An Bord Pleanála

Inspector's Report ABP-305163-19

Development	Ten-year planning permission for a seven turbine wind farm with a 30-year operational life and associated development. An EIAR and a NIS accompanied the application
Location	Behy, Cashelard, Tullyhork and Doobally townlands, Ballyshannon, County Donegal
Planning Authority	Donegal County Council
Planning Authority Reg. Ref.	18/51741
Applicant	Behy Renewable Energy Ltd.
Type of Application	Permission
Planning Authority Decision	Refuse Permission
Type of Appeal	First-Party
Appellant	Behy Renewable Energy Ltd.
Observers	1. Maria Gniewitz 2. Colin McGovern & Others
Dates of Site Inspection	26th June 2020
Inspector	Colm McLoughlin

Contents

1.0 Site Location and Description

1.1. Extending over a distance of 6km from east to west, the appeal site is located in a rural area of south County Donegal, approximately 2km northeast from the town of Ballyshannon and 3km north of the village of Belleek in County Fermanagh on the border with Northern Ireland. While the immediate area is characterised by a patchwork of fields to the east, the site is dominated by commercial forestry and peatlands elevated over the surrounding agricultural lands that are interspersed with one-off housing.

1.2. The application site area is stated to amount to 111 hectares, with the site ranging in elevation from 65m to 165m Ordnance Datum (OD). It is traversed by a network of local roads and forestry tracks primarily situated between the N15 national road and the L-7775-2 local road to the west, and Lough Unshin and the L-7815 local road in the east. The subject lands drain in a northerly direction towards the Behy river and in a southerly direction towards Assaroe Lake.

2.0 Proposed Development

2.1. The proposed development can be summarised as follows:

- erection of seven wind turbines with a maximum tip height of 150m, providing for an estimated installed capacity of 27 megawatts (MW) or potential to produce approximately 82,782 megawatt hours (MWh) of electricity per annum. The turbines would typically be 4m in diameter at the base, tapering to 1.9m at the nacelle, with a foundation base c.19m in diameter and c.4m in depth and with reinforced concrete foundations, while turbine 5 would possibly require a piled foundation;
- seven turbine hardstanding bases of approximately 35m x 55m (c.1,925sq.m), plus temporary set-down hardstanding areas for each turbine;
- erection of an anemometry mast with a height of up to 100m, located off the L-7815 local road on the eastern side of the site, set onto a hardstanding base of 294sq.m and erected as either a free-standing structure or a structure held by guy wires;

- excavation of a centrally-positioned borrow pit and associated infrastructure, measuring a stated 1.5ha and located between 119m OD and 144m OD level, to provide an estimated 150,000m^3 of granular fill to be excavated by rock breaking and, if required, by blasting. The borrow pit would feature a 2m-high rock berm along the southern side adjacent to the site access tracks and would be backfilled with peat and soil in two trenches with depths of 8.7m to 10m;
- construction of approximately 2.4km of new access tracks and upgrade of 7km of existing site access tracks (standard width of track is indicated as 5m), with passing-bays, associated drainage and adjacent parallel service 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. Construction material would be imported from the proposed on-site borrow pit, and any shortfall would be obtained from local quarries;
- one new clear span watercourse crossing and two upgraded water crossings along the site access tracks;
- an electricity substation compound measuring an approximate area of 0.25ha, enclosed by a 2.65m-high fence, encompassing a single-storey control building (with a stated gross floor area of 149sq.m) accommodating welfare, office and switch-room facilities, alongside the compound electrical infrastructure, external yard area with container compound, waste management areas and all associated infrastructure, including wastewater holding tank;
- all associated surface water drainage, peat management and sediment control;
- installation of underground cabling along access roads between the proposed turbines and the proposed electricity substation compound;
- three indicative options for the electrical connection to the national grid are outlined, including a 6.6km connection to the Cathleen's Falls substation adjacent to the east of Ballyshannon, a 3.3km connection to the Cliff substation north of Belleek and a 6.7km connection via the permitted

Derrykillew Community Wind Farm connecting with the Cliff substation, and with each connection option stated to be in accordance with ESB/EirGrid requirements and primarily featuring underground electrical cabling following windfarm tracks and public roads, with overhead watercourse crossing options and with joint bays approximately every 500m;

