aquatic survey was undertaken in 2016, with seven of the sampling locations used having a hydrological connection with the appeal site. Atlantic Salmon, an Annex II species, was absent from the neighbouring watercourses, while a previous survey dating from 2013 identified White-clawed Crayfish. Observers to the appeal state that the proposed development would exacerbate the decline in fish stocks in neighbouring waters. The IFI has commented on the application and outlines various recommendations with regards to construction management and monitoring of water quality. Potential impacts on fish and aquatic biodiversity could potentially arise during the construction phase, from the release of sediment causing elevated suspended solids in the receiving watercourses, which can affect aquatic habitat quality. Potential for significant adverse impacts on the aquatic biodiversity environment during the construction phase is largely avoided by the absence of in-stream works. The EIAR outlines that the development has been designed to maintain a drainage neutral situation to avoid drainage related impacts and no impediment to fish passage is envisaged or proposed. It is clear from the EIAR that

the vast majority of construction works are possible without the need to enter watercourses and a CEMP, including method statements, has been prepared for the project to ensure best construction practises are followed, including those contained within the IFI 'Guidelines on Protection of Fisheries during Construction works in or adjacent to Waters' (2016). Furthermore, the CEMP includes an Outline Site Drainage Management Plan to ensure that there would be no direct discharge to any natural watercourses during construction. Implementation of a programme of water quality monitoring to be agreed with the Planning Authority is proposed as part of the project.

Fauna (excluding birds)

7.3.4.7. Faunal surveys for badger and otter were undertaken in 2016 and 2017, while bat surveys were undertaken during 2013 and 2016. Otter prints were identified in the northern segment of the turbine site in an area of bog woodland close to the proposed site of turbine 2. Irish hare and feral goats were noted along the western boundary with the River Inny, while evidence including prints of badger and red fox were also identified. Breeding or resting ground for otter was not identified, nor were badger setts. In the event of permission, pre-construction surveys would be undertaken to identify protected mammals within the development areas. Passage for otter would be maintained along the riverbank. The EIAR notes the potential for non-volant mammals to occur within the study area, including red squirrel and pine marten. No potentially significant cumulative disturbance, displacement or habitat loss effects for fauna is envisaged.

7.3.4.8. Bat surveys were conducted in 2013 and 2016, entailing a mix of roost, manual transects and fixed-point surveys. Observers to the appeal assert that in the absence of high-level bat surveys a precautionary approach should be adopted regarding bat protection. As the turbine site is not dominated by forest and as there is not a minimum requirement for a project of this nature to do so, surveys at height were not considered necessary by the applicant. The woodland and forestry, as well as the riparian and associated riparian habitats were assessed as having moderate suitability for commuting or foraging bats. No bat roosts were identified within the site. In 2013, three bat roost sites were identified within 2.2km and 3.4km of the site and a mating/lekking site (for Leisler bat) was identified 0.8km from the site. No significant effects on roosting bats are anticipated.

7.3.4.9. The bat survey results are included in Appendix 5-4 to the EIAR and revealed that bat activity levels were quite low and that the greatest level of bat activity in the study area was along the vegetative fringes of the turbine site, which is dominated by conifer plantations, and also along the rivers and associated riparian habitat. Bats only occasionally cross the open bog habitats where the turbines would be sited. Common pipistrelle and Soprano pipistrelle were the most frequently recorded, while unidentified Pipistrelle, Leisler, Myotis, Brown long-eared and Nathusius Pipistrelle bats were also recorded. Turbine T05 is the only turbine proposed within the conifer plantation and the turbine swept path for this turbine would marginally overlap the River Glore riparian habitat. Proposed works off the main turbine site would involve loss of trees and hedgerow that have moderate potential for foraging bats.

7.3.4.10. Standard features post-construction, including monitoring and fatality searches, are proposed. Given the low level of bat activity and the proposals to fell commercial plantations on site, potential for significant impacts to arise on bat populations is unlikely. However, I note that Leisler's bat is a high-risk bat species in relation to wind turbines, as it is a higher flier than other Irish bat species, therefore, there is potential for significant impacts on this bat species. In the absence of high-level surveys, the presence of Leisler's bat on site and the location of Turbine T05 with turbine sweep area marginally overlapping the River Glore and associated riparian habitat, the positioning of turbine T05 requires particular attention. Prescribed buffer distances between turbines and habitats are referenced in Appendix 5-4 to the EIAR, including those within the Natural England Guidelines 'Bats and Onshore Wind Turbines Interim Guidance', which require a setback of at least 50 metres between the tip of any blade and habitat features such as trees or hedgerows. Based on Drawing 09-39-31 illustrating the typical wind turbine front elevation, approximately 56m would be maintained between the blade tip to turbine T05 and the riparian habitat, which I note features trees of less than 5m within the turbine sweep area. I am therefore satisfied that a reasonable clearance distance between the habitat features and the turbines would be provided and a significant impact would not arise. The applicant refers to the need to monitor the effectiveness of prescribed buffer distances as part of the post-construction elements of the proposal.

7.3.4.11. On the basis of the detail provided I accept the assessment that the loss of the bog areas for turbines and associated infrastructure would have negligible impacts on

local bat populations, while the loss of scrub and treeline habitats, dominated by conifer plantations, would only marginally reduce bat foraging and commuting opportunities and that potential for barotrauma or collision is low, with adequate separation distances achieved between turbine blades and habitat features. Monitoring of bat activity is proposed as part of the proposed development.

7.3.4.12. Observers to the appeal assert that the ecological studies for the project failed to review the impact of the link road element of the proposals on bats, badgers and Irish hare. I am satisfied that surveys undertaken and design features envisaged have adequately addressed the link road element of the proposals in terms of impacts on biodiversity with the habitats illustrated in figure 5.2a of the EIAR and reference throughout the EIAR to various surveys having been undertaken on the ancillary site areas.

7.3.4.13. Observers to the appeal assert that the impact on invertebrates, particularly migrating invertebrates categorised as 'red book species', has not been addressed in the EIAR. The applicant considers that the site is not of significance for invertebrates, based on these surveys, particularly given the present use of the site with highly-managed drains, bog and the extensive absence of vegetation. Protected invertebrates or suitable supporting habitats for invertebrates were not recorded during surveys of the site with the site is dominated by commercial peatlands and commercial forestry, part of which is proposed to be felled. The expansive open areas of commercial peatlands undergoing ongoing extraction activity and dominating the site would not provide suitable habitat for migratory invertebrates, including butterfly. Furthermore, I am satisfied that the project includes various design elements to address potential impacts on aquatic macro-invertebrates, as discussed below with respect to the impacts on surface water.

Birds

7.3.4.14. In terms of avifauna, from the outset I note that the site is not currently within an area likely to be sensitive to wind energy developments based on the Bird Sensitivity Mapping Tool for Wind Energy Development developed by Birdwatch Ireland. The nearest sensitive area is along the River Glore c.1.5km to the southeast of turbine T05, which is classified as being of 'low' sensitivity for bird species. The tool is based on the collation of existing distributional data.

7.3.4.15. Dedicated Bird Surveys conducted at the application site and surrounding area were carried out during 2015 and 2017 to cover wintering, breeding and migratory periods. Two fixed-point vantage surveys were undertaken between dawn and dusk on a monthly basis between October 2015 and September 2017. Viewshed analysis was also carried out from two vantage points, in particular to identify the potential 'collision-risk volume' of birds relative to the proposed turbines and taking a precautionary 25m minimum height for the turbine blade paths. Quadrat / walkover surveys were also undertaken within a survey area extending 500m beyond the site boundaries during the core breeding seasons in 2016 and 2017. Winter transect surveys were undertaken from 2015 to 2017 to identify target species and ground birds of conservation value. Focussed surveys were undertaken for breeding raptor and woodcock, while wetland and waterbird counts were also undertaken for an area extending 6-8km from the main turbine site.

7.3.4.16. To determine the collision risk for target species a Collision Risk Model (CRM) was prepared to estimate the number of birds potentially colliding with turbines over a period of time (see Appendix 6.3 to the EIAR and Appendix 2 to the NIS). It was not prepared for bird species that were not observed during surveys. For those species observed, but whose flight was outside the collision risk zone, CRM was not undertaken as the collision risk, within the accuracy available to the assessment, would be zero. Based on the CRM results, the EIAR utilises percentage parameters in the National Roads Authority (NRA) 'Guidelines for Assessment of Ecological Impacts of National Roads Schemes' to estimate the geographical-scale of impact on bird populations.

7.3.4.17. As supported by the data provided in Appendix 6-1 of the EIAR, Section 6.3.2 sets out the bird species observed, with 78 no. species in total, 16 of which are 'Annex I' species, species of community interest (SCIs), red-listed species and raptors. The following 'Annex I' species were observed; Golden Plover, Merlin, Hen Harrier, Peregrine Falcon, Little Egret, White-tailed eagle, Osprey, Woodcock and Whooper Swan.

7.3.4.18. Golden Plover was recorded on 53 occasions within the site and within a 500m buffer zone from the site during the vantage surveys between October 2015 and September 2017. Golden Plover was also observed roosting within the milled peat of the study area on four occasions during 2015 and 2017 with a maximum flock size

of 151 roosting overnight in October 2015. The flight activity for Golden Plover was considered sporadic by the applicant and did not indicate a clearly discernible commuting route, although 46 recordings were noted to be within the potential collision risk zone. Golden Plover was also recorded at Lough Derravaragh, Lough Kinale and Lough Garriskil with the number of birds ranging from 18 at Lough Garriskil to between 36 and 500 at Lough Derravaragh. Evidence of breeding activity or foraging by Golden Plover was not noted on site and it was noted in the EIAR that there are other extensive areas suitable for foraging and roosting grounds in the immediate vicinity. Disturbance to Golden Plover during the construction activity is anticipated to be similar to the existing ongoing commercial peat operations, therefore displacement effects are discounted. The maximum flock of 151 birds recorded is considered to be well below nationally important thresholds (using NRA Guidelines where 999 birds equates to 1% of the national population of and, as such, of national importance). The collision risk calculations suggest potential for just over 2.5 collisions per year based on data collated, which is considered insignificant in the context of local, county, national and international populations of Golden Plover.

7.3.4.19. Individual Merlin flights were recorded on seven occasions during the wintering and breeding seasons, with one flight within the potential collision risk zone. The species was not recorded during the Breeding Raptor or other surveys, nor was this species observed roosting on site. The EIAR notes extensive other foraging grounds are located in the surrounding area and that the collision risk calculations suggest potential for just over 1 collision every 1,000 years based on the data collated, which is not considered significant in the context of local, county, national and international populations.

7.3.4.20. A single Hen Harrier was recorded once during the 408 hours of vantage point surveys undertaken. The individual Hen Harrier was observed close to the edge of the site boundary. Hen Harrier were not observed during the Breeding Raptor or other surveys. The EIAR outlines that there were no recordings of Hen Harrier breeding or roosting within the study area and no flights were recorded within the potential collision risk zone. Mature commercial coniferous tree planting is to be removed as part of the proposed development to facilitate Turbine T05 and associated infrastructure. This type of mature commercial tree cover and the open

expansive operational commercial peatlands do not provide ideal habitat area for Hen Harrier.

7.3.4.21. During vantage point surveys in 2015 to 2017, Peregrine Falcon was recorded 18-times flying within the windfarm site and once outside the 500m site buffer zone. The recordings of Peregrine Falcon took place across all seasons. Ten of the flights were within the collision risk zone and one observation was of a pair of these birds, while the remainder were of individual birds. Breeding Raptor surveys recorded 11 observations of Peregrine Falcon during the 2016 and 2017 breeding seasons with a nesting site recorded approximately 2km east of the turbine site boundary. Potential nesting habitat was not recorded at the site. During a winter walkover survey in 2015, an individual bird is stated to have been observed on the bog on site. Direct loss of roosting or breeding grounds are not anticipated and substantial areas of habitat would remain in the vicinity, while the construction phase of the development would be on a par with the ongoing commercial peat extraction activity in the site area according to the EIAR. Collision risk calculations suggest there is potential for just over one collision every 52 years, which is not considered significant in the context of local, county, national and international populations, which are estimated to have a national breeding population in Ireland of 515.

7.3.4.22. An individual Little Egret was recorded during vantage point surveys in November 2016 and its flight was observed to be outside the potential collision risk zone. During wetland waterbird counts, one to three Little Egret were recorded on four neighbouring lake sites; Derravaragh, Derragh, Kinale and the closest lake, Lough Bane, which is approximately 200m to the north of turbine T02 and is a pNHA (Ref. 001721). It can be concluded that the evidence suggests that the development site is not of significance to this bird species.

7.3.4.23. White-tailed Eagle have been reintroduced to Ireland. An individual white-tailed eagle was recorded once during vantage point surveys in November 2016, when it was observed perching and moving between perches, outside the potential collision zone. During dedicated breeding raptor surveys and other surveys this species was not observed. Given the single observation of the bird outside the collision risk zone, the appeal site is not considered of significance to this species.

7.3.4.24. Osprey is a rare visitor to Ireland and according to the applicant on one occasion in May 2016 an individual bird was recorded during vantage point surveys. Osprey were not observed during other surveys. It is concluded that there is no evidence to suggest that the appeal site is of significance to the species.

7.3.4.25. Woodcock was recorded on the fringes of the site on three occasions during vantage point surveys in 2015 to 2017. Breeding season surveys were undertaken on site and within a 500m buffer of the site, during June 2016 and June 2017 with 28 observations recorded. All recorded flights were outside the potential collision risk zone, with flights concentrated within fringe areas of vegetative cover and only one flight noted to be over the bare peat area. There is no available estimate of the breeding woodcock population in Ireland. The species was considered to be important at a local level, assigned probable breeding status and an assessment of direct habitat loss and displacement was undertaken. The felling of trees is anticipated to temporarily reduce the distribution and availability of daytime roosting sites, however extensive other potential roosting sites would be available in the surrounding area and significant displacement during construction is not anticipated, given the similarity of the construction activities with ongoing peat extraction activities.

7.3.4.26. Assessment of the potential impact of the proposed development on other bird species identified either within the site or its buffer zone was undertaken in the EIAR, considering Coot, Shoveler, Lapwing, Black-headed Gull, Curlew, Common Buzzard, Eurasian Sparrowhawk and Common Kestrel. Coot, Shoveler, Wigeon and Teal are qualifying interests for neighbouring SPAs and the potential impact of the proposed development on these species is not considered significant, as per the assessment in Section 7.5 of this report.

7.3.4.27. Flocks of 40 Lapwing were observed on three occasions during winter vantage point surveys with two flights within the collision risk zone during three wintering observations. No evidence of breeding was observed on site, but a pair of Lapwing were recorded during the breeding season in the wetland area, Lough Bane, c.200m to the north of proposed turbine T02. The collision risk of one bird every 16.9 years was not considered significant and significant displacement effects or habitat loss is not anticipated. Two Black-headed Gulls were recorded in May 2016 during vantage point surveys, while a breeding colony of 23 pairs of Black-headed Gull were

recorded on Lough Bane. Surveys suggest that the site is not on a migratory or commuting route for Black-headed Gull and significant displacement effects or habitat loss is not anticipated for these species. Collision risk for Common Buzzard (one bird every three years), Eurasian Sparrowhawk (one bird every 83 years) and Common Kestrel (one bird every eight years) are calculated based on the surveys undertaken and the results are asserted to be insignificant in the context of local, county, national and international populations.

7.3.4.28. Other species identified within the wetland waterbird counts included Common Tern, Goldeneye, Kingfisher, Pochard, Redshank and Tufted Duck, but these were not recorded within the site or its buffer zone during surveys and connectivity with the site was discounted. Of these I note that Goldeneye, Pochard, and Tufted Duck are qualifying interests for neighbouring SPAs and the potential impact of the proposed development on these species is not considered significant, as per the assessment in Section 7.5 of this report.

7.3.4.29. Observers queried the adequacy of the assessment on the impact of the development on migrating Greenland White-Fronted Geese and Whooper Swan, both of which are Annex I species. Specific concerns pertaining to the site being situated on a route used by the species between a necklace of neighbouring lakes and between Wexford, Iceland and Greenland are raised. To avoid duplication the potential impact on these bird species is specifically addressed under Section 7.5 of this report, as part of the Appropriate Assessment of the project.

7.3.4.30. Lough Bane pNHA located approximately 200m to the north and the area to the north of this provide suitable wetland habitat for some bird species, including those identified during surveys of this area, which are qualifying interests for neighbouring SPAs; Little Egret, Eurasian Wigeon, Eurasian Teal, Lapwing, Northern Shoveler and Whooper Swan, as well as other species; Mallard, Mute Swan, Common Buzzard, Little Grebe, Common Moorhen and Common Snipe. Access roads, base foundations and other infrastructures serving turbine T02 and the main turbine site would not overlap this pNHA. The proposed development would not result in direct loss of this habitat for these species, with drainage features designed to protect same, while displacement during construction would not be significant, given the comparisons between the construction activity and the ongoing commercial peat operations in the immediate and wider area.

7.3.4.31. Given the wide availability of comparable habitat in the vicinity, effects associated with habitat loss and disturbance, as well as displacement effects are considered to be low for the proposed development. In terms of the barrier effects, total flight duration and flight activity within the study area was found to be low for all avian receptors identified. Tables 6.12 to 6.21 set out the predicted results of the CRM for nine species in total and the results are deemed to be low or negligible in all instances of the key avian receptors.

7.3.4.32. In terms of the decommissioning phase of the project, significant direct or indirect effects are not likely, with only potential for short term slight negative effects envisaged.

7.3.4.33. With regard to cumulative impacts consideration was given to other projects, including the existing peat extraction, forestry and other turbines within 20km of the site, which is stated to currently solely comprise one turbine 16.4km to the northeast of the site near Ballyjamesduff in County Cavan. No potentially significant cumulative effects, including barrier effects, are envisaged.

7.3.4.34. The project design features, as detailed in the EIAR, include appropriate timing for the removal of woody vegetation outside of the bird breeding season, noise and lighting control and the retention of an Ecological Clerk of Works. In terms of the operational phase, a Bird Monitoring Programme would be prepared and this is set out in Appendix 6-4 to the EIAR. It aims to monitor parameters associated with collision, displacement/barrier effects and habituation. Surveys will be scheduled to coincide with Years 1, 2, 3, 5, 10 & 15 of the life time of the wind farm. Theses features are based on guidelines by Scottish Natural Heritage (SNH) and should permission be granted for the development the Bird Monitoring Report summarising the findings of the survey would be submitted to the Planning Authority at the end of each monitoring year.

Conclusion

7.3.4.35. Overall it is considered that the value of the development site and surrounding area for flora and fauna, and specifically ornithological features, has been adequately surveyed and quantified and allows for an evaluation of impacts to be completed. Whilst bat and bird collisions cannot be definitively ruled out it has been appropriately assessed and the risk is low for the identified species. The EIAR

conclusions as to negligible and low impacts can be supported by a reasoned methodology. I am therefore satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of biodiversity. I am also satisfied that cumulative effects are not likely to arise and that approval should not be withheld on the grounds of such cumulative effects.

7.3.5. **Land, Soil, Water, Air and Climate**

Land

7.3.5.1. The EIAR outlines that the proposed turbine site has been in use for peat harvesting since at least the 1940s and that during the 1950s the peat was harvested for turf supply to Dublin. The borrow pit is in agricultural use, while the link road would traverse commercial peatlands and agricultural lands. It is stated that the existing usage of the turbine site for commercial peat harvesting and commercial forestry would continue in conjunction with the proposed wind farm development, and to compensate for the loss of the 9.5ha of trees to be felled, planting would take place off site. The existing drainage of bog, commercial peat extraction and handling, the creation of accesses from public roads and other associated works on lands including the main turbine site and the new link road site, which is to the west of Coole village, were the subject of Section 5 referral cases adjudicated on by the Board in April 2013 (ABP Refs. PL25.RL2969 & PL25.RL2975). It was decided in both referrals that the works involved are development and were exempted development until the 20th day of September 2012, after which time the work would be development and would not be exempted development.

7.3.5.2. Peat slide has significant potential to impact on land and soils. The applicant has not outlined when the existing peat operations would cease on site. Within the Peat Management Plan submitted (as Appendix 7-3 to the EIAR), the applicant outlines that movement monitoring posts would be installed to monitor possible peat movements and a range of contingency proposals are outlined to address excessive movement, which I note would be managed by an Interactions Management Group. Whilst peat slide is not anticipated, design elements to address the onset of peat slide are detailed, as well as a check barrage to prevent peat slide moving downstream of a watercourse.

7.3.5.3. Observers to the appeal state that the applicant has failed to recognise the potential of the peatlands for educational and research purposes and for a range of outdoor amenities. I would note that the development itself would not restrict same and in future could potentially facilitate same, including the extension of the Westmeath Way 'walking trail', as discussed further below under Section 7.4.5.

7.3.5.4. An esker is identified adjoining the site on the Development Plan map titled 'Natural Heritage Designations Map'. This long-winding ridge of sand and gravel is in the area immediate to the turbine site and is primarily marked by a line of scrub and trees and extends for a distance of c. 1.5km parallel to the north of the L-5755 local road. Its western end is marked by an historical riverside motte site and the eastern end by a quarried area to the south of the location for proposed turbine T08. The location of the proposed development would not directly interfere with this esker ridge.

Soil

7.3.5.5. The turbine site is undergoing active peat harvesting with three distinct basins overlain with peat. Elevation on site ranges from 60m to 73m OD and the site is partially bound by the River Inny to the west, while the River Glore cuts through the northern section of the main turbine site, flowing in a northwest direction to meet the River Inny. As per the published subsoil map for the area, the site is almost entirely on peat, with limestone gravels and till predominating the minerals in the surrounding subsoils. Based on the GSI bedrock map, the turbine site is underlain by Dinantian Upper Impure Limestone (DUIL). I note that in referring to roads construction, the IFI submission requests that sedimentary rock, such as shale, are not used, as they are prone to being crushed, releasing colloidal and non-colloidal solids to the drainage. IFI advise that limestone or sandstone would be a better material in this situation. The borrow pit to serve aggregate for the development, including the roads, is situated on limestone till over a bedrock of DUIL, as reconfirmed during geotechnical investigations. The western section of the new link road site would comprise a floating road on peat, while the eastern section would be on limestone till over agricultural grasslands and existing access tracks. Subsoils along the grid connection largely consist of a mix of cut peat, limestone till and chert till, while the bedrock for the grid connection is predominated by DUIL.

7.3.5.6. Geotechnical investigations were carried out and mapped and a peat stability assessment report was prepared and is attached to the EIAR in Appendix 7-1. A total of 250 peat depth probes were undertaken on the site (212 on the main turbine site - see figures 7.3.1 & 7.3.2) including the location for the substation, construction compound, link road and borrow pit. An additional 80 probes were completed along the grid connection route. Peat thickness on the turbine site typically ranges from 0 to 7.8 metres with an average depth of 3.0m. Depths of over 5 metres are largely located in the central areas of the site away from the local road (L-5755) and River Glore, with lower peat depths towards the fringe areas, indicative of a convex topography.

7.3.5.7. The peat depths recorded at the turbine locations varied from 0.6 to 6.6m with an average depth of 4.6m. The slope angle at each of the turbine locations ranges from 1.0 to 3.0 degrees, which reflects the relatively even but convex topography of the turbine site. With regard to the proposed link road, peat depths are on average 1.8m with a slope angle of 1.0 to 3.0 degrees. Peat was not encountered at the borrow pit site.

7.3.5.8. Approximately 200,000m^3 of aggregate for use on site would be required from the proposed borrow pit located c.1.4km to the southeast of the turbine site, primarily to create access tracks, including the new link road and hardstanding areas. Aggregate would also be imported from local quarries. With the exception of turbine T05, which is in the conifer plantation area, cranage and turbine assemblage areas are assumed to be constructed using a floating technique, with piled foundations for the turbines. The construction compound platform, substation platform and access roads would also be constructed using a floating technique with use of excavate and replace technique along access roads in transitional zones of shallow peat. Piled foundations would be likely to be required for the substation building. Minimal excavation is likely to be required on site, due to the proposed construction techniques, as a result of the deep nature of the peat on site and the underlying soft soil deposits encountered. A Peat Management Plan is provided in Appendix 7-3 and this includes proposals for the placement and spreading of peat and other soils alongside excavations. Excavated peat and subsoil during the installation of turbine T05 base/hardstand and stretches of site access roads is expected to amount to approximately 3,215m^3. Figure 7 of the Peat Management Plan, includes a typical

cross-section of the placed / stored material relative to turbine T05. Settlement ponds would be constructed to be volume neutral with all material to be used locally to form bunds and landscaping, while excavated peat along access roads would be used for landscaping on site. The Peat Management Plan includes details of how the placement and spreading of spoil would take place alongside excavations. Cabling between turbines and along the grid connection would involve a shallow trench and significant volumes of concrete would be required to form the turbines bases (c.550m^3 per turbine foundation with an additional c.50m^3 lean-mix concrete) and the substation compound base (c.310m^3).

7.3.5.9. The proposed roads and infrastructure locations would be the initiation point for any peatland failure and the peat conditions are mapped for these locations. In terms of stability, in situ shear vane testing results at 212 locations indicate shear strengths in the range of 13 to 63kPa with an average value of c. 33kPa, which are typical of well-drained peat. Low shear strengths (c.2.5kPa – which were estimated in the 'Derrybrien' failure) were not recorded on site. The identified shear strengths were used to calculate the Factor of Safety (FoS), which is the degree of stability of a peat slope resulting from the interaction between the weight of the soil/peat and the shear resistance of the peat to the downslope weight (strength of peat). Based on BS6031:2009: Code of Practice for Earthworks, a FoS minimum of 1.3 is taken as acceptable. Peat conditions are variable and FoS values well above 1.3 are required in this case to provide certainty.

7.3.5.10. Undrained analysis, which applies in the short term during construction, would be considered the most critical condition for the peat slopes. As summarised in Table 7.6 of the EIAR, the undrained analysis for two load conditions shows all locations, including the link road, having an acceptable FoS of greater than 1.3 indicating a low risk of peat failure.

7.3.5.11. A drained analysis, which is relevant to the long-term stability of the site, examines the effect of, in particular, rainfall on the existing stability of the natural peat slopes on the site. Two loading conditions were tested and the findings revealed that for loading condition 2, where there would be a surcharge of 10 kilopascals (kPa), all 212 locations tested have a FoS of greater than 1.3, within the range of 2.14 and in excess of 10, and therefore a low risk of peat instability. For loading condition 1, subject of no surcharge, only two locations have a FoS marginally less than 1.3 and

these are located in areas of deeper peat to the south of proposed turbine T12 (FoS 1.20 and c.5.6m peat depth) and at proposed turbine T09 (FoS 1.23 and c.5.5m peat depth). Peat instability at these locations is not envisaged to be an issue should the proposed control measures be put in place, including construction design features such as those outlined in the Geotechnical Risk Register forming Appendix B to the Geotechnical & Peat Stability Assessment Report (Appendix 7-1 to the EIAR). From the findings of the peat assessment, it is concluded that the site has an acceptable margin of safety and it is considered to be at low risk of peat failure. Best practices in this regard during the construction period are detailed in section 7.5.2.4 of the EIAR.

7.3.5.12. During scoping discussions, the Planning Authority advised the applicant that cable for the grid connection would need to be laid in three field areas, adjacent to sections of road on bog ramparts, instead of using the road verge. A geotechnical report was prepared to indicate stability analysis along the off-road sections with probing carried out at 200m intervals (see Appendix 3-6 to the EIAR). The assessment considered the issue of construction equipment operating along the road alongside the cable-trenching operations and the likelihood of peat instability on drained soils. In this scenario a FoS minimum of 1 was considered acceptable and the results calculated revealed a minimum of 1.24 FoS is achievable, subject to detailed construction techniques that form part of the proposed development. While the EIAR addresses the cable route for the grid connection in full, the applicant clarifies that the preferred scenario for the laying of the grid connection, subject of further consent processes, would be via cabling along the public road corridor and not via off-road sections.

7.3.5.13. Potential construction phase impacts are most likely to arise from excavation works, contamination, erosion, peat instability and health effects. Section 7.5 of the EIAR lists various project design elements to address these potential impacts, including references to the various construction practices, such as work timing, pollution prevention, sustainable use of excavated materials on site and a host of features outlined within the CEMP, included as Appendix 3-4 to the EIAR.

7.3.5.14. The applicant concludes that due to the localised nature of the proposed construction earthworks, which would be kept within the proposed development site boundary, there is no potential for cumulative effects. Potential for cumulative effects with the ongoing peat operations would have potential to arise, but in this

regard I note the detailed construction methods to be employed as part of the project and the peat management and monitoring features.

7.3.5.15. The EIAR concludes that no significant cumulative impacts on soil and geology environment are envisaged during the operational stage, taking into consideration minor granular amounts required to maintain access tracks. Again I would not that the potential cumulative impact of the ongoing peat extraction and the potential impacts of such operations on the stability for roads, turbines and associated infrastructure, which I am satisfied have been addressed as part of the project design features, including the setting up of an Interactions Management Group and the proposals within the Peat Stability Assessment, which include details of peat stability monitoring.

7.3.5.16. I am satisfied, on the basis of the information provided in terms of the detailed site investigations, assessment of peat stability, the excavations required and expected volumes of material, in addition to details on foundation design, including floating turbine bases on piled foundations (with the exception of T05), that the conclusions reached are robust and that the proposed development would not have adverse impact on the soils and geology of the area. I note that detailed methodologies have been provided for all aspects of construction, including a geotechnical risk register as set out in Appendix 7-2 of the EIAR, which includes contingency features for both the construction and operational phases should an identified hazard arise. Furthermore, the Peat Management Plan includes contingency design features to address excessive movement and peat slide, particularly during the construction and dewatering stage which is when this issue would be most critical.

Surface Water

7.3.5.17. The proposed site drainage is illustrated in Figures 8.4, 8.5 & 8.6 of the EIAR. The proposed development has significant potential to impact on hydrology and water quality given the nature of the proposed works and the receiving environment.

7.3.5.18. The surface of the main turbine site, which contains three distinct basins, is drained by a network of parallel-running peat drains that are typically spaced every 15m. Each of the basins have their own separate drainage systems that largely follow the same drainage format. Each basin has its own outfall points, each of which are preceded by a series of settlement ponds. Drains slope towards the edge of their

respective basins towards a larger periphery headland drain. Four surface water outflows from the northern section of bog are located along the northern side draining into a main drain that flows directly into the River Inny, while a single outflow serving this basin is located on the southern side draining into the River Glore. The central basin contains four outfalls, one of which drains the eastern side of the basin to the River Glore and the remaining three outfalls drain the western side to the River Inny. The western side of the southern basin drains towards two separate drains each with an outfall point that drain to the River Inny. The eastern side drains towards a tributary of the River Glore to the east of the site. An outfall discharge from the small lake, Lough Bane, 200m to the north of the site, to the northern drain (D1) serving the northern basin was not identified and the applicant states that this area drains to the River Inny. The dystrophic lake to the northwestern corner of the site is an isolated surface water feature and surface water samples indicates that the water in Lough Bane and the dystrophic lake to the west of this, is solely rainwater fed.

7.3.5.19. At a local scale the site is located in the Inny River surface water catchment and is within Hydrometric Area 26 of the Shannon International River Basin District. The Inny River flows in a southerly direction along the western boundary of the site and discharges to Lough Derravaragh, located approximately 7.5km to the south. The western section of the site, including the new link road, drains to the Inny River via a number of settlement ponds and outfall channels, while the eastern section and the borrow pit drain towards the River Glore a tributary of the River Inny. The grid connection route drains to the Inny, Gaine and Brosna river catchments.

7.3.5.20. The most recent EPA surface water quality data available (2004 to present) reveals a quality rating (Q-rating) for the Inny River 4km upstream of the site at Finnea Bridge, is 'Poor'. Downstream of Camagh Bridge, close to the R396 and L-5755 roads junction, a Q-rating status of 'Moderate' applies, while at Shrubbywood, c.5km to the south of the site, a 'Good' Q-rating status applies (see Table 8.3 of the EIAR) for this watercourse. Q-ratings are only available upstream of the turbine site for the River Glore, where the closest monitoring point at Rockbrook, c.4km to the east of the site reported a 'Moderate' Q-rating status.

7.3.5.21. Surface water samples from four locations, including one at Float Bridge on the R395 regional road, measuring unstable parameters, electrical conductivity,

dissolved hydrogen and temperature were undertaken in 2016 and 2017. Summary water quality data from the surface water sample locations is shown in Table 8.5 of the EIAR. As would be expected, the average ammonia level typically exceeded the Freshwater Fish Directive (2006/44/EC) limit for both Salmonid waters and Cyprinid (carp) waters. The presence of elevated ammonia is stated by the applicant to be due to the natural decomposition of peat within the bog. Nitrate and Nitrite results were typical for surface water in a peatland environment and total suspended solids were in a range below that required under the Freshwater Fish Directive (2006/44/EC) for both Salmonid and Cyprinid waters. Biochemical oxygen demand (BOD) or the amount of dissolved oxygen needed by aerobic biological organisms was noted to exceed thresholds for salmonoid waters.

7.3.5.22. The proposed development is estimated to result in an approximate 0.107% gross increase in the average daily/monthly volume of runoff from the site, in comparison to the baseline pre-development site runoff conditions. The extensive network of peat management and forestry drains already existing at the site are to be integrated and enhanced as required within the wind farm drainage system with the installation of interceptor and collector drains, silt traps, settlement ponds and buffered outfalls, before discharge from the site. Concerns have been raised by observers regarding the absence of comprehensive mapping for the drainage of the site, effective means for controlling discharges to local watercourses and that there is no silt trap serving the existing Drain D1, which flows into the River Inny. I note that a detailed set of drainage drawings have been prepared for the project. These drawings illustrate the proposed drainage regime, including the proposed controls and their locations relative to existing drainage. For example, Drawing Nos. D101 & D102 illustrate the chain of attenuation ponds, settlement ponds and other controls, such as silt fences, that are proposed, as well as the location of two existing settlement ponds serving the headland drains.

7.3.5.23. Buffer zones of 50m to the main watercourses and 10m to the main drains are proposed. Two clear-span bridges are proposed and the applicant has outlined that no in-stream excavation works are proposed and kerbing would be provided to prevent silt discharge. IFI require a works method statement for the proposed water crossings, including the 3m and 5m clear-span bridges, and I note that, as per the recommendations of the Peat Stability Assessment, the applicant is to provide same.

Watercourse crossing work methodologies are also appended to the CEMP (Appendix 3-4 to the EIAR).

7.3.5.24. In effect the proposed drainage design elements would create additional attenuation to what is already on site, with the net effect being a reduction in the overall runoff rate from the site. Additional design elements are outlined for the borrow pit and new link road. In addition to the permanent design elements, further temporary elements in accordance with established practice, including a range of source and in-line controls and treatment systems that would be invoked during the construction phase and during tree felling.

7.3.5.25. I note that Figure C to the Flood Risk Assessment shows a river/stream extending approximately 150m from an area just to the south of Lough Bane and connecting into Drain D1. This 150m stretch of river/stream is not illustrated in Figure 8.4 of the EIAR illustrating the existing and proposed drainage for the proposed development and was not identifiable when I visited this area. Given the absence of surface water connectivity between the appeal site and Lough Bane, the existing drainage context, including location of Lough Bane up-gradient of Drain D1, the evidence that Lough Bane is solely rainwater fed with little or no input from mineral groundwater flows and the construction methods proposed to eliminate dewatering, I am satisfied that the proposals to improve the general drainage regime would not result in significant change to conditions at Lough Bane, including its associated ecological features.

7.3.5.26. The construction works for the proposed wind farm, including floating roads and piled foundations for turbines, this would minimise the potential impacts of the proposed development on the quality of surface water. Development design features avoid the need to enter watercourses for the construction of bridges and a CEMP has been prepared for the project to ensure best practice construction following method statements, including consultation with the IFI. Direct discharge to natural watercourses is not envisaged. Implementation of a programme of water quality monitoring to be agreed with the Planning Authority is proposed as part of the project.