- provision of a temporary construction compound measuring 1.3ha in area, adjacent to the proposed electricity substation compound, including temporary offices and work accommodation and associated ancillary infrastructure, comprising parking, storage, fuel stores, wash and waste management area;
- construction of a new entrance off the L-7755-2 at Tullyhork to facilitate turbine delivery access connecting into the site via new track with a stated length of 1.2km and featuring boundary treatment clearance and hard surfacing at the local road junction, to be reinstated with gates;
- revised road junctions onto the L-7815-2 and the L-7795-1 local roads at Cashelard, featuring boundary treatment clearance and temporary hard surfacing areas and with warning signage and sightlines to be maintained during the project construction and operational phases;
- provision of 7.3km of recreational amenity trails with upgraded and waymarked signage to walkways, featuring viewing points and amenity areas, as well as a centrally-positioned compacted stone finish car park for five vehicles along the L-7795-1 local road at Cashelard;
- felling of commercial forestry areas amounting to approximately 20.8ha to facilitate turbine bases, roads and associated infrastructure, with a potential replacement replanting area identified off-site and felling of 24ha at Croaghbreesy east of the site, as part of a Hen Harrier Habitat Enhancement Plan;
- a ten-year planning permission is sought, as well as a 30-year operational life for the development from the date of commissioning of the entire wind farm.

2.1.1. In addition to the standard contents, the planning application was accompanied by an Environmental Impact Assessment Report (EIAR) with multiple appendices, including a Book of Photomontages, a Natura Impact Statement (NIS) and letters

from parties stated to be the relevant owners of lands pertaining to the site and consenting to the 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 four reasons, which can be summarised as follows:

Reason 1 - inability to adequately assess wind energy proposals in the absence of current Development Plan policy and National Guidelines for wind energy;

Reason 2 - the development would have a negative impact on nesting and foraging areas used by Hen Harrier;

Reason 3 – impacts on the amenities of neighbouring residents arising from the absence of detailed comprehensive data assessing noise;

Reason 4 – a road safety audit is required for the proposed development.

3.2. Planning Authority Reports

3.2.1. Planning Reports

The planning authority's report included reference to the following:

- a high court action challenging the nature of the wind energy policies adopted in the Donegal County Development Plan 2018-2024 resulted in the removal of significant parts of the wind energy policies and a lacuna in policy terms. The planning authority await publication of new wind energy guidelines;
- the site is situated in the middle tier of landscape protection areas for the county, within an area of high scenic amenity, and the proposals would not impact on designated views or prospects. However, in the absence of appropriate policy, determination regarding the suitability of the development in this landscape cannot be concluded;

- an assessment in relation to the impact of the project on local cottage tourism industries, wooded areas, lakes and the Wild Atlantic Way tourism initiative is required;
- mitigation measures proposed with respect to interference with communications systems, aviation and the Department of Defence requirements, construction and operational phase drainage, air quality and climate, shadow flicker and cultural heritage would be satisfactory in addressing the potential impacts arising;
- other than concerns relating to Hen Harrier, no significant effects on key ecological receptors are envisaged;
- the breeding pair of Hen Harrier identified within the study area are considered to be of national / international importance;
- the buffer / setback areas of 500m used for the vantage point bird surveys, as opposed to the 2km standard recommended in the Scottish Natural Heritage (NatureScot) guidelines is not justified and an underestimation in the suitable foraging area for Hen Harrier is likely to have arisen;
- adverse effects on Hen Harrier cannot be mitigated by the compensatory measures outlined in the enhancement plan relating to the foraging area;
- the proposed development would contravene objectives NH-O-3 and NH-O-10 of the Development Plan, relating to conserving and restoring biodiversity;
- considering the cumulative assessment alongside the three grid connection options, project splitting issues do not arise;
- operation of the windfarm would have long-term moderate positive impacts as a result of reduced greenhouse gas emissions;
- the noise assessment omits sensitive receptors in neighbouring areas of Northern Ireland;
- in the absence of a road safety audit all direct and indirect impacts of the development have not been adequately addressed or considered;
- adverse effects on the integrity of neighbouring European sites, in light of the sites' conservation objectives, would not arise.

3.2.2. Other Technical Reports

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

Chief Fire Officer

- no objection, subject to a fire safety certificate being obtained for the substation building.

National Roads Development Office

- no response.

Executive Engineer – Roads and Transportation

- further information requested regarding the haul and service routes and the associated cabling equipment, with possible conditions also recommended, including those relating to road surveys, road maintenance, road repairs and the submission of bonds.