<u>Flooding</u>

7.3.5.27. No recurring flood incidents are identifiable from the OPW indicative river and coastal flood maps for the site. Several recurring flooding incidences are recorded

for the area, including an event c.4.5km to the northwest of the site on the R396 regional road near Abbeylara and a surface water flood event dating from 2004 at Coole village, c.2.4km to the south of the turbine site. An area liable to flooding is identified from historical mapping on the eastern bank of the River Inny along the northwestern boundary of the main turbine site. The Preliminary Flood Risk Assessment (PFRA) mapping (www.cfram.ie) shows the extent of the indicative 1 in 100-year flood zone, which relates to fluvial and pluvial flood events. In total 28% of the proposed development site is located within the 1 in 100-year flood zone (Flood Zone A) according to these maps. This matter was flagged as an issue by the Area Engineer in Westmeath County Council. Proposed turbine locations T01, T05, T07 and T08 and part of the link road site are within the indicative 1 in 100-year fluvial flood zone. These fluvial flood areas are closest to the River Inny.

7.3.5.28. The applicant has carried out a Site Specific Flood Risk Assessment (SSFRA) and undertaken a justification test for the development. Based on more detailed local knowledge, including levels relative to drainage, the applicant is of the opinion that turbines T01, T05, T07 and T08 are in much lower flood risk locations (Flood Zone C). Also shown on the PFRA mapping is the indicative extent of pluvial flooding (flooding from rainfall ponding). Small areas of pluvial flooding appear to occur throughout the site, based on PFRA mapping, but these areas do not affect the infrastructural locations. Following review of the SSFRA the Environment Section agree with the applicant's conclusions, including the location of the entire site in an area of low probability of flooding (Flood Zone C).

7.3.5.29. Where complete, the Catchment Flood Risk Assessment and Management Study (CFRAMS) OPW Flood Risk Assessment Maps are now the primary reference for flood risk planning in Ireland, superseding the PFRAM maps. CFRAM mapping was not available to the applicant in preparing the SSFRA (June 2017), but is now available on the floodinfo.ie website. Based on this, the proposed development site is not identified in Flood Zone A or B on the CFRAM fluvial flood extent maps. Therefore, according to CFRAMs the proposed development is located in Zone C, where the probability of flooding is low. This suggests that the site is suitable for the proposed development in terms of flood risk.

7.3.5.30. The applicant states that the proposed substation would be raised to avoid shallow surface ponding and drainage in this area and drainage would be improved to further

address this. No part of the proposed infrastructure locations would flood, and all access roads and turbine bases are designed to avoid surface ponding. Overall, during the wind farm phase of development for the site, surface water is more likely to be held on site due to new proposed additional attenuation elements, and this would have a positive impact in reducing potential for downstream flooding.

Groundwater

7.3.5.31. The DUIL that underlie the proposed development site are classified by the Geological Society of Ireland (GSI) as a 'Locally-Important Aquifer' (Bedrock which is Generally Moderately Productive in local zones - Ll). Hydrogeological data at a local level is not available for the River Inny Groundwater Body, which underlies the site. The EIAR outlines that permeability in geological zones typical of this, would decrease rapidly with depth, with most groundwater flowing in the upper shallow weathered zone.

7.3.5.32. The site is within the Inny River Waterbody (Inny_050) within the Water Framework Directive (WFD) Upper Shannon Catchment and the status of the waters for the 2010-15 period was considered moderate with a risk result of 'at risk'.

7.3.5.33. The site is not located in a groundwater protection zone. A search of private well locations was undertaken using the GSI well database, with no wells mapped in the area of the proposed development site (accuracy of 1 – 50m). In terms of providing an adequate assessment and to overcome the issues regarding the accuracy of the GSI-mapped wells, it was assumed that every private dwelling in the area has a well supply, although this is unlikely to be the case, given that there are public mains in the vicinity. Figure 8.11 of the EIAR identifies the locations of private dwellings relative to the study area and the potential to impact on groundwater supplies is not considered feasible, as there are no dwellings down gradient of the proposed development. The risk to groundwater supplies from contaminants is negligible, given the relatively low bulk permeability of mineral soils beneath the peat.

7.3.5.34. The primary risk to groundwater would be during the construction phase arising from cementitious materials, hydrocarbons spillage and leakages. Potential to impact on groundwater levels and quality would be reduced by piling all but one of turbine foundations, thus no significant dewatering would occur. Cut-off drains would discharge to soakaways in the borrow pit area and there would be a settlement pond

in the lower northwest corner of the site. Insignificant volumes of groundwater seepage are anticipated.

7.3.5.35. Observations to the appeal assert that the grid connection works have the potential to impact on groundwater locally and to effect groundwater-dependent designated sites. Due to the shallow nature of grid connection works, impacts on groundwater flows and levels are not anticipated. No instream works are proposed at any of the 16 water crossings along the grid connection route. The application of best practice measures and management of potential contamination sources, as proposed, inter alia, by the use of buffers, features to be implemented for plant and machinery, control of materials and cleaning proposals, would address the potential risk to groundwater during the construction phase of the grid connection. Likely effects on designated sites are considered further below in Section 7.5.

7.3.5.36. During the construction phase portable wash facilities with integrated waste holding tanks would be used at the site compound and maintained by a contractor. No water would be sourced or discharged on site during this phase. During the operational phase, wastewater from the toilet facilities at the substation would be held in a sealed tank on-site, which would be routinely emptied by a contractor and would include volume sensors.

7.3.5.37. No cumulative impacts with other projects are anticipated, as set out in section 8.5.6 of the EIAR. A number of observers express concern about the cumulative impact of the proposed development with the commercial peat operations in terms of surface and groundwater quality and I have considered this in my assessment above. I consider that the EIAR conclusions regarding surface water and groundwater are reasonable and that the most significant potential impacts would arise during the construction phase. Potential impacts arising from dewatering during construction would not be significant, given the proposed use of piled foundations, and for the turbine foundation that would not be piled, the impact would be localised and, accordingly, would not impact on any private or public water supplies. I am satisfied, overall, that the development would not have a significant adverse impact on water quality subject to the proper implementation of the proposed project design features, including drainage proposals. These measures are comprehensive and are described as pre-emptive and proactive, with ongoing inspection, water-quality monitoring and maintenance.

Air – Dust Emissions

7.3.5.38. During construction of the proposed development the principle impact on air quality would most likely arise from a combination of fugitive dust emissions emanating from the on-site construction activity, with particular reference to excavation works, from the movement of traffic and materials both within the site and along designated haul routes, and from construction traffic and machinery exhaust fumes. With regard to exhaust emissions I am satisfied that any adverse impact on air quality as a result of same would be short-term and would not be of significance.

7.3.5.39. Dust suppression features are proposed as part of the project to address the risk of release of dust particles during construction works. Given the separation distance to nearby housing, with 12 houses within 1km of the site, the nearest being 702m to the west, it would seem unlikely that residential amenity would be affected by dust emissions arising from the construction of the proposed development. There may be a localised but insignificant effect on flora and fauna in the immediate vicinity of the site / works. Section 9.1.5.2.2 of the EIAR includes a series of design elements that would be implemented on site in order to address the potential release of dust during the construction phase. These elements include the carrying out of a dust-monitoring programme and a host of dust suppression systems, including those outlined within the CEMP appended to the EIAR. Proposals do not include for concrete batching on the borrow pit site. Concrete chute clean-out areas would be constructed proximate to the concrete pour locations, which would include the turbine locations. Complete washing out of concrete trucks would not be permitted on site and concrete wash water would be extracted and disposed of by a waste contractor to a licensed facility. The CEMP outlines that, where deemed necessary, wheel washes would be located at the main entrance to the site off the R396 regional road and at the entrance to the site off the L-5755 local road, southwest of proposed turbine T09. During site visits I noted that the stretch of local road at the turbine site was in a poor state and featured extensive covering with soil/peat and other materials.

7.3.5.40. With specific regard to the proposed borrow pit and any fugitive dust emissions likely to arise from the operation of same, it is of relevance to note that the ‘Quarry and Ancillary Activities, Guidelines for Planning Authorities’ published by the Department of the Environment, Heritage and Local Government in 2004 make reference to

residents living within 500m of a quarry as having the potential to be affected by dust with continual or severe concerns about dust most likely to be experienced within c.100m of the dust source. This extraction area would be located between 100m and 500m of five occupied residential buildings and I note that it is stated that the construction phase would last 12 to 18 months. It is also stated that only borrow-pit associated construction traffic would utilise the section of local road (L-5755) between the borrow pit and the turbine site. Features to monitor and reduce dust emissions arising from the borrow pit operations are outlined in the EIAR, including maintaining of natural screening, transporting of materials under a tarpaulin or similar cover, cleaning of haul routes and sporadic wetting of loose stone. Junction upgrade works would have short term moderate negative impacts arising from dust emissions and I note that various practises, including road cleaning, are to be implemented as part of the construction phase of the project.

7.3.5.41. Having reviewed the foregoing, given the inherent temporary duration and impact of the proposed construction works, coupled with design elements to ensure best practice site management and dust minimisation, I am satisfied that the construction of the proposed development would not result in any significant impact on air quality in the surrounding area. Similarly, given the nature of the development proposed, I would not anticipate any significant detrimental impact on air quality during the operational phase.

Climate

7.3.5.42. Emissions associated with vehicular movements and plant during the construction period would arise, but these would be temporary in duration. Established practices in terms of the construction phase are to be followed. During the operation phase limited emissions are anticipated from the proposed substation and the proposed development has significant potential to enable Ireland meet renewable energy targets, as outlined in section 5.2 of this report and to offset the necessity for burning fossil fuels as an energy source. The grounds of appeal note that the proposed development could potentially provide power for 36,092 households annually.

7.3.5.43. A number of observers assert that the restoration of the appeal site peatlands would have other benefits to the area, including carbon sequestering. This matter is addressed in section 9.2.3 of the EIAR. Peatland habitats are significant stores of

organic carbon, although peatlands under active management are subject to drying out and a reduced potential for carbon dioxide ($C0_2$) losses when developed on. There would be direct effects and loss of peat in the area of the development footprint, with indirect effects where it is necessary to install drainage in certain areas to facilitate construction. The works can either directly or indirectly allow the peat to dry out, which permits the full decomposition of the stored organic material with the associated release of the stored carbon as CO_2. As the peatland areas at the proposed turbine site and new link road site are already dried out, the potential CO_2 losses are overestimated for the purposes of the carbon balance calculations. Table 9.8 and section 9.2.3.3.3 of the EIAR present the estimated CO_2 losses from the development and lifetime savings. This accounts for the loss of tree felling, soil organic matter, turbine life (manufacture, construction and decommission) and reduced carbon fixing. The loss of CO_2 is calculated to be a fraction (2.77%) of the total amount of the CO_2 emissions that would be offset by the proposal and would be offset within ten months of operation. The proposed development would have a significant positive impact in terms of renewable energy production and reductions in ghg emissions.

Conclusion

7.3.5.44. I have considered all of the written submissions made in relation to land, soil, water, air and climate, in addition to those specifically identified in this section of the report. I am satisfied that the impacts identified would be avoided, managed and/or mitigated by the project design features, which form part of the proposed development, the proposed mitigation measures and through suitable conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of land, soil, water, air and climate. I am also satisfied that cumulative effects are not likely to arise and that approval should not be withheld on the grounds of such cumulative effects.

7.3.6. **Material Assets**

7.3.6.1. In additional to landscape and cultural heritage, the additional issues of traffic, tourism, aviation, telecommunications and agronomy, require assessment under this heading. I propose to address each in turn. Peatlands as a material land use has

been addressed previously within Section 7.4.4 of this report under the heading 'Land'.

Landscape

7.3.6.2. The proposed development has potential to have a considerable visual effect on the receiving environment. In particular, the turbines, because of their height, number, and that fact that they have moving parts, have potential to have a significant visual effect. The Development Plan refers to the landscape of North Westmeath as being of exceptional environmental character, containing a relatively unspoilt landscape of rolling hills and beautiful lakes, bogs and forests. The main turbine site sits between two regional roads (R396 & R394) and is bisected by a local road (L-5755) and mostly comprises commercial peat operations with minimal variation in land levels with the exception of drainage channels, stockpiled peat embankments and commercial forestry plantations. The L-5755 local road adjoining the turbine site is in poor condition and is primarily used by vehicles accessing the peatlands and agricultural lands. The only other existing wind energy developments within 20km of the main site, is a single turbine 16km to the northeast, at Ballyjamesduff in County Cavan. Several dispersed houses and farmsteads are located in the immediate area, primarily positioned along the local and regional road network. Undulating and hilly ground forming a pNHA (Ref. 000681) is located to the south and east of the main site, including the Rock of Curry and the Hill of Mael (OD 241m), approximately 2.5km to 3.5km from the nearest proposed turbines.

7.3.6.3. The proposed turbines would be relatively evenly distributed throughout flat peatlands landscape, which includes a partial perimeter of commercial forestry plantations, and the turbines would be visible from surrounding landscapes including 'flat and hilly farmlands'. A host of ancillary development elements are proposed including a substation compound and a temporary construction compound over 130m and 40m respectively from the R396 regional road. The borrow pit would be set back over 120m from the closest road (L-5755) on rising ground forming part of 'hilly and flat farmland', approximately 1.1km from the nearest of the proposed turbines (T13). Felling of commercial forestry is proposed on the main site and the removal of hedgerows is also proposed on the haul route and at the borrow pit.

7.3.6.4. In recommending refusal of planning permission for the proposed development, the Planning Authority did not specifically refer to the visual impact of the development within their reason for refusal. In assessing the proposals, the Planning Authority referred to the photomontages submitted by the applicant and the conclusion of the EIAR that the overall effect of the development is considered to be slight to moderate in visual terms. The Wind Energy Development map accompanying the Development Plan was informed by the landscape character assessment for the County. The appeal site, and almost the entire county of Westmeath, is identified as being within a 'low capacity' area for wind energy development. The RPGs for the Midlands recognise the potential for industrial peatlands and associated cutaway to accommodate large-scale energy production including wind farms, albeit while achieving a balance between facilitating development in a vulnerable landscape and protecting the environmental and heritage value of these areas.

7.3.6.5. The applicant's grounds of appeal assert that the proposed development would have an impact ranging from 'imperceptible' to 'moderate' and that the visual impact would, therefore, not be 'significant' or 'profound'. With regards to the height of the proposed turbines, the grounds of appeal assert that this has been accounted for within the assessments accompanying the planning application and that the layout has been tested to optimise energy yield. It is asserted by the observers that the appeal site is within a traditional farming and relatively flat landscape area, which is not suitable for wind turbines.

7.3.6.6. Landscape policies and objectives are set out under section 6 of the Development Plan, which identifies that the proposed development would be located within the 'Inny River Lowlands' Landscape Character Area 2, which features 'extensive areas of cutaway bog, industrial peat production and conifer plantations'. The site is not designated as being of high amenity in the Development Plan. The closest areas within Westmeath of high visual amenity are located at Lough Derravaragh and Lough Lene, 3.8km and 8.9km respectively from the appeal site. Policy P-VP1 aims 'to protect views that contribute to the character of the landscape and resist development that would detract from the preservation of such views'. The Development Plan identifies a 'view to be preserved or improved' (View 49) comprising a 'panoramic view of the countryside from the top of the hill on the R395 regional road at Coole village. Viewpoint 50 from the R394 regional road between

Castlepollard and Finnea approximately 2km to the southeast of the appeal site comprises a view to be protected towards the Hill of Mael and Mullaghmeen hill (pNHA) to the east. Another viewpoint (View 51) is identified 4.2km to the northeast, offering sporadic views (on both sides of the roadway) towards the Hill of Mael to the west and Mullaghmeen to the north-east from local road L-1759, which runs through the intervening valley. By reason of the commercial peat harvesting on the appeal site and much of the surrounding lands, the natural qualities of the landscape have been substantially modified but this, in itself, also gives the landscape its distinctiveness.

7.3.6.7. The issue of landscape and visual impact is addressed within Chapter 11 of the submitted EIAR. The WEDG provide guidance for various landscape character types in terms of the location, spatial extent, spacing, layout, height and cumulative effect of wind energy projects in these landscape types. The landscape for the main turbine site is described in the EIAR as comprising cutover bog, with some areas of agricultural land and coniferous forestry, while the wider landscape comprises pockets of flat peatland, flat farmland and lakes, interspersed with areas of hilly and flat farmland and woodland. The applicant's landscape and visual assessment and justification for the scale of the proposed development is largely influenced by the landscape characteristics of the turbine site comprising a 'flat peatland' landscape, that is, a broad scale land use pattern consisting of cutaway peatland, scrubby peatland fringes and coniferous forest plantations, combined with large farmed fields defined by mature tree lines and tree-lined hedgerows. It is on this basis that the applicant considers the proposed development not to be over-scaled in terms of the spatial extent or turbine height for this particular setting, and to be consistent with the WEDG.

7.3.6.8. The EIAR gives due cognisance to the landscape character of the adjoining counties of Longford, Cavan and Westmeath. The northwestern boundary of the main turbine site adjoins the 'Unit 5 Inny Basin' landscape character area, identified within the Longford County Development Plan 2015-2021 as a landscape mainly comprising flat topography, with landcover dominated by peatlands, including mixed woodlands interspersed with pastures of varying quality. This adjoining county landscape character is described as being of low sensitivity, but with medium to high sensitivity to development in the vicinity of protected woodlands and riverbanks. Policy LCA 3

of the Longford County Development Plan aims to preserve views and prospects, including full views from points F.S. 14, 15 and 16, which would be 4km to 10km to the northwest of the turbine site. In this regard, I note that Longford County Council, in its submission on the application, acknowledged that four of the 22 no. photomontages submitted were taken from Longford and that care should be taken to ensure proper perspectives are attained. The boundary with County Cavan is approximately 4km from the nearest proposed turbine and the turbines would potentially be visible from the south lake catchment area of Cavan. The nearest proposed turbine would be approximately 6km to the east of the county boundary with Meath. Views of the turbines would also be possible from Slieve na Calliagh (OD 276m) 15km to the east in County Meath, although these views would be limited based on weather and light conditions and screening by the Hill of Mael. In view of the site's location at a remove from the county boundaries with Cavan and Meath, the potential visual impact of the proposal from Cavan and Meath would not be significant.

7.3.6.9. The approach within the WEDG for the siting and design of wind turbines on 'flat peatlands' is one of a large-scale response in terms of spatial extent and turbine height. The proposed turbines at 175m tip height are at the taller scale of turbines referred to under the WEDG, where a tip-height over 100m is considered tall. For 'flat peatland' landscapes tall turbines are typically preferred under the WEDG and the applicant cites precedent for turbines of similar heights and context at Oweninny in County Mayo – (ABP Ref. PA0029 - 176m tip height), Yellow River in County Offaly (ABP Ref. PA0032 – 166m tip height), Meenwaun in County Offaly (ABP Ref. PL19.244903 – 169m tip height) and Cloncreen in County Offaly (ABP Ref. PA0047 – 170m tip height). The scale of peatland landscape character areas surrounded by farmlands associated with the County Offaly wind farms would have some similarities with the appeal site area, while the Mayo site is not comparable, given its expansive blanket bog setting.

7.3.6.10. The WEDG advise that regular spacing for turbines is generally preferred on 'flat peatland' landscapes, especially in areas of mechanically harvested peat ridges, and that a linear or staggered linear layout would also be appropriate in close proximity to a river. The proposed layout entailing a grid pattern, is in accordance with the recommendations of the WEDG. Therefore, from a planning policy perspective with

specific regard to local policy provisions, it would be reasonable to conclude that the landscape on which the proposed wind farm is to be located would have capacity, low or otherwise, and would be one of the more suitable landscape types within the county to accommodate a large-scale wind farm development, subject to further consideration of the visual impacts from specific vantage points, as discussed below.

Visual Impact

7.3.6.11. The Zone of Theoretical Visibility (ZTV) shown in Figures 11.4 (hub height) and 11.5 (half blade) of the EIAR, illustrates the overall potential for all or parts of the development to be visible from the surrounding countryside within a radius of 20km. This would represent what could be considered to be a worst-case scenario, as the ZTV does not take into account the effects of screening by natural vegetation and the existence of structures. I consider that it demonstrates the extent of the most relevant geographical areas likely to be impacted and includes the most critical areas of influence that are of relevance to the assessment of the proposal. Whilst it is possible that the development may be visible from further afield, distance would play a significant role in abating the impact.

7.3.6.12. The EIAR submitted provides a visual assessment of the proposed development with 21 photomontages and an additional photomontage to assist the cultural heritage impacts assessment. These viewpoints portray the predicted views from the local community, the nearest settlements, the main transport routes, scenic routes and the wider rural environment, with a number of photomontages taken from vantage points where the nearest existing, permitted and proposed wind farms are in view. I have reviewed each of the photomontages in the field and, as a guide to visualising the subject proposals, I have also visited and observed the appearance of the Mountlucas windfarm in County Offaly and the nearest turbine at Ballyjamesduff in County Cavan. Furthermore, I note the legibility of turbines in different seasons, weather and lighting conditions, which has a material impact on visibility. Whilst I would accept that in some of the photomontages landscape features (including vegetation and buildings) would obscure views of some of the turbines, these features are components of the existing environment and would, in practice, act in the same way.

7.3.6.13. The preparation of photomontages involves a degree of selectivity and artificiality and are not regarded as definitive, but provide for a useful tool to assist in the assessment. Whilst the accuracy of the photomontages was queried by a number of observers, I consider that they were prepared and presented in a reasonable and competent manner. I would submit that the photomontages indicate that the impact and the extent of visual dominance of the wind turbines depends on the location from where the wind farm is viewed and the extent of local screening or vegetation. The impact of the layout on the visual appearance of the wind farm is also dependent on the angle of view as the grid layout is not apparent in some of the photomontages due to the angle of view. I would also accept that as the turbines would feature moving elements, the photomontages only offer a snapshot of the predicted appearance of the development.

7.3.6.14. Due to the generally flat topography of the area in which the wind farm is to be situated, it is apparent that the turbines would be visible from a wide range of locations. For comprehensiveness viewpoints could also have been taken from the railway line and selected lakewaters within the ZTV. I also submit that there would also be a material visual impact from the immediate surrounding area, which are not picked up in the photomontages. These locations include the views north and south from the L-5755 local road running through the turbine site and at Newcastle c.0.8km east of turbine T13, views southeast from Cooldoney townland located c1.5km to the northwest on the R396 regional road, views northwest in Turbotstown townland against the backdrop of Turbotstown House, located c.3km to the southeast on the R395 regional road and views from the closest residential buildings, for example, Newcastle House located c.822m from proposed turbine T05. The potential future scenario involving clearing of roadside trees and scrub along the R396 to facilitate access to the turbine site has not been included in photomontages. Whilst photomontages taken from these vantage points would have been beneficial, I have visited and considered the impact of the proposed development from each of these locations, therefore, their absence is not detrimental to the assessment. I propose to address the proposal in the context of Newcastle House, in further detail under section 7.4.5.33 addressing cultural heritage.

7.3.6.15. Travelling southeast and northwest along both the R394 and R396 regional roads the wind farm would become visually significant. From closer in and in particular

from the viewpoints on the local road network that surrounds the site, the wind farm would form a dominant element in the landscape. By reason of the open nature of the landscape I submit that the magnitude of change would range from medium to high owing to the height, proximity and spatial extent of the turbines, as they appear from neighbouring roadside locations and given the intermittent sections of roadside screening. Of particular note in this regard are the closest photomontage viewpoints to the site, Nos. 2, 7, and 19, which are also in the immediate vicinity of numerous residential properties. As indicated from these photomontages, the wind farm would have a significant impact on the landscape when viewed from the immediately surrounding road network where no screening occurs and, by extension, on views from residential properties located in the vicinity. Where screening occurs the impact is considered moderate to slight. From many viewpoints and within the turbine site itself, the proposed development would form a significant dominant element in the landscape and the views available. The view into the turbine site from viewpoint 19 would be screened by virtue of extensive roadside trees, scrub and vegetation, which provides a visual barrier between the commercial peatlands and the R396 regional road. To address the visual significance of the development from the R396 roadside, the roadside buffer of screen planting should be maintained as a condition, should permission be granted for the development.

7.3.6.16. Of the 21 viewshed reference points (VRPs) addressed in the photomontages, the applicant considers that from four locations the proposed development would result in a 'moderate' visual impact, with a further 11 experiencing a 'slight' visual impact. The significance of the impact arises from both the visual sensitivity of the receptors and the magnitude of the impact. Viewpoints 1 to 8, 16, 17, 19, 20 and 21 are all within 5km of the turbine site, which I consider to be the local environment. According to the applicant, of the four VRPs experiencing a 'moderate' visual impact arising from the development, only viewpoint 7 could be considered to be within close-range of the development. Viewpoint 7 is taken from Derrycrave, c.1.3km to the northeast of the turbine site, and offers a panoramic view of the peatland basins and the site on a similar ground level to the southwest. Given the openness of the area at Derrycrave, including a lack of roadside screening and road raised over peat basins, I would consider the sensitivity or significance of the effect of the proposed development from a visual perspective would more appropriately be considered to

be ‘significant’, as opposed to ‘moderate’. The visual impact would dissipate over distance and I am satisfied that the magnitude of change would result in a ‘moderate’ impact, as asserted by the applicant, from viewpoints 3, 5 and 21, all of which are approximately 5km from the proposed turbines.

7.3.6.17. Viewpoints 4, 6, 8, 16, 17 and 20 are considered by the applicant to only experience imperceptible to slight visual impacts arising from the proposed development. These viewpoints are within the local environment to the turbine site, where only intermittent and partial views of the proposed turbines from the neighbouring roads would be available, largely due to the screening offered by topography, field boundaries and buildings. I am satisfied that the magnitude of change, arising from the proposed development would result in a ‘slight’ impact from these viewpoints.

7.3.6.18. Viewpoint 1 is closest to the location of listed view no.49, identified in the Development Plan to be preserved or improved, comprising a panoramic view (both north and south) of the countryside from the top of the hill on the R395 regional road at Coole village. Having visited this location, I am satisfied that panoramic views of the countryside at this location are primarily available in a south and west direction. With the turbine site, situated to the north of the protected view and screened by the natural topography, vegetation and buildings, the proposed turbines would not be highly visible features and would have negligible impact on listed view no.49 and the visual amenities of this area. Photomontage viewpoint 8 is in the closest location to view no.51 to be preserved or improved, as identified in the Development Plan. Vegetation and topography would largely result in an imperceptible impact of the development on the views from this location at local road (L-1759). Development Plan view no.50 to be preserved or improved is from the R394, approximately 2km to the southeast of the nearest turbine, and relates to preservation of views looking away from the site towards the Hill of Mael and Mullaghmeen hill, therefore no impact would arise.

7.3.6.19. Progressing out from the local environment into the wider environment, panoramic views of the turbine development area would be available from viewpoints 10, 13, 15 and 18. The significance of the impact would reduce with distance primarily due to the perceived magnitude of change. Long distance panoramic views from higher grounds in the wider environment are also taken and the potential impact is illustrated from these viewpoints 9, 11, 12 and 14. In addition, a number of

viewpoints are identified within Figure 11.10 of the EIAR, referring to locations within the development that would be within the ZTV, but where no visibility of the development would occur due to vegetation. I have reviewed all such potential viewpoints and consider the assertions to be accurate.

7.3.6.20. The EIAR also considers the cumulative visual impact of the proposed development both during the construction phase, with the felling of 9.5ha of commercial forestry, and the operation phase. Tree felling is proposed to facilitate turbine T05, but the applicant asserts that this tree felling would occur in the short to medium term, as a commercial decision. Other permitted, proposed or operational wind farms within the 25km study area are considered. Existing and permitted windfarms at Crowinstown, a three turbine permitted wind farm near Delvin, County Westmeath, and the County Cavan wind farms Gartnaneane (ten turbines) north of Bailieborough, Bindoo and Mountain Lodge, south of Cootehill, Targhart and Greaghcrottagh, northeast of Bailieborough and Tievenanass wind farm, south of Cootehill, are also considered and included in photomontages. It is not clear whether or not the existing Ratrussan wind farm, south of Cootehill forms part of the cumulative study. All these permitted or existing windfarms are over 16.4km from the proposed turbine site. A cumulative ZTV map was submitted to illustrate the visibility of the proposed development and the locations where other wind farms would be visible. The cumulative impact of the proposed wind farm in combination with other wind farms would be negligible given the separation distances and the land cover.

7.3.6.21. The new link road west of Coole village would only be required for the construction phase of the development. Proposals do not clarify the applicant's intentions for this infrastructure following construction and the applicant outlines that the road would have a permanent, slight and negative impact on the landscape. Given the temporary necessity for this road to serve as a haul route for the proposed development, it should be reinstated and suitably landscaped. Details of same should be provided by the applicant, by way of condition, should the Board decide to grant planning permission for the development.

7.3.6.22. I submit that in the context of the 13 turbines proposed, that the landscape and visual impact of the proposed ancillary facilities and works, including tree felling, a temporary construction compound, a substation, grid connection, borrow pit, new

roads and water crossings, lay-down areas and access road and junction upgrades, would not prove to be significant visual elements of the overall scheme.

7.3.6.23. As noted in the WEDG and in the County Development Plan (Section 10.5), there is a need to balance the preservation and enhancement of the amenities of places and features of natural beauty and interest against the need to develop key strategic infrastructure in a manner that is consistent with proper planning and sustainable development. In conclusion, the proposal would have a significant visual impact from roads in the immediate vicinity and from residential properties therein, in locations where screening is not available or maintained. I submit that in view of the long-established commercial peat-extraction operations, that the landscape presents itself as a highly moderated working landscape that is relatively robust. The visual character of the wider landscape has changed and would change further as a consequence of the proposal and would not result in a material alteration of visual intrusion as to warrant a recommendation to refuse permission.

Cultural Heritage

7.3.6.24. Section 12 of the EIAR addresses archaeology and cultural heritage. It is stated that the site was subject of extensive field surveys in June and August 2016 and in March 2017, including the grid connection and haul routes. During walk-over investigations no new archaeological sites were detected. As peat extraction is ongoing, potential for evidence of archaeology is ongoing, and prior to construction another walkover survey / inspection of the excavation areas is proposed as part of the project.

7.3.6.25. No recorded archaeological monuments are located within the wind farm site. In the wider context the EIAR identifies recorded monuments within 5km of the site for the purposes of establishing the archaeological context of the site. Of the 162 monuments noted, the vast majority are well in excess of 1km from the turbine site. Table 12.8 of the EIAR sets out the likely pre-mitigation impacts of the development on the monuments and for all but four of the monuments, the impacts are deemed to be slight or imperceptible.

7.3.6.26. Peatlands can often contain and preserve the remains of toghers, or ancient roads and other ancient artefacts and features. Observers to the appeal assert that peat extraction has resulted in significant damage to important archaeological sites in the area, including an ancient wooden trackway. There is a trackway referenced under

Objective O-PTL4 of the Development Plan as being located in the wider peatland area, and the purpose, scale and alignment of this has not been fully substantiated, according to observers. Potential for finding toghers or ancient roads and other ancient artefacts and features is recognised in the EIAR and various features are proposed as part of the project to address same including further inspections, testing and excavation under licence and monitoring. Two toghers (Ref. WM001-038 & WM001-039) are identified in Mayne bog to the south of the proposed link road location, but surveys have not formally identified similar features on the appeal site, including the new link road site. The Department of Culture, Heritage and the Gaeltacht require pre-development archaeological testing and surveying, including test trenches in selected development excavation areas. It is possible that the peatland site may contain as yet undiscovered artefacts, consequently, a condition should therefore be attached, in the event of permission being granted, to ensure that the groundworks are monitored during the construction phase and that any discoveries are recorded and preserved by record.

7.3.6.27. Lough Bane crannóg site (Ref. WM001-028) is the closest recorded monument to the turbine site. It is located in the area of Lough Bane, c.200mto the north of proposed turbine T02. There are other crannóg sites in the vicinity at Derragh Lough and Lough Kinale. Previous investigations point towards the potential site of the Lough Bane crannóg as being marked by an existing grove on the south of the lake and not on the appeal site, which is separated from the lake by a main drain (D1).

7.3.6.28. In terms of the other closest archaeological sites in the vicinity of the turbine site, I note that a motte (Ref. WM002-003) is located approximately 800m to the north of proposed turbine T11, off the R396 regional road and south of the River Inny. A castle/towerhouse (Ref. WM003-001) and ringfort or rath (Ref. WM003-002) are located c.800m to the west of proposed turbine T13. Observers to the appeal assert that sufficient consideration of various archaeological and cultural heritage features in the vicinity of the appeal site has not been undertaken, including the aforementioned castle-towerhouse. A burial ground with no above ground remains (Ref. WM001-053) is located on a quarry at Carlanstown, c.1km from the nearest proposed turbine (T4). As per Table 12-17 the likely significance of the indirect effects of the proposed development on the closest recorded monuments is stated to range from ‘slight’ to ‘slight-moderate’. I note that none of the above sites have

public access and only the castle/towerhouse monument is clearly visible from a public road. As such, only the castle/towerhouse monument has a prominent position in the landscape. Views of the castle/towerhouse monument from public areas are only available from a lightly-trafficked section of location road (L-5755) and the initial and predominant backdrop would be formed by mature trees with the structure extensively covered by ivy and blending into this backdrop. Given the distance from each of the sites to the proposed turbines, I consider that the impact of the proposal on the setting of these sites would not be significant and would not justify refusal of permission having regard to other material considerations.

7.3.6.29. In terms of other ecclesiastical sites within 3km to 5km of the site, particular regard is had to the church and graveyard to the south of Coole at Mayne (Ref. WM003-083001 & -083002), a church and graveyard at Lickbla to the east of the site (Ref. WM003-0038, -038002 & -038001) and a Cistercian Monastery (Ref. LF011-036001) to the northwest at Abbeylara.

7.3.6.30. Seven sites within 16km are identified as National Monuments, including Granard Motte, which is located c.11km to northwest of the site at Granard in County Longford and comprises a motte and bailey, a hilltop enclosure, an inauguration site and an unclassified castle. As per viewpoint 18 included within the photomontage booklet, a panoramic view of the development would be available from this site. The setting and character of this monument would not be impacted upon by the proposals, given the separation distance between the sites. Loughcrew, including a passage tomb, a cemetery, cairn, standing and other monuments are located at Slieve na Calliagh, 15km to the east of the site. The Hill of Mael and Rock of Curry would partially restrict views of the turbines from this site and the monuments' setting and character would not be impacted upon by the proposals. For the other national monuments, Fore Abbey, Fore Abbey Town Gates, Mortimer's Castle and Wattstown, it is recognised that the wider setting would be altered by the proposed development, but a significant impact on the setting of the monuments would not occur.

7.3.6.31. The nearest site on the Tentative List of UNESCO World Heritage Sites is the Hill of Uisneach, c. 28km to the southwest, and this would not be impacted by the development, given the separation distance between this site and the appeal site.

7.3.6.32. No structures within the Record of Protected Structures (RPS) attached to the Development Plan are located within the appeal site. Table 12-11 of the EIAR lists 58 structures that are included within the National Inventory of Architectural Heritage (NIAH) and are within 5km of the turbine site, the majority of which are located along the regional and local road network or within the settlements of Coole, Finnea and Abbeylara. The majority of the NIAH sites are also recorded as protected structures in the RPS. The likely significance of effects is considered 'slight' in terms of all but one of these sites. In the case of Camagh Bridge, 800m to the west on the R396, the impact of the development is considered to be 'slight'. Camagh Bridge is not within the RPS for counties Longford or Westmeath. Viewpoint 19 photomontage reveals Camagh Bridge in the foreground and the turbine site is identifiable in the background, with turbines partially screened by an existing mix of roadside and riverside tree cover and commercial forestry. Given the potential partial views of the turbines and proximity to same, the seasonality of tree cover and the commercial status of some of the tree cover, I would suggest that the impact on the setting of Camagh Bridge would be 'slight to moderate', as opposed to the EIAR conclusion of 'slight'. In response to the visual impact assessment above, a condition to maintain the screening provided by tree cover along the R396 over the life of the project is required in the event of permission being granted for the proposed development, and this would ensure that the impact of the development on the setting of Camagh Bridge would remain 'slight to moderate'.

7.3.6.33. Newcastle House is stated to be located 822m south of proposed turbine T05 and that the impact of the development on this Protected Structure (Ref. 003-009) would be 'slight to moderate' according to the EIAR. According to the RPS, this Protected Structure is a detached three-bay single-storey house over a raised basement that was built c.1830. Having visited this property, I am satisfied that when viewed against the backdrop of the nearest wind turbines, the impact on this Protected Structure would be more appropriately considered 'moderate'. However, I would note that public access to the Protected Structure is not available. Other Protected Structures in the vicinity include Ballynameagh House (Ref. 003-010) c.2.2km to the southeast, Turbotstown House and demesne (Ref. 003-030), associated outbuildings (Ref. 003-037) and gate lodge (Ref. 003-038) c.2.6km to the southeast and Carlanstown House (Ref. 001-011) and its associated outbuildings (Ref. 001-012)

c.1.5km to the east of the appeal site. These Protected Structures are each a sizeable separation distance from the turbines. Ballynameagh House would not be viewed against the backdrop of the wind farm, while Turbotstown House is set back a significant distance from the nearest public roads and Carlanstown House is heavily screened by mature trees. Accordingly, I am satisfied that only a slight impact on their setting would arise in each case. The setting of a detached early-twentieth century house (RPS 003-044) located c.950m from the nearest turbine at Carlanstown, would only be slightly impacted by the proposals, by virtue of the screening provided by mature trees, including views of the property from the R394 regional road.

7.3.6.34. The EIAR also considers the impact of the proposed grid connection and reviews all sites within 100m of this route. As the proposed grid-connection would be subsurface no impacts on the setting of structures or monuments is anticipated, as would be the case with services under roads. Observations to the appeal assert that the proposed grid connection would be likely to damage the roadside curtilage wall to Simonstown House (NIAH Ref. 15400337). The EIAR sets out that archaeological monitoring of groundworks would occur in the vicinity of recorded monuments as well as preservation by record of any new sites. Archaeological monitoring of groundworks along the grid connection in the vicinity of NIAH / RPS sites relating to a gate lodge and demesne boundary features in the townland of Farranistick is also proposed and I consider that this should also occur along all NIAH / RPS sites along the route, including Simonstown House and the railway level crossing at Farranistick.

7.3.6.35. In conclusion, whilst the proposal would alter the setting and character of the area, I do not consider that this alteration to represent an inappropriate change in the context of features of archaeological and cultural interest.

Roads & Traffic

7.3.6.36. The greatest potential for an adverse impact of significance arising from traffic generation would be during the construction phase of the proposed development. The route for the large turbine plant would be via the N4 national road before turning north onto the L-1927 local road in the townland of Joanstown, just east of the village of Rathowen. The route would follow the L-1927 for a distance of approximately 8km, traversing a railway level crossing 2km north of the N4 national road. At

Boherquill, delivery vehicles would take a right turn onto the L-5828 for a distance of 2km before exiting onto the R395 regional road, travelling eastbound towards Coole village. Before the village of Coole and the junction with the R396, a new 1.2km long off-road section for the delivery route is proposed, exiting off the R395 in a northern direction, before turning eastwards and connecting with the R396. The delivery route follows the R396 for a distance of approximately 2km in northerly direction. The site is then accessed via a right turn off the R396. Turbine plant access to the peatland basins on the northern side of the L-5755 would not utilise the R396 / L-5755 junction. Geometric autotrack drawings for each junction are provided within Chapter 13 of the EIAR. In terms of the temporary works along the N4 section of the route, the relevant protocols would be enacted, where necessary. The plant loads would be abnormal in size, but the delivery vehicles are designed to ensure that the axle loadings would not exceed those permissible under the Road Traffic Regulations.

7.3.6.37. General heavy goods vehicle (HGV) construction traffic would use the same route as detailed above and regional roads in the vicinity. The applicant states that the L-57671 local road linking the eastern side of the site with the R394 would not be used for construction traffic, nor would the L-18266 local road extending past Coole National School south of the borrow pit site. I note the intention to import aggregate from local quarries via regional roads to serve the development and the location of existing active quarries in the area, as identified on the GSI maps.

7.3.6.38. The construction phase would be divided into two stages. The first stage entails site preparation and ground works with an expected duration of 12-18 months with estimated two-way passenger car units (PCUs) per day of 46.7. The second stage comprises the turbine construction phase, including delivery and assembly, which would take 24 days spread over 12 weeks. It is estimated that 117 trips to and from the site in terms of abnormal loads would arise with a further 39 trips by conventional HGVs. In addition there would be a further two days per week lasting for seven weeks where the remaining equipment would be delivered.

7.3.6.39. The studies undertaken show that for the worst-case construction days, namely the 13 days when concrete would be poured at the same time as general site preparations and ground works, with the exception of the N4 approaching Rathowen, all parts of the route would operate within capacity. A 4% increase in traffic at the N4

junction is anticipated during the 13 days, which is considered marginal and I note that TII did not object to this impact of the development. Due consideration is given to the cumulative effects with other existing and permitted projects in the area, including commercial forestry and peat extraction traffic.

7.3.6.40. A route assessment undertaken identified improvements, including temporary measures at eight locations, to facilitate the large abnormal loads on the proposed haul route as follows:

- N4 to L-1927 east of Rathowen;
- Railway level crossing at L-1927;
- L-1927 / L-5828 junction at Boherquill;
- Link Road access off R395;
- Link Road exit onto R396;
- Site access off R396;
- Road traversing the L-5755;
- Borrow pit access on L-5755.

7.3.6.41. Other than note the intention for construction traffic to avoid Coole village, the applicant has not specifically clarified the necessity for the off-road section of the haul route or indeed its continued use post-construction. I address the continued use of the link road further below. I would note that based on the geometric drawings, including autotrack illustrations, manoeuvring of abnormal size loads at the junction of the R395 and R396 regional roads at Coole would not be feasible without demolition of buildings. I note that both the Road Design Office and the Area Engineer of Westmeath County Council did not object to the development, but they did outline specific roads requirements as part of the proposed development construction phase. TII and the Area Engineer requirements for a pre- and post-construction condition survey and a Transport Management Plan are common requirements for developments of this nature and scale, in addition to the application of a bond to ensure satisfactory reinstatement of any roads damaged during the construction phase. A 3m x 150m sightline is required by the Area Engineer at the exit from the link road onto the R396 regional road. The applicant states that a 2.4m

x 90m sightline is provided here due to its proximity to Coole village and lower traffic speeds. Having examined the exit location and drawings for the link road exit onto the R396 (see Figure 13.14), I am satisfied that sufficient visibility would be available from the exit in both directions to the mid-point of the approaching road traffic lane, in particular considering the temporary need for this exit.

7.3.6.42. The applicant notes that the proposed grid connection would be installed in a trench to the side or within the roadways and would be constructed by two teams operating 'stop-go' systems. The grid connection would traverse 16 watercourses and a railway level crossing. Both the Roads Design Office and TII note that the grid connection route may need to realign as part of the proposed N4 Mullingar to Longford (Roosky) scheme. The applicant notes that this project has been suspended according to TII details and I note that there is no official update on the project at present, therefore it is neither an existing nor a permitted development.

7.3.6.43. The Area Engineer requires 3m x 90m sightlines to be achieved and maintained at the entrance to the borrow pit. Figure 13.24 illustrates proposals with respect to the entrance off the L-5755 to the borrow pit, including sightlines of 2.4m x 90m in both directions. However, as stated above, it is not clear whether the boundary hedgerow would be required to be removed to facilitate these sightlines. From a biodiversity and visual amenity perspective, it would be preferable for the hedgerow to be maintained, as much as possible. I note that in addressing safety requirements, the EIAR outlines that a flagman can be provided at junctions. Given, the temporary requirement for the borrow pit, temporary traffic control measures, should be used at the exit to the borrow pit to avoid extensive loss of the hedgerow along the L-5755 and a condition should be attached to ensure same.

7.3.6.44. The applicant clarifies that only borrow pit traffic would use the western section of local road (L-5755) between the borrow pit entrance and the wind farm site and given the prevalence of residences to the east along the L-5755 I consider this a reasonable approach to take. An observer to the appeal refers to the additional traffic that would be generated on local roads resulting from borrow pit movements and estimates that a standard quarry vehicle would carry 11.93m^3 of materials. The vast majority of movements between the borrow pit and the turbine site would be via the L-5755 only, in total passing two residences proximate to the borrow pit. Based on the borrow pit providing approximately 200,000m^3 (albeit with a 25%

contingency), this would result in approximately 16,750 two-way trips for borrow pit traffic along the L-5755. The Programme of Works within the CEMP estimates a 12-month period for the works requiring borrow pit aggregate, which in turn would require on average 67 two-way truck movements per working day. While this would fluctuate and would be of nuisance to residents of both houses along the western section of the L-5755, this would be for a temporary period.

7.3.6.45. As noted the construction phase of the development would give rise to additional traffic, including abnormal loads, and delays on the road network in the vicinity and along the grid connection and haul routes. This would have some impact on local residents and would give rise to some inconvenience. Similarly, issues such as dust generated during this phase of the development are noted. The construction phase, however, is a short-term phase and I do not consider that the development would generate signficant inconvenience for local people on the basis of traffic or dust, such as to justify a refusal of permission on these grounds. Adherence to normal good construction codes of practice would be a pre-requisite.

7.3.6.46. The project development description used for statutory notices referred to the link road being used 'to facilitate turbine delivery'. Figure 13.14 states that sightlines of 2.4m x 90m from the proposed link road onto the R396 would be maintained both during the construction and operational phases and the 10.5m radii for the link road junction onto the R396 would be retained. Details of reinstatement works for the link road hardstanding areas used during turbine traffic delivery are not outlined and the necessity for retaining the link road, including visibility and radii is not clear. Retaining the link road would also conflict with the statement in Section 13.1.10.6 of the EIAR, which states that works would involve reinstatement of roads and boundaries to pre-development condition, which I consider would be a more preferable approach to take in the context of the development and a condition should be applied to reflect same, should permission be forthcoming.

7.3.6.47. The borrow pit site is to provide for 200,000m^3, which includes a 25% contingency and which would also provide the materials to construct the new link road element, west of Coole village. From a residential amenity perspective, construction traffic transferring materials from the borrow pit to the link road site should avoid using the R395 through Coole village. Based on the construction phases outlined in Section 4.11.2 of the CEMP (Appendix 3-4 to the EIAR), I would suggest the optimum

access route between the borrow pit and the link road would by exiting onto the L-5755 in a northwest direction to its junction with the R396 regional road, near Camagh Bridge, before heading south towards the entrance to the link road off the R396.

7.3.6.48. The level of traffic that would be generated during the operational phase will be minimal save for vehicular movements associated with operational/maintenance staff. As addressed below, the proposed development would not restrict the future potential achievement of walking route objectives running through the site area, including extension of the Westmeath Way.

7.3.6.49. The submission from Longford County Council referred to the potential distraction to road users arising from the lighting to the turbines. I would note that the closest turbines would be over 130m set back from the public road network and lighting to the proposed turbines would be necessary to meet standard aviation requirements.

7.3.6.50. Having regard to the above, I am satisfied that the proposed development would not give rise to a traffic hazard or endanger the safety of other road users, subject to the full implementation of the design elements outlined within the EIAR and compliance with the recommended planning conditions. The proposed development would not give rise to any significant adverse cumulative traffic impacts in-combination with other windfarms, the grid connection route or plans and projects in the area.

Tourism

7.3.6.51. Section 4.3 of the EIAR addresses tourism and provides details of surveys done in Ireland and Scotland on tourist attitudes to windfarms. Observers to the appeal assert that the area comprises numerous tourist attractions and amenity areas, with potential for significant increases in tourism activity, and the landscape character is not suitable for the proposed development. Issues in relation to landscape and visual impact have been assessed previously above.

7.3.6.52. Figure 11.2 of the EIAR identifies scenic routes and walking/cycling routes with 20km of the appeal site in the Longford, Westmeath and Meath area. I am not aware of any designated scenic routes or viewing points in the Cavan area, within 20km of the turbine site. The most important tourist attractions proximate to the turbine site, include Tullynally Castle and Gardens, located 5.2km to the southeast of the turbine site. The ZTV map identified that the proposed turbines would not be visible from

area immediate to the castle, but that some visibility of the turbines would be possible from the entrance road and parts of the castle grounds. Given the limited views available and separation distances, I am satisfied that the proposed development would not to be overly dominant to detract from the tourist amenity of the Castle and its grounds.

7.3.6.53. Walking routes within 20km include Coillte recreational trails in the beech forest at Mullaghmeen, 5km to the east and the Fore trail (or St. Feichin's Way), located 11.6km to the east of the turbine site. Fore is also the location of Fore Abbey and Fore town gates. Photomontage views of the proposed development from these amenities are included within Volume 2 of the EIAR and I am satisfied that only a 'slight' impact would arise. The Hill of Mael and Rock of Curry approximately 2.5km to 3.5km to the east of the nearest proposed turbines would also be recognised as walking and climbing routes in the immediate vicinity of the proposed development and where visible from these hilly grounds the proposed development would have a moderate impact.

7.3.6.54. There is an objective within the Westmeath County Development Plan to provide for a northern extension of the existing Westmeath Way (Kilbeggan to Mullingar), a National Waymarked Trail. The indicative route for the extension to the trail would initially traverse the site along the L-5755 local road, prior to traversing the River Glore and continuing through the northeast side of the site, possibly along the industrial peatland tracks. The proposed development would not restrict the potential to provide this extended walking trail, with the turbine access tracks following a similar route to the proposed walking trail. Various examples of walking routes provided alongside windfarm developments are provided in the EIAR (see section 11.3.2.5).

7.3.6.55. Loughcrew is an important visitor attraction and the highest point in County Meath. The proposed development would be partially visible from this hilltop attraction, with partial screening of the turbines by the Hill of Mael and the Rock of Curry. Windfarms within Cavan to the north, including the turbine at Ballyjamesduff are visible from the tourist attraction. I am satisfied that the proposed development would have an imperceptible impact on the amenity of this attraction.

7.3.6.56. I acknowledge that the area has a distinctive quality and is within the area covered by the 'Ireland's Ancient East' tourism programme, although it is not a significant tourism destination. I consider that there is no conclusive evidence that wind farms significantly interfere with tourism in locations such as this. Furthermore, the proposed development would not prevent or significantly deter the use or amenity value of any of the identified attractions or the proposed walking route extension.

Aviation

7.3.6.57. Submissions to the application assert that the proposed development would present a hazard to low-flying aircraft. The Irish Aviation Authority (IAA) is the body responsible, by statute, for the management of Irish-controlled airspace and safety regulation of Irish aviation. It is stated by the applicant that the IAA was invited to comment at EIAR scoping stage and as a consultee on the application, the IAA did not make a submission to the Planning Authority. Section 13.2.3.2.3 of the EIAR details that communications with the Department of Defence did not raise any concerns in terms of airspace, subject to meeting with standard lighting requirements. Abbeyshrule aerodrome, comprising a 620m long runway, is located approximately 22km to the southwest and appears to be the nearest licensed aerodrome from the proposed turbines. The proposed development would be well outside the Obstacle Limitation Surface (obstacle clearance zone) set by the IAA based on the separation distance and criteria such as runway length and orientation. Granard airstrip at Ferskil townland c.3km southwest of Granard would be located c.9.4km from the nearest of the proposed turbines (T01), while Lough Sheelin airstrip on the Meath and Cavan boundary c.3km southwest of Mount Nugent would be located c.8km from the nearest of the proposed turbines (T04). These airstrips are a significant distance from the proposed turbines.

Telecommunications

7.3.6.58. As part of the scoping exercise prior to the production of the EIAR, the applicant states that they contacted a wide range of agencies involved in the communications industry, with a synopsis of the contact provided in Table 13.26 of the EIAR. Potential interference was initially flagged by two parties and following a revised layout for the turbines, only one party raised concerns with the proposed development. The applicant states that a precautionary approach has been taken

with regards revisions to the layout to ensure that no turbines blades would pass within 30m of the concerned party's telecommunication link and, therefore, there would be no impact on telecommunications.

Agronomy

7.3.6.59. I note that observations raise concerns regarding the potential impact of the turbines on livestock, including cattle and also the equine industry. In this regard, I note that there is a lack of conclusive evidence that wind turbines pose a threat to the welfare of horses or livestock, has not been demonstrated that the proposed wind turbines would pose a threat to the welfare of these animals.

Conclusion

7.3.6.60. I have considered all of the written submissions made in relation to material assets, cultural heritage and the landscape, in addition to those specifically identified in this section of the report. I am satisfied that with the exception of localised visual impact from sections of the L-5575 and the R394 and R396 regional roads, and residences therein, the impacts identified would be avoided, managed and / or 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 or indirect impacts in terms of material assets, cultural heritage and the landscape. I am also satisfied that cumulative effects are not likely to arise and that approval should not be withheld on the grounds of such cumulative effects.

7.3.7. Interaction of the Factors

7.3.7.1. I have also considered the interrelationships between factors and whether these may as a whole affect the environment, even though the effects may be acceptable when considered on an individual basis. Table 14.1 of the EIAR provides a matrix, and a summary of the impact interactions is provided in Section 14.2 of the EIAR, all of which I have considered.

7.3.7.2. The most dynamic interactions listed pertain to human beings and interactions between air and climate (dust and noise), hydrology (water quality), material assets (traffic) and the landscape. Dynamic interactions between biodiversity (birds) could also impact on hydrology and hydrogeology (drainage), air and climate (reduced

carbon emissions and noise). Interactions between biodiversity and soils and geology (use of aggregate), hydrology and hydrogeology (drainage), air and climate (reduced carbon emissions and noise) and material assets (landscape – tree removal).

7.3.7.3. All of the aforementioned have been assessed above and I am of the view that the interactions identified are unlikely to cause or exacerbate any potentially significant environmental impacts.

7.3.7.4. Each section of the EIAR sets out the mitigation measures proposed with the information on potential residual effects, and their significance.

7.3.8. Reasoned Conclusion on the Significant Effects

7.3.8.1. Having regard to the examination of environmental information contained above, and in particular to the EIAR and supplementary information provided by the applicant, and the submission from the Planning Authority, prescribed bodies, and observers 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:

- impacts arising on **population and human health** as a result of shadow flicker on properties in the vicinity, which would be encountered during the operational phase and would be mitigated by a condition requiring 'shut-down days' for specific turbines below WEDG thresholds and the applicant's commitment to zero shadow flicker at residential receptors;
- impacts arising on **population and human health** as a result of noise and traffic nuisance during the construction phase, which would be mitigated by the temporary nature of the works phase, the use of specific roads, by traffic management and construction management measures, outlined in the Construction and Environmental Management Plan and by conditions restricting noise levels and requiring detailed traffic management proposals to be submitted;
- impacts arising on **Lands and Soil** as a result of excavating peat during construction during the operation phase could increase risk of peat slide. Mitigation measures are detailed within the EIAR and the Construction and

Environmental Management Plan for peat stability, excavation, storage and removal, including monitoring of any movement;

- impacts on **Biodiversity** including bats during operation as a result of collision with turbine blades, which would be mitigated by the positioning of the turbine blades sufficient distances from the riparian habitat, by seeking the advice from a qualified ecologist and following best practice and procedures during the operational phase;
- impacts on **Biodiversity** including birds during the construction works and during the operation as a result of collision with turbine blades, which would be avoided as the project would not result in significant displacement or loss of habitat for birds, by engaging a project ecologist, by the low risk of collision for bird species and by following best practice and procedures during the operational phase;
- impacts on **Hydrology and Water Quality** arising from the potential indirect effects caused by increased run-off, such as soil erosion and sediment release into the receiving watercourses, which would be mitigated by the project design features including attenuation measures and the absence of in-stream works, and the measures outlined in the Construction and Environmental Management Plan, which includes Watercourse Crossing Methodologies and an outline Site Drainage Management Plan;
- impacts on **Landscape** would be locally significant from intermittent sections of the L-5575 local road and the R394 and R396 regional roads, and from residences therein, where screening is not available or maintained, and would not be fully avoided, mitigated, or otherwise addressed by means of condition.

7.3.8.2. Notwithstanding the conclusion reached in respect of the inability of the proposed measures to fully mitigate the localised visual impact from sections of the L-5575 and the R394 and R396 regional roads, and residences therein, 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.

7.4. Appropriate Assessment

7.4.1. Introduction

7.4.1.1. Article 6(3) of Directive 92/43/EEC (Habitats Directive) requires that any plan or project not directly connected with or necessary to the management of a European site(s), 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(s) in view of the site(s) conservation objectives. The Habitats Directive has been transposed into Irish law by the Planning Act, and the European Union (Birds and Natural Habitats) Regulations 2011-2015.

7.4.1.2. In accordance with these requirements and noting the Board's role as the competent authority who must be satisfied that the proposal would not adversely affect the integrity of the Natura 2000 site(s), this section of my report assesses if the project is directly connected with or necessary to the management of European Site(s) or in view of best scientific knowledge, if the project, individually or in combination with other plans or projects, is likely to have a significant effect on any European Site, in view of the site(s) conservation objectives, and if a Stage 2 Appropriate Assessment and the submission of a NIS is required. An NIS accompanies the application.

7.4.2. Appropriate Assessment Stage 1 Screening

7.4.2.1. I have considered the applicant's Appropriate Assessment Screening Report (Appendix 1 to the NIS), which provides a description of the surrounding area and the proposed development. I have had regard to the Site Synopsis and conservation objectives for the relevant Natura 2000 sites and to the entirety of the application documentation including submissions received.

7.4.3. Project Description

7.4.3.1. The project is located in northwest County Westmeath, within the River Shannon catchment. Two rivers flow through the site, the Monktown and Mayne, which are tributaries of the River Glore. The River Glore bisects the main turbine site, prior to flowing into the River Inny on the northwestern boundary of the site. The River Inny flows in a southwesterly direction through the south of County Longford before entering Lough Ree via the Owenacharra River west of Ballymahon. The project

primarily consists of the construction of turbines with a maximum tip height of 175m on peatland along with associated infrastructures, services, works, and buildings. A more in-depth project description is set out under Section 2 of this report and in Chapter 3 of the applicant's EIAR, which accompanies the application.

7.4.3.2. Neighbouring wetlands and watercourses, including their associated vegetation, are one of the most sensitive features within the study area. Given the nature and extent of the proposed development, involving tall turbines with moving parts and the location of the development relative to wetlands and watercourses, bird species would be a sensitive ecological features in the study area.

7.4.4. Is the Project necessary to the Management of European sites?

7.4.4.1. The project is not necessary to the management of a European site.

7.4.5. Direct, Indirect or Secondary Impacts

7.4.5.1. The potential direct, indirect and secondary impacts that could arise as a result of the proposed works and which could have a negative effect on the qualifying interests of European sites, include the following:

- loss of habitat and species or disturbance or fragmentation;
- impacts on water quality, including the release of suspended solids, accidental spills or release of contaminants from made ground;
- hydromorphological impacts (alterations to physical character and water content of water bodies);
- spread of invasive species.

7.4.6. Description of European sites

7.4.6.1. Section 3.2 of the AA Screening Report submitted states that initially sites within a 15km radius of the proposed development were identified. In addition and using the precautionary principle, European Sites located outside the 15km buffer zone were also taken into account and assessed where potential pathways for impact were identified, specifically where hydrological connectivity could be established. European sites located more than 45km downstream of the proposed development

were excluded, given the distance and dilution effect of intervening loughs within the Shannon catchment. In relation to screening for SPAs, due cognisance was taken of the SNH Guidance (2013) – Assessing Connectivity with Special Protection Areas.

7.4.6.2. To identify European sites for the purposes of the initial screening I refer to the information and submissions available, the nature, size and location of the proposed development and its likely direct, indirect and cumulative effects, the source-pathway-receptor model and the sensitivities of the ecological receptors. The sites identified for initial screening include upper-Shannon river and lakeland systems consisting of seven SACs and eight SPAs, as well as another five SACs outside the upper Shannon catchment. These are identified in Table 3.1 and Figure 3.1 of the applicant's Appropriate Assessment Screening Report. I note their Conservation Objectives, the separation distance and the direction from the project sites in the tables below. Derragh Bog cSAC, c.3.5km from the turbine site was excluded from the applicant's Screening Report and I include this in my assessment below.

SACs & cSACs

Table 7.5.2 – SAC / cSAC Sites

European site (SAC/cSAC)	**Conservation Objectives**	**Minimum distance direction from European Site to Project Site**
Derragh Bog cSAC (002201)	**Conservation Objectives** Generic Version 6.0 (21/02/2018) To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected: 7120 - Degraded raised bogs still capable of natural regeneration 91D0 - Bog woodland	**c. 3.5km (north of turbine site)**
Moneybeg and Clareisland Island cSAC (002340)	**Conservation Objectives** Generic Version 1.0 (25/02/2016) To restore the favourable conservation condition of Active raised bogs in Moneybeg and Clareisland Bogs SAC The long-term aim for Degraded raised bogs still capable of natural regeneration is that its peat-forming capability is re-established; therefore, the conservation objective for this habitat is inherently linked to that of Active raised bogs (7110) and a separate conservation objective has not been set in Moneybeg and Clareisland Bog SAC Depressions on peat substrates of the Rhynchosporion is an integral part of good quality Active raised bogs (7110) and thus a separate conservation objective has not been set for the habitat in Moneybeg and Clareisland Bog SAC	c. 3.4km north of turbine site
Garriskil Bog cSAC (000679)	**Conservation Objectives** Generic Version 1.0 (02/11/2015) To restore the favourable conservation condition of Active raised bogs in Garriskil Bog SAC; The long-term aim for Degraded raised bogs still capable of	c.65m (east of grid connection) & c.4.6km south of turbine site

	natural regeneration is that its peat-forming capability is re-established; therefore, the conservation objective for this habitat is inherently linked to that of Active raised bogs (7110) and a separate conservation objective has not been set in Garriskil Bog SAC; Depressions on peat substrates of the Rhynchosporion is an integral part of good quality Active raised bogs (7110) and thus a separate conservation objective has not been set for the habitat in Garriskil Bog SAC.	
White Lough, Ben Loughs and Lough Doo cSAC (001810)	**Conservation Objectives** Generic Version 6.0 (21/02/2018) To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected: 3140 - Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp. 1092 - White-clawed Crayfish	c. 8.7 km east of borrow pit and c.9.9km east of main turbine site
Ardagullion Bog SAC (002341)	**Conservation Objectives** Generic Version 1.0 (6/11/2015) To restore the favourable conservation condition of Active raised bogs in Ardagullion Bog SAC; The long-term aim for Degraded raised bogs still capable of natural regeneration is that its peat-forming capability is re-established; therefore, the conservation objective for this habitat is inherently linked to that of Active raised bogs (7110) and a separate conservation objective has not been set in Ardagullion Bog SAC; Depressions on peat substrates of the Rhynchosporion is an integral part of good quality Active raised bogs (7110) and thus a separate conservation objective has not been set for the habitat in Ardagullion Bog SAC.	c.7.4km west of turbine site
Lough Lene SAC (002121)	**Conservation Objectives** Generic Version 6.0 (21/02/2018) To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected: 3140 - Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp. 1092 - White-clawed Crayfish	c. 8.8 km southeast of borrow pit and c.10km southeast of main turbine site
Lough Bane and Lough Glass cSAC (002120)	**Conservation Objectives** Generic Version 6.0 (21/02/2018) To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected: 3140 - Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp. 1092 - White-clawed Crayfish	c. 11.2 km east of borrow pit and c.11.9km east of main turbine site
Lough Owel SAC (002193)	**Conservation Objectives** Generic Version 1.0 (3/05/2018) To maintain the favourable conservation condition of Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.; To maintain the favourable conservation condition of Transition mires and quaking bogs To maintain the favourable conservation condition of Alkaline fens To maintain the favourable conservation condition of White-clawed Crayfish	c.12.7km (south of turbine site) and with grid connection works on the SAC boundary
Scragh Bog SAC (000692)	**Conservation Objectives** Generic Version 1.0 (31/05/2018) To maintain the favourable conservation condition of Transition mires and quaking bogs To maintain the favourable conservation condition of Alkaline	c.350m (northeast of grid connection) & c.14.5km south of turbine site

	fens To maintain the favourable conservation condition of Slender Green Feather-moss (Shining Sickle moss)	
River Boyne and River Blackwater cSAC (002299)	**Conservation Objectives** Generic Version 6.0 (21/02/2018) To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected: 7230 - Alkaline Fens 91E0 - Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) 1099 - River Lamprey 1106 – Salmon 1355 - Otter	c. 14.8 km southeast of borrow pit and c.16km southeast of main turbine site
Lough Ennell cSAC (000685)	**Conservation Objectives** Generic Version 1.0 (12/01/2018) To maintain the favourable conservation condition of Alkaline fens	c.4.4 km (south of grid connection) & c.24.4km south of turbine site
Wooddown Bog cSAC (002205)	**Conservation Objectives** Generic Version 6.0 (21/02/2018) To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected: 7120 - Degraded raised bogs still capable of natural regeneration	c.6 km (east of grid connection) & c.21.5km southeast of turbine site
White Lough, Ben Loughs and Lough Doo SAC (001810)	**Conservation Objectives** Generic Version 6.0 (21/02/2018) To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected: 3140 - Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. 1092 - White-clawed Crayfish	c. 8.7 km east of borrow pit and c.9.9km east of main turbine site

7.4.6.3. There is no connectivity between Derragh Bog cSAC (002201), Moneybeg and Clareisland Island cSAC (002340), Ardagullion Bog SAC (002341) and the proposed works site, as they are upstream of the works and due to the distance over ground between these designated sites and the proposed work sites.

7.4.6.4. There is no connectivity between White Lough, Ben Loughs and Lough Doo cSAC (001810), Lough Lene SAC (002121), Lough Bane and Lough Glass cSAC (002120), Scragh Bog SAC (000692), River Boyne and River Blackwater cSAC (002299), Lough Ennell cSAC (000685), Wooddown Bog cSAC (002205) and the proposed works sites, due to the distance over ground and the absence of hydrological or habitat connection between these designated sites and the proposed works.

7.4.6.5. There is no connectivity between Lough Owel SAC (002193) and the main turbine site due to the separation distance and the absence of a direct hydrological pathway. Grid connection works along the 300m stretch of the N4 national road adjoining the

SAC, would be within the carriageway and would not result in the loss of habitat or indirect or direct effects to white-clawed crayfish. Design features integral to the project are included to fully address the control of surface and ground water quantity and quality.

7.4.6.6. There is a downstream hydrological pathway between Garriskil Bog cSAC (000679) and the proposed works, as the River Glore drains into the River Inny, which flows into and out of Lough Derravaragh and forms part of this cSAC site. As such, there is a pathway from the potential source to receptor sites and indirect effects on supporting wetland habitat cannot be excluded.

SPAs

Table 7.5.1 – SPA Sites

European site (SAC/SPA)	Conservation Objectives	Minimum distance direction from European Site to Project Site
Lough Kinale and Derragh Lough SPA (004061)	**Conservation Objectives** Generic Version 6.0 (21/02/2018) To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA: A059 – Pochard A061 - Tufted Duck To maintain or restore the favourable conservation condition of the wetland habitat at Lough Kinale and Derragh Lough SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.	c.2.1km (northwest)
Lough Sheelin SPA (004065)	**Conservation Objectives** Generic Version 6.0 (21/02/2018) To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA: A005 – Great Crested Grebe A059 – Pochard A061 - Tufted Duck A067 - Goldeneye To maintain or restore the favourable conservation condition of the wetland habitat at Lough Sheelin SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.	c.4.2km (north)
Lough Derravaragh SPA (004043)	**Conservation Objectives** Generic Version 6.0 (21/02/2018) To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA: A038 – Whooper Swan A059 – Pochard A061 - Tufted Duck A125 - Coot To maintain or restore the favourable conservation condition of the wetland habitat at Lough Derravaragh SPA as a resource for the regularly-occurring migratory waterbirds that	c.5km (south) c.90m to grid connection

	utilise it.	
Garriskil Bog SPA (004102)	**Conservation Objectives** Generic Version 6.0 (21/02/2018) To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA: A395 - Greenland-White Fronted Goose	c.1.4 km (west of grid connection) & c.7.3km south of turbine site
Lough Iron SPA (004046)	**Conservation Objectives** Generic Version 6.0 (21/02/2018) To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA: A038 - Whooper Swan A050 - Wigeon A052 - Teal A056 - Shoveler A125 - Coot A140 - Golden Plover A395 - Greenland-White Fronted Goose To maintain or restore the favourable conservation condition of the wetland habitat at Lough Iron SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.	c.3.1 km (southeast of Joanstown junction works) & c.11.7km south of turbine site

7.4.6.7. There would be no hydrological connectivity between Lough Kinale and Derragh Lough SPA (004061), Lough Sheelin SPA (004065) and the proposed works site, as these sites are upstream of the proposed works site and due to the distance over ground between these designated sites and the proposed work sites.

7.4.6.8. Glen Lough SPA (004045) is located on a tributary of the River Inny and is therefore upstream, while Lough Owel SPA (004047) and Lough Ennell SPA (004044) drain to the River Brosna. There would be no connectivity between Lough Owel SPA (004047), Glen Lough SPA (004045), Lough Ennell SPA (004044) and the main turbine site, due to the separation distance and the lack of a direct hydrological pathway.

7.4.6.9. There is a downstream hydrological pathway between Lough Derravaragh SPA (004043), Garriskil Bog SPA (004102), Lough Iron SPA (004046) and the proposed works, as the River Glore flows through the main turbine site into the River Inny, which flows into and out of each of these SPA sites. As such, there is a pathway from the potential source to receptor sites and indirect effects on supporting wetland habitat cannot be excluded.

7.4.6.10. Pochard and Tufted Duck are qualifying interests for Lough Kinale and Derragh Lough SPA (004061), Lough Sheelin SPA (004065), Lough Derravaragh SPA (004043) and Lough Ennell SPA (004044). Goldeneye and Great-Crested Grebe are qualifying interests for Lough Sheelin SPA (004065). Pochard, Tufted Duck, Goldeneye and Great-Crested Grebe were not identified to be using the project site

during surveys and a migration or a commuter route for these birds was not identified. The existing turbine site is dominated by commercial peatland and commercial forestry that would not provide ideal habitat for these birds. No direct or indirect impacts to these bird species are anticipated.

7.4.6.11. Coot are qualifying interests for Lough Derravaragh SPA (004043) Lough Iron SPA (004046), Lough Owel SPA (004047) and Lough Ennell SPA (004044). Coot were not recorded breeding or roosting on the turbine site or within the collision risk zone. A single pair of Coot were recorded at Lough Bane and four individual birds were observed during winter walkover surveys to the northeast of the turbine site. Foraging ranges for coot are not available. Based on the survey findings, including limited observations, the respective SPA populations of Coot (Lough Derravaragh - 1,358, Lough Iron - 293, Lough Owel - 1,825 and Lough Ennell 433), according to the NPWS Natura 2000 Forms, the low numbers of this bird at the turbine site and the estimated national population 18,270 (Crowe and Holt, 2013) the potential risk to this SPA bird species arising from the proposed development would not be significant.

7.4.6.12. Whooper Swan are qualifying interests for Lough Derravaragh SPA (004043), Lough Iron SPA (004046) and Glen Lough SPA (004045). Whooper Swan were recorded on four occasions flying through the turbine site. The turbine site would be outside the winter foraging range for Whooper Swan from Lough Iron SPA (004046) and Glen Lough SPA (004045), based on SNH guidelines (core range up to 5km). The turbine site would be at the outer reaches of the winter foraging range for Whooper Swan from Lough Derravaragh SPA (004043) site. Consequently, further assessment of the effects of the proposed development on Whooper Swan associated with Lough Derravaragh SPA (004043) is required. Likely effects on Whooper Swans is addressed further below with respect to migratory and commuter routes.

7.4.6.13. Greenland White-Fronted Geese are qualifying interests for Garriskil Bog SPA (004102) and Lough Iron SPA (004046). The project site would be within the winter foraging range of Greenland White-Fronted Geese from Garriskil Bog SPA and outside the range from Lough Iron SPA (004046) based on SNH guidelines (core range 5-8km). NPWS Natura 2000 form estimate the population of Greenland White-Fronted Geese for Lough Iron SPA (004046) at 409 geese, compared with the

national estimates of 11,070 geese (Crowe and Holt, 2013). Greenland White-Fronted Geese were not recorded on Garriskil Bog SPA during bird surveys undertaken by the applicant and the NPWS record states that use of this bog by Greenland White-Fronted Geese is now rare. Three autumn flights of Greenland White-Fronted Geese were recorded at the turbine site. Given the rarity of Greenland White-Fronted Geese on this designated site, the lack of foraging and breeding area within the appeal site and the limited observations of Greenland White-Fronted Geese passing the site, potential for significant impact on this species population can be excluded. No direct or indirect effects to this bird species are anticipated. Potential effects on migratory Greenland White-Fronted Geese is addressed further below with respect to migratory and commuter routes.

7.4.6.14. Wigeon are qualifying interests for Lough Iron SPA (004046). Wigeon were observed at the site during winter transect surveys on five occasions in groups of 1 to 17 birds. Foraging ranges for Wigeon are not available. The existing turbine site is dominated by commercial peatland and commercial forestry that would not provide ideal foraging or breeding habitat for this wetland bird. Non-breeding Wigeon were observed in flocks of 4 to 78 birds at Lough Bane, c.200m to the north of proposed turbine T02. Based on the survey findings, including limited observations and numbers of this bird at the turbine site, the SPA population of 1,229 Wigeon, according to the NPWS and the estimated national population 56,350 (Crowe and Holt, 2013) the likely risk to this SPA bird species arising from the proposed development would not be significant.

7.4.6.15. Teal are qualifying interests for Lough Iron SPA (004046). Teal were observed at the site during winter transect surveys on six occasions in groups of 1 to 50 birds. Foraging ranges for Teal are not available. The existing turbine site is dominated by commercial peatland and commercial forestry that would not provide ideal foraging or breeding habitat for this wetland bird. Non-breeding Teal were observed in flocks of 2 to 22 birds at Lough Bane, c.200m to the north of proposed turbine T02. Based on the survey findings, including limited observations, the SPA population of 736 Teal, according to the NPWS and the estimated national population 29,050 (Crowe and Holt, 2013), the likely effect to this SPA bird species arising from the proposed development would not be significant.

7.4.6.16. Shoveler are qualifying interests for Lough Iron SPA (004046) and Lough Owel SPA (004047). A single observation of Shoveler was recorded within the site and its buffer zone. Foraging ranges for Shoveler are not available. The existing turbine site is dominated by commercial peatland and commercial forestry that would not provide ideal foraging or breeding habitat for this wetland bird. One observation of a non-breeding Shoveler was observed at Lough Bane, c.200m to the north of proposed turbine T02. Based on the survey findings, including limited observations and numbers of this bird at the turbine site, the SPA population of 164 Shoveler according to the NPWS and the estimated national population 2,770 (Crowe and Holt, 2013), the likely effect to this SPA bird species arising from the proposed development would not be significant.

7.4.6.17. Golden Plover are qualifying interests for Lough Iron SPA (004046) and have been considered under Section 7.4.3 above. The project site would be outside the winter foraging range of Golden Plover from this SPA site based on SNH guidelines (core range 3-11km). During vantage point and winter walkover surveys Golden Plover were recorded roosting at the turbine site. No evidence of breeding activity was recorded. Based on the survey findings, the SPA wintering population of 2,200 according to the NPWS and the estimated national population 99,870 (Crowe and Holt, 2013) the likely effect to this SPA bird species arising from the proposed development would not be significant.

7.4.6.18. A comprehensive examination of the likely effect on species other than those for which the European sites above are listed, to assess the effects on protected species or habitats to be found outside the boundaries of the European sites is provided as part of Section 7.4.3 to this report and I have had regard to this as part of this Appropriate Assessment.

7.4.6.19. The issue that the site is situated under a flyway used by migratory species, such as Greenland White-Fronted Goose and Whooper Swan between a number of SPAs in Ireland, including Wexford, and Iceland and Greenland is raised in observations received on the application. The AA Screening Report also refers to SPAs in Ireland designated for migratory species and outlines the variety of survey methods used to identify species composition and assemblage in the study area, in line with best practice guidelines. Significant records of migratory bird species were not recorded

during surveys of the site, as referenced above. The turbine site is within an area that is reflective of a large portion of the midlands and does not have any distinguishing features such as river valleys and mountain passes that would make the area more attractive to migrating birds than other areas. As such the site forms part of a wide section of the Midlands across which migrating birds traverse. I acknowledge that the route taken by migratory birds would be dependent on a number of factors including distance and weather conditions. Exact flight lines are not known and circumstances such as weather can cause migratory species to vary and, on occasion, land anywhere along their flight path. Observers and the Department of Culture, Heritage and the Gaeltacht note that the identified species are qualifying interests of a number of SPAs in Wexford, over 150km from the turbine site.

7.4.6.20. Taking into consideration the extent of baseline and secondary data collated in line with established practice and supported by further studies carried out in the vicinity of the site, where only four flights of Whooper Swan and three Autumn flights of Greenland White-Fronted Geese were recorded, I am satisfied that the site is not on a defined flyway for Whooper Swan and Greenland White-Fronted Geese and the proposed development would not present a barrier effect to these species. Therefore, it can be concluded beyond reasonable scientific doubt, that the proposed development is not likely to have significant effects on these species migrating to other SPAs and SACs further afield in Ireland.

7.4.6.21. Japanese Knotweed and Rhododendron were recorded along isolated patches on the roadside verge on the proposed haul route and grid connection route. An outline Invasive Species Management Plan is included with the application, as part of the CEMP (Appendix 3-4) and the development would feature various elements to address the spread of invasive species.

7.4.6.22. I therefore accept the conclusions of the AA - Screening that significant effects on all but four of these sites can be screened out of any further assessment, because of the nature of the project site and the European sites, the absence of relevant qualifying interests downstream of the works, the absence of a hydrological connection between European sites and the appeal site, the location of the European site significantly outside of the core foraging range of birds based on the SNH Guidance Assessing Connectivity with SPAs (Version 3 - 2016), the absence of

qualifying interest bird species from the turbine site based on extensive surveys and the rarity of observations of qualifying interest bird species from the turbine site relative to local and national populations.

7.4.7. Stage 1 - Screening Conclusion

7.4.7.1. It is reasonable to conclude that on the basis of information on the file, which I considered to be 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 European sites Lough Kinale and Derragh Lough SPA (004061), Lough Sheelin SPA (004065), Lough Owel SPA (004047), Glen Lough SPA (004045), Lough Ennell SPA (004044), Derragh Bog cSAC (002201), Moneybeg and Clareisland Island cSAC (002340), White Lough, Ben Loughs and Lough Doo cSAC (001810), Ardagullion Bog SAC (002341), Lough Lene SAC (002121), Lough Bane and Lough Glass cSAC (002120), Lough Owel SAC (002193), Scragh Bog SAC (000692), River Boyne and River Blackwater cSAC (002299), Lough Ennell cSAC (000685) and Wooddown Bog cSAC (002205). Potential for significant indirect effects on the features of interest of the Lough Derravaragh SPA (004043), Garriskil Bog SPA (004102), Lough Iron SPA (004046) and Garriskil Bog cSAC (000679) arising from impacts on water quality, hydromorphological impacts and the spread of invasive species during construction/decommissioning phases or during operation cannot be screened out. Furthermore, the turbine site is within the core foraging range of Whooper Swan from Lough Derravaragh SPA (004043) and the loss, fragmentation and disturbance of habitat for this species requires further assessment. Accordingly a Stage 2 Appropriate Assessment is required to determine the potential of the proposed development to adversely affect the integrity of the Lough Derravaragh SPA (004043), Garriskil Bog SPA (004102), Lough Iron SPA (004046) and Garriskil Bog cSAC (000679).

7.4.8. Stage 2 - Appropriate Assessment

7.4.8.1. The conservation objectives for Garriskil Bog cSAC (000679) are detailed in Table 7.5.1 above and the conservation objectives for Lough Derravaragh SPA (004043),

Garriskil Bog SPA (004102) and Lough Iron SPA (004046) are detailed in Table 7.5.2 above.

7.4.9. **Potential Effects**

7.4.9.1. As the site of the proposed development, including grid connection works site, is at a remove from each of the four Natura 2000 sites, no direct impacts would occur. In terms of indirect effects the key elements are the potential for emissions to surface water and the downstream potential for water pollution principally from sediment run-off from the construction and decommissioning works and the potential loss or disturbance of bird species during construction, operation and decommissioning phases.

7.4.9.2. The existing drainage control measures on the site for the commercial peat milling operations are to be maintained and the proposed development would include additional drainage control measures such as interceptor drains, collector drains, silt traps and settlement ponds.

7.4.9.3. The proposed preventative features, including a CEMP to be put in place, comprise design elements associated with best practice for such type development

7.4.9.4. The protective and integral design elements, as outlined in the CEMP include proposals to prevent the release of suspended solids, accidental spills or release of contaminants from made ground into the receiving watercourses, in accordance with best construction practice, such as maintenance of machinery, refuelling of vehicles, management and movement of excavated materials. The CEMP also requires the appointment of a Site Supervisor/Construction Manager and/or Environmental Manager to maintain responsibility for monitoring the works and contractors/sub-contractors from an environmental perspective. Supervision by a Project Ecologist, Project Hydrologist and Project Geotechnical Engineer is included. The majority of the construction works are possible without the need to enter watercourses. The CEMP includes an Outline Site Drainage Management Plan to ensure there would be no direct discharge to any natural watercourses, the IFI have commented on the application and the CEMP submitted by the application includes method statements for the project to ensure best construction practises are followed, including those contained within the IFI ‘Guidelines on Protection of Fisheries during Construction works in or adjacent to Waters’ (2016). Elements to address the onset of peat slide

are also detailed in the EIAR, as well as a check barrage to prevent peat slide moving downstream of a watercourse.

7.4.9.5. The evidence available reveals that the project would not result in pollution of the pathways, alterations to hydromorphology and the spread of invasive species, and it can be concluded that the proposed development would not be likely to have significant adverse impacts on the SPAs and cSAC, subject of this Stage 2 AA, in view of the sites' conservation objectives.

7.4.9.6. Lough Derravaragh SPA is c.5km to the south of the turbine site. Foraging range for Whooper Swan during winter season is estimated to be within the core range of 5km according to advice contained within Scottish Natural Heritage (SNH) Guidelines titled 'Assessing Connectivity with Special Protection Areas'. Four flights of Whooper Swan were recorded during the wintering period in flocks of one to seven at the turbine site, with two flights within the potential collision risk zone. Whooper Swans were observed on two occasions in flocks of eight and 12 at Lough Bane approximately 200m to the north of proposed turbine T02. Whooper Swan were also recorded at Lough Derravaragh (3-40 birds) during bird surveys undertaken by the applicant. The applicant notes that the flights recorded were 6.5km from the SPA site and based on the SNH foraging ranges, it can be concluded that the observed birds were not associated with the internationally important population at Lough Derravaragh.

7.4.9.7. Whooper Swan were not recorded utilising the habitat within the site boundaries and direct loss of habitat would not arise given the ongoing commercial peatland and commercial forestry operations dominating use of the site. As Whooper Swan were recorded approximately 200m north of proposed turbine T02, the potential for displacement was explored by the applicant and based on the findings of empirical studies, it was concluded that significant disturbance would not arise during construction and operation given the existing regular activity on site associated with the commercial peat operation, as well as the separation distances. A collision risk assessment was calculated based on the data collated and this is estimated to result in potential for one bird collision every 37 years. This was considered insignificant by the applicant in the context of the local, county, national and international population for this species. The evidence available reveals that habitat would not be lost for the species, the species would not be displaced, nor would there be

significant risk to loss of species via collision and it can be concluded beyond reasonable scientific doubt that significant adverse impacts on the conservation objectives of the Lough Derravaragh SPA would not arise.

7.4.9.8. I am therefore satisfied that the development would not cause changes to the key indicators of conservation value, including water quality or the bird species, Whooper Swan, hence there is no potential for any adverse impacts to occur on either the species or the habitats associated with Lough Derravaragh SPA (004043), Garriskil Bog SPA (004102), Lough Iron SPA (004046) and Garriskil Bog cSAC (000679) Natura 2000 sites.

7.4.10. In-combination Effects

7.4.10.1. I note that the NIS assesses the potential in-combination effects that could possibly arise with due cognisance of the Westmeath County Development Plan 2014-2020, the Westmeath Biodiversity Action Plan 2014-2020, the ongoing industrial peatland operations, forestry and replanting and other wind turbine developments. I am satisfied that likely significant in-combination effects would not arise.

7.4.11. Appropriate Assessment – Conclusion

7.4.11.1. On the basis of the information provided with the application, including the Natura Impact Statement, which I consider adequate in order to carry out a Stage 2 Appropriate Assessment, and the assessment carried out above, I am satisfied that the proposed development, individually or in combination with other plans or projects would not adversely affect the integrity of Lough Derravaragh SPA (004043), Garriskil Bog SPA (004102), Lough Iron SPA (004046) and Garriskil Bog cSAC (000679), or any other European site, in view of the site's Conservation Objectives.

7.5. Procedural, Legal and Other Considerations

7.5.1. Material Contravention

7.5.1.1. The Planning Authority decided to refuse permission on the grounds that the proposed development would materially contravene Policy P-WIN 6 of the Development Plan. Where a Planning Authority has decided to refuse permission on grounds that a proposed development materially contravenes the Development Plan,

under the provisions of Section 37(2)(b) of the Planning & Development Act 2000 (as amended) the Board may only grant permission, where it considers the following circumstances apply:

(i) 'the proposed development is of strategic or national importance,

(ii) there are conflicting objectives in the development plan or the objectives are not clearly stated, insofar as the proposed development is concerned, or

(iii) permission for the proposed development should be granted having regard to the regional planning guidelines/regional spatial and economic strategy for the area, guidelines under section 28, policy directives under section 29, the statutory obligations of any local authority in the area, and any relevant policy of the Government, the Minister or any Minister of the Government, or

(iv) permission for the proposed development should be granted having regard to the pattern of development, and permissions granted, in the area since the making of the development plan'.

7.5.1.2. Policy P-WIN 6 provides separation distances between wind turbines and residential dwellings and, therefore, is a general policy rather than a policy that is specific to the appeal site. Accordingly, I am satisfied that the development would not materially contravene the terms of the Development Plan for the area. Accordingly, Section 37(2) of the Act is not relevant. However, should the Board consider otherwise, I note that the Government White Paper entitled 'Ireland's Transition to a Low Carbon Energy Future, 2015-2030' published by the Department of Communications, Energy and Natural Resources in December 2015, sets out that a 2020 national target of 40% renewables energy is likely to require a total of 3,500-4,000MW of onshore renewables generation capacity. According to EirGRid (2017), 2,600MW of wind generation capacity was available in April 2017. Having regard to the targets for renewable energy set out in the Government White Paper and the objectives of the 'National Planning Framework - Project Ireland 2040', to the strategic importance of wind energy in meeting these targets and to the scale and energy output from the proposed development (50MW), which could make a significant contribution towards achievement of said targets, I am satisfied that the Board could also grant permission for the proposed development under the provisions of Section 37 (2)(b)(iii) of the Act.

7.5.2. **Project Splitting**

7.5.2.1. Project splitting arises where an overall project is split into different components in order to circumvent the requirement to carry out EIA, as each component of the project would be compartmentalised to fall below the threshold for which EIA would be required. The development is brought forward as a standalone project and does not set out, in any manner, a framework for the future development consent of other projects, including the 'Greenwire' project referenced by some observers. The EIA Directive does not preclude projects from being subject to separate decisions provided that all the impacts have been properly assessed. In this instance, due consideration has been given to the adjoining landuses, including the peat extraction as part of the cumulative impacts, if any, and where appropriate, the EIAR also assesses the potential significant environmental impact which could arise from existing and other permitted developments in the area. I have referred to the cumulative impacts throughout my assessment.

7.5.2.2. The connection to the national grid does not form part of the application. A grid connection option has been put forward with the preferred route to be based on ESB/Eirgrid requirements A full consideration and assessment of the grid connection is provided for in the EIAR and in my assessment above and I am satisfied that the detail provided is sufficient to enable the Board to assess the environmental impacts arising. This approach follows the High Court judgement 'O'Grianna and others v. An Bord Pleanála [2015] IEHC 248'.

7.5.3. **Aarhus Convention**

7.5.4. The Aarhus Convention pertains to the involvement of the public in environmental matters. It makes provision for three basic rights to be exercised by the public, namely access to environmental information, the right to participate in decision making and access to justice. It requires that the public be given early and effective opportunities to participate in environmental decision-making procedures. In this regard, I note the public consultation process conducted by the applicant, as documented in sections 2.8.6 and 2.8.7 of the EIAR. This application and appeal process also provides for public participation.

7.5.5. **Applicant's Legal Interest**

7.5.5.1. The issue of legal interest in terms of the application site and the public road along which the grid connection is proposed is raised. The applicant will be required to secure a Road Opening License from the Local Authority and I am satisfied that the applicant has provided sufficient evidence of legal interest in the site to make the application. I also note here the provisions of Section 34(13) of the Planning & Development Act 2000 (as amended) and Chapter 5.13 entitled 'Issues relating to title of land' of the 'Development Management – Guidelines for Planning Authorities' (DoECLG, June 2007).

8.0 Recommendation

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

9.0 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 of the Planning Authority as set out in the Westmeath County Development Plan 2014 -2020,

(d) the location of the wind farm site primarily on flat peatlands, which are acknowledged within the Wind Energy Development Guidelines – Guidelines for Planning Authorities and the Midland Regional Planning Guidelines, 2010 – 2022, as having potential to accommodate large-scale energy production in the form of wind farms,

(e) the character of the landscape in the area and the absence of any ecological designations on the site,

(f) the characteristics of the site and of the general vicinity,

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

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

(i) the Environmental Impact Assessment Report submitted,

(j) the Natura Impact Statement submitted,

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

(l) the report of the Inspector.

Proper Planning and Sustainable Development

Notwithstanding, Policy P-WIN 6 of the Westmeath County Development Plan 2014-2020, it is considered that, subject to compliance with the conditions set out below, the proposed development would be in accordance with European energy policy, the National Planning Framework and the Regional Planning Guidelines for the Midland Region 2010–2022. It would

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

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

Environmental Impact Assessment

The Board undertook an Environmental Impact Assessment of the proposed development, taking into account:

(a) the nature, scale and location of the proposed development,

(b) the Environmental Impact Assessment Report and associated documentation submitted in support of the application,

(c) the submissions made in connection with the planning application, and

(d) 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 completed an environmental impact assessment in relation to the proposed development and in doing so 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 Inspector's reasoned conclusions, that the main significant direct and indirect effects of the proposed development on the environment are as follows:

- impacts arising on population and human health as a result of noise and traffic nuisance during the construction phase, which would be mitigated by the temporary nature of the works phase, the use of specific roads, by traffic management and construction management measures, outlined in the Construction and Environmental Management Plan and by conditions restricting noise levels and requiring detailed traffic management proposals to be submitted;
- impacts arising on Lands and Soil as a result of excavating peat during construction during the operation phase could increase risk of peat slide. Mitigation measures are detailed within the EIAR and the Construction and Environmental Management Plan for peat stability, excavation, storage and removal, including monitoring of any movement;
- impacts on Biodiversity including bats during operation as a result of collision with turbine blades, which would be mitigated by the positioning of the turbine

blades sufficient distances from the riparian habitat, by seeking the advice from a qualified ecologist and following best practice and procedures during the operational phase;

- impacts on Biodiversity including birds during the construction works and during the operation as a result of collision with turbine blades, which would be avoided as the project would not result in significant displacement or loss of habitat for birds, by engaging a project ecologist, by the low risk of collision for bird species and by following best practice and procedures during the operational phase;
- impacts on Hydrology and Water Quality arising from the potential indirect effects caused by increased run-off, such as soil erosion and sediment release into the receiving watercourses, which would be mitigated by the project design features including attenuation measures and the absence of in-stream works, and the measures outlined in the Construction and Environmental Management Plan, which includes Watercourse Crossing Methodologies and an outline Site Drainage Management Plan;
- impacts on Landscape would be locally significant from intermittent sections of the L-5575 local road and the R394 and R396 regional roads, and from residences therein, where screening is not available or maintained, and would not be fully avoided, mitigated, or otherwise addressed by means of condition.

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 L-5575 and the R394 and R396 regional roads and residences therein, 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.

Appropriate Assessment: **- Stage 1**

The Board considered the Screening Report for Appropriate Assessment, the natura impact assessment and all the other relevant submissions and carried out both an

appropriate assessment screening exercise and an appropriate assessment in relation to the potential effects of the proposed development on designated European Sites.

The Board agreed with the screening assessment and conclusion carried out in the Inspector's report that the Lough Derravaragh SPA (Side Code: 004043), Garriskil Bog SPA (Side Code: 004102), Lough Iron SPA (Side Code: 004046) and Garriskil Bog cSAC (Side Code: 000679), are the only European Sites in respect of which the proposed development has the potential to have a significant effect.

Appropriate Assessment: **- Stage 2**

The Board considered the Natura Impact Statement and all other relevant submissions and carried out an appropriate assessment of the implications of the proposed development for European Sites, namely Lough Derravaragh SPA (Side Code: 004043), Garriskil Bog SPA (Side Code: 004102), Lough Iron SPA (Side Code: 004046) and Garriskil Bog cSAC (Side Code: 000679), in view of the sites' 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 sites' conservation objectives.

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

10.0 **Conditions**

General

1. The development shall be carried out and completed in accordance with the plans and particulars lodged with the application except as may otherwise be required in order to comply with the following conditions. Where such conditions require details to be agreed with the planning authority, the developer shall agree such details in writing with the planning authority prior to 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 period during which the development hereby permitted may be carried out shall be ten years from the date of this order.

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

3. 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.

4. The mitigation measures and monitoring commitments identified in the Environmental Impact Assessment Report, and other plans and particulars, including the Natura Impact Statement, 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.

5. Prior to commencement of development, a detailed environmental management plan for the construction and operational stages 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 and operation period;

(c) an emergency response plan, which should also address potential fire emergencies;

(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.

6. No development shall commence until a landscaping and biodiversity

scheme has been submitted to and approved in writing by the planning authority to suitably screen the proposed development over the life of the facility. The scheme shall comprise a planting plan and schedule which shall include details of:

(i) Existing and proposed ground levels in relation to an identified fixed datum;

(ii) Existing area of tree cover, landscaping features and vegetation to be maintained, including areas along the R396 regional road and the L-5755 local road at the turbine site and at the borrow pit site. Traffic management measures shall be implemented to enable the hedgerow and tree line along the L-5755 to be maintained both sides of the borrow pit entrance;

(iii) Location design and materials of proposed boundary treatment, fences and gates, where applicable;

(iv) Proposed soft and hard landscaping works including the location, species and size of trees/shrubs to be planted at the substation;

(v) Details of the reinstatement works, including timing and location of landscaping, to include native species for the temporary link road, the construction access off the R396, the borrow pit and upgrade locations along the haul route;

(vi) Biodiversity enhancement proposals;

(vii) A programme for the timing, method of implementation, completion and subsequent on-going maintenance.

All of the hard and soft landscaping works shall be carried out in accordance with the approved scheme unless otherwise approved in writing by the planning authority.

Any trees/shrubs which within a period of five years from the completion of the approved landscaping scheme fail to become established, die, become seriously diseased, or are removed or damaged shall be replaced in the following planting season with equivalent numbers, sizes and species as those originally required to be planted unless otherwise approved in writing by the planning authority.

Reason: In the interests of visual amenity and to integrate the development

into its surroundings.

7. The developer shall review usage by birds and bats of the wind farm site and document bird and bat casualties through an annual monitoring programme, which shall be submitted by the developer, and agreed in writing with the planning authority, prior to the commencement of development. This programme shall be developed in consultation with the Department of Culture, Heritage and the Gaeltacht, and shall cover the entire period of the operation of the wind farm.

Reason: To ensure appropriate monitoring of the impact of the development on the fauna of the area.

8. The following design requirements shall be complied with:

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

(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.

(e) Following commissioning of the turbines, the link road element of the development shall cease to be used and shall be decommissioned and reinstated in compliance with the landscaping and biodiversity scheme to be submitted.

Reason: In the interest of visual amenity.

9. 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.

10. (a) Noise levels emanating from the proposed development following commissioning, by itself or in combination with other existing or permitted wind energy development in the vicinity, when measured externally at third party noise-sensitive locations, shall not exceed the greater of 43dB(A)$_{L90,10\ min}$ or 5 dB(A) above background levels.

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

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

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

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

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

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

(b) Prior to commencement of development, the developer shall submit 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.

12. In the event that the proposed development causes interference with telecommunications signals, effective measures shall be introduced to minimise interference with telecommunications signals in the area. Details

of these measures, which shall be at the developer's expense, shall be submitted to, and agreed in writing with, the planning authority prior to commissioning of the turbines and following consultation with the relevant authorities.

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

13. Details of any 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, the Irish Aviation Authority and the Department of Defence of the as constructed tip heights and co-ordinates of the turbines.

Reason: In the interest of air traffic safety

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

(i) a Transport Management Plan, including details of the road network/haulage routes and the vehicle types to be used to transport materials on and off site and a schedule of control measures for exceptionally wide and heavy delivery loads. 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,

(ii) a condition survey of the roads and bridges along the haul routes to be carried out at the developer's expense by a suitably qualified person both before and after construction of the wind farm 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 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.

15. 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.

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

regard, the developer shall:

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

(b) 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.

17. On full or partial decommissioning of the wind farm, or if the wind farm ceases operation for a period of more than one year, the 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 planning authority within three months of decommissioning or cessation of

operation.

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

18. 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.

19. 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.

20. The developer shall pay to the Planning Authority a financial contribution in respect of public infrastructure and facilities benefiting development in the area of the planning authority that is provided or intended to be provided by or on behalf of the authority in accordance with the terms of the

Development Contribution Scheme made under section 48 of the Planning and Development Act 2000. 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.

Colm McLoughlin
Planning Inspector

20th December 2018

Appendices

Appendix A – List of Third-Party Submissions to the Planning Authority

Richard Brierley,

David & Bridget Taylor,

Philip & Sharon Leavy,

Dermot & Kathleen Murphy,

Andrew & Anne Butler,

Shane Butler,

Peter Sweetman,

Eamonn Reilly,

Caroline & Patrick Pilkington,

Joe & Oonagh Clarke,

James Mulvey,

Martin & Shane Gallagher,

Marie Coyle,

Dermot Waters,

Denise Waters,

Jane Harris,

Calum Harris,

Chris & Violet McDonnell,

Anthony & Catherine McGuire,

John & Susan McGuire,

Seamus, Maura and Eithne Heaney,

Michael & Gael Lawlor,

John & Eilish Reilly,

John & Clarissa Delamere,

Liam & Marion Geoghegan,

Ann & Margaret Flynn,

Charles & Geraldine Foran,

Dermot O'Rourke,

Teresa Doyle,

Ursula Meehan,

Triona Ni Fhionnain,

Kevin & Majella Brady,

Michael Brady & Philip Donohoe,

Liam & Bernadine Tierney,

Mary O'Connor,

Eileen Loftus,

Peter McIntyre,

Michael, Kathleen & Matthew Fagan,

Eamon McCormack,

Desmond & Katharina O'Carroll,

Morag Newman,

Willie & Johnnie Penrose,

Ciaran Murray,

Brendan Dermody,

Val Martin, John Joe Dool Rona Beverley Bate, Anthony Maguire,

Bridie Mulvey,

Teresa Craig,

Mary Delaney,

David Mulvey,

Maureen Holmes,

John O'Brien,

Siobhan Masterson,

Matt Gibney,

Maura Gibney & Patrick Gibney, Rose Gibney, Jane Gibney,

Anne Gibney,

James Gibney,

Davena & Ray Wills,

Deborah Goss,

George O'Connor,

Damien Stafford,

Rory Whyte,

John Kiernan & Annette Kelly,

Paul Moore,

Peter Cahill,

Peter Farrelly,

Michael Whyte,

Patrick Farrelly,

Darren & Cariosa Fagan,

Gavin & Jennifer Gallagher,

Sinead Fagan,

Michael Gargan,

Breen Harton,

Walter & Doreen Fegan,

Octavia Tulloch James Carroll,

Eliza Chisholm,

Valerie & Thomas Pakenham,

Kevin O'Neill,

John McCabe & Kathleen Egan,

Coole National School Parents Association,

Michael O'Shea & Janet Teeling,

Streete Wildlife Club,

Peter Keaney,

Derek & Caroline Smyth,

Brenda & Gabriel Glynn,

Aonghus Ennis,

Paul & Thomas Donohoe,

Councillor Una D'Arcy,

Aidan Walsh,

Niall Creggy,

Eamon Creggy,

Sabrina Scally,

Ruth Sweeney,

Pamela, Trevor & Jed Szadowski,

Adam Sweeney,

Jeroen Hotlkamp & Family,

Stephen O'Brien,

Maeve O'Neill,

Stephen & Brenda O'Neill,

Thomas & Helen Lynch,

Sabina Davitt,

Liam Gaffney,

Margaret Gaffney,

Stuart James, Sarita Cleary & Family,

Andrew & Dawn Fagan,

Seamus Gaffney,

Kara Fagan,

Bernard & Patricia Coyle,

Gerard Leslie & Mel French,

Charlie Maguire & Clair O'Neill,

Richard Roundtree,

Peter & Charlotte Bland & Marianne Fortune

Appendix B – Further Information request items of the Planning Authority under Planning Ref. 17/6177

1) the need to address planning policy (P-WIN 6) referring to separation distances between turbines and dwellings;
2) the need to address the Planning Authority's scoping opinion regarding electrical cabling alignment and emergency vehicle access;
3) water supply details;
4) wastewater storage capacity;
5) clarification regarding vehicle washing;
6) surface water treatment proposals, including their interaction with peat extraction activities;
7) surface water discharge rates;
8) surface water discharge at the entrance to the borrow pit site (L5755 local road);
9) legal consents to achieve sightline visibility;
10) road junction upgrade materials and works;
11) details of reinstatement works to hedgerows along entrances off public roads and at the borrow pit;
12) vehicle manoeuvring and management (autotrack analysis);
13) road/pavement and bridge strength/capacity analysis along the proposed haul routes;
14) traffic safety audit regarding works along the N4 national road;
15) culvert design report addressing flood flows;
16) additional photomontage viewpoints required;
17) abnormal loads assessment;
18) alternatives to cabling along the N4;
19) air quality monitoring measures and consideration of impacts on dust emissions;

20) assessment to identify potential for boreholes and wells and, if necessary, mitigation measures to protect groundwater;

21) references and dates required for data and maps sourced;

22) further details regarding qualifying interests, conservation objectives and connectivity with designated National and European sites;

23) additional aquatic surveys along the grid connection route may be necessary;

24) additional mammal surveys may be required along the grid connection route;

25) further investigations regarding of invertebrate diversity and impacts;

26) further assessment of the hydrological and hydrogeological functioning arising from excavation of turbine moorings and access tracks;

27) assess proposals with respect to Wooddown Bog SAC;

28) a partial aquatic survey report only appears to have been submitted;

29) query regarding sampling methodology for the aquatic survey;

30) further assessment regarding bat habitats, potential impacts on bats and bat/badger surveys with respect to the borrow pit;

31) confirmation regarding rock extraction methods at the borrow pit;

32) potential impact on the hydrological and hydrogeological regime of neighbouring wetlands and local and regional wetland habitats and wetlands within designated sites;

33) impacts on peatland conservation objectives of the Planning Authority;

34) mitigation strategy to protect mammals during site clearance and felling;

35) landscaping proposals, including habitat recovery and creation;

36) additional surveys at night-time, addressing lighting and migrating birds;

37) habitat suitability for whooper swans;

38) whooper swan commuting and habitats in the site environs;

39) further assessment regarding impacts on bird species (pochard, tufted duck, coot and hen harrier);

40) further assessment regarding impacts on curlew;

41) further assessment regarding impacts on golden plover;

42) scope for suitable habitat should displacement of golden plover occur;

43) further assessment regarding potential bird collisions relative to bird migration and movement paths;

44) cumulative impacts on fish and angling;

45) address the requirements of the Water Framework Directive regarding water quality;

46) refer to Fisheries Act and Local Government Act legislation in the CEMP;

47) mitigation proposals regarding fish fauna and invertebrate fauna required in the CEMP;

48) clarify impacts of clear felling on receiving waters and mitigation required;

49) concerns regarding use of bales for silt attenuation required;

50) clarification regarding borrow pit activities and means of treating potential contaminated waters arising;

51) clarification regarding the adequacy of the proposed silt fences/curtains;

52) assess the impacts of the proposals on the archaeological significant of a bronze age road in the vicinity of the proposed link road;

53) consideration should be given for alternative options for meeting renewable energy targets.

Appendix C – Additional Reference Documents

- '2030 Climate and Energy Policy Framework' (European Commission, 2014).
- 'A policy framework for climate and energy in the period from 2020 to 2030' (European Commission, 2014).
- 'Energy Roadmap 2050' (European Commission, 2011).
- 'Guidance Note on Noise Assessment of Wind Turbine Operations at EPA Licensed Sites (NG3)' (EPA, 2011).
- 'A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise' (IOA, 2013).
- 'Guidelines for Landscape and Visual Impact Assessment Guidelines' (IEMA, 2013).
- 'Government Policy Statement on the Strategic Importance of Transmission and Other Energy Infrastructure' (DCENR, 2012).
- 'Estimates of waterbird numbers wintering in Ireland 2006/07 – 2010/11'. Irish Birds 9, 545-552 (Crowe, O. & C. Holt., 2013).
- 'Code of Practice for Earthworks' (British Standard BS6031:2009).
- 'Guidelines for Planning Authorities and An Bord Pleanála on carrying out environmental impact assessments (EIA)' (Minister for Housing, Planning and Local Government, 2018).
- 'Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)' (EPA, 2006)
- 'The Assessment and Rating of Noise from Wind Farms' (ETSU, 1996)
- 'Code of Practice for Noise and Vibration Control on Construction and Open Sites' (British Standard BS 5228-1:2009+A1:2014)
- 'Guidelines for Planning Authorities: Quarries and Ancillary Activities' (Department of Environment, Heritage and Local Government, 2004),
- 'Code of Practice for Wind Energy Development in Ireland on Guidelines for Community Engagement' (Department of Communications, Climate Action & Environment, 2016)

- ‘Guidelines on Protection of Fisheries during Construction works in or adjacent to Waters’ (IFI, 2016).
- ‘Bats and Onshore Wind Turbines Interim Guidance’ (Natural England Guidelines, 2014)
- ‘Guidelines for Assessment of Ecological Impacts of National Roads Schemes’ (NRA, 2009)
- ‘All-Island Generation Capacity Statement 2017-2026’ (EirGrid, 2017)
- ‘Floating Roads on Peat - A Report into Good Practice in Design, Construction and Use of Floating Roads on Peat with particular reference to Wind Farm Developments in Scotland’ (Scottish Natural Heritage and Forestry Civil Engineering, 2017)
- ‘Assessing Connectivity with Special Protection Areas (SPAs) – Guidance’ (Scottish Natural Heritage, 2016)
- ‘Recommended bird survey methods to inform impact assessment of onshore wind farms’ (Scottish Natural Heritage, 2017)
- ‘Visual Representation of Wind Farms Guidance’ (Scottish Natural Heritage, 2017)
- Technical Documentation Wind Turbine Generator Systems 3.6-137 - 50/60 Hz (GE Renewable Energy, 2017)
- The Planning System and Flood Risk Management – Guidelines for Planning Authorities’ (Department of Environment, Heritage and Local Government & OPW, 2009).

Appendix D – List of Observers

1. Hartons Sand & Gravel,
2. Kevin Brady & Majella Brady,
3. Michael Fagan & Others,
4. Matt Gibney,
5. Aidan Walsh,
6. Anne Gibney,
7. Rory Whyte,
8. John Kiernan & Annette Kelly,
9. Michael Gargan,
10. Peter Farrelly,
11. Michael Whyte,
12. George O'Connor,
13. Gerard Leslie & Mel French,
14. Caroline & Patrick Pilkington and Brenda & Gabriel Glynn,
15. Michael & Gael Lawlor,
16. James Gibney,
17. Jeroen Holtkamp & Others,
18. Walter Fegan & Others,
19. Aonghus Ennis,
20. North Westmeath Turbine Action Group,
21. Tríona Ní Fhionnáin,
22. Paul Moore,
23. Peter Cahill,
24. Barry Whyte,
25. Andrew Fagan & Others,
26. Philip and Sharon Leavy & Richard Brierley,
27. Coole National School Parents Association,
28. Eamon Mc Cormack & Martin Gallagher,
29. Liam Tierney & Bernadine Tierney,
30. Rose Gibney & Others,
31. Jennifer and Gavin Gallagher,
32. Liam & Marion Geoghegan,
33. Denise & Dermot Waters,
34. Rona Beverley Bate & Others,
35. Anthony & Catherine McGuire,
36. John McGuire & Susan McGuire,
37. Dermot & Kathleen Murphy.