3.3. Prescribed Bodies

3.3.1. The main points and recommendations raised by prescribed bodies engaged during consultation for the planning application, can be summarised as follows:

Transport Infrastructure Ireland (TII)

- prior to issuing a decision, matters relating to haul routes along national roads, including abnormal load assessment, should be undertaken;
- works along the national roads should be subject to a road safety audit;
- alternative cable route options should be considered in order to avoid national roads.

Department of Culture, Heritage and the Gaeltacht (National Parks & Wildlife Service)

- according to the evidence supplied in the NIS and the EIAR, no significant direct or indirect impacts are identified for European sites and protected species or habitats within the Republic of Ireland area of the project's zone of influence, but this would not be the case with respect to Hen Harrier;

- evidence of previous use of the site and locality by Hen Harrier is referenced;
- there is potential for impacts on Hen Harrier arising from displacement and or fragmentation of the core area of an identified breeding territory with gaps in the information presented and, therefore, the potential to fully assess the impacts is less certain;
- guidance indicates a halving of flight activity for Hen Harrier and a 52% reduction in Hen Harrier breeding within a 500m buffer of a wind energy array;
- claims that the impact of the development on the core range of Hen Harrier would be 1% or 2.2% cumulatively with other developments, are not justified;
- a single breeding pair of Hen Harrier, as noted in the surveys, is considered of national/international importance based on the estimated national population of this bird species (108-157) and it is unclear how the applicant concludes that no significant cumulative effects would arise for Hen Harrier;
- under Article 6(3) of the Habitats Directive, compensation for the negative effects of the project, including the measures proposed in the Hen Harrier habitat enhancement plan, cannot be taken into account as part of the appropriate assessment of the impact of the project.

Department of Culture, Heritage and the Gaeltacht (National Monument Service)

- archaeological monitoring by a suitably qualified archaeologist should be undertaken during ground disturbance and mitigation via preservation in situ and/or excavation may be necessary.

An Taisce

- the development site is located within a non-designated regionally–important area for Hen Harrier and the identified breeding pair of Hen Harrier are considered of national/international importance;
- Hen Harriers avoid nesting near turbine sites due to the noise disturbance, which hinders their ability to hunt;
- the buffer zones used in assessing impacts on Hen Harrier are inconsistent and fail to acknowledge the NatureScot 2km-buffer guidance, leading to flaws

in the manner in which the resultant enhancement area for Hen Harrier was arrived at;

- a scientific basis for the Hen Harrier active area and the likely displacement of Hen Harrier, including the estimation of potential suitable foraging area that would be lost, has not been provided;
- there is potential for 80% of the core foraging area for Hen Harrier to be lost as a result of the proposed development, as these areas are all situated within a 1km distance of the proposed turbines;
- the applicant has hugely underestimated the foraging area that would be lost, given the location of the Hen Harrier nest sites within 2km of proposed turbines and the permitted turbine locations in the neighbouring Derrykillew Community Wind Farm;
- in conjunction with the neighbouring Derrykillew Community Wind Farm, a barrier to lands to the south and an excessive loss of foraging area would arise;
- the impact of the development on Hen Harrier would be of 'high effect significance' and the development has potential to seriously diminish the foraging and breeding area available for Hen Harrier, an Annex 1 species protected under the Birds Directive and for which habitat, including breeding sites and resting places, should not be deteriorated or destroyed, while deliberate disturbance during breeding, rearing, hibernation and migration is also prohibited;
- the proposed development would contravene policies NH-P-2 and NH-P-5, as well as objectives NH-O-1 and NH-O-10 of the Development Plan, aimed at protecting, conserving, sustaining and enhancing biodiversity;
- the planning authority should request a displacement study in relation to impacts on Hen Harrier that is based on a rigorous and a standard referenced method.

Inland Fisheries Ireland (IFI)

- necessary measures in relation to fuel storage on site, as well as the operation and maintenance of machinery are outlined;

- bridged or culverted watercourse crossings should only be used;
- advice is provided regarding the maintenance of stream profiles, avoiding shooting velocities, use of floating roads where peat depths exceed 1m and the need for piling at turbine bases with deep peat and within 50m or more of watercourses;
- specific requirements for roadside treatments, settlement ponds and construction activities are outlined;
- monitoring of surface water flows during construction is essential and measures should be extended into the operational phase;
- the likely increase in surface water flow from the site needs to be addressed via identified and implemented attenuation measures;
- the presence of invasive species needs due consideration and appropriate action;
- a suitably qualified person should oversee the construction works to ensure implementation of mitigation measures, to continually monitor peat stability, to address slippage, to ensure compliance with the peat restoration plan and to provide for the establishment of contact protocols.

Department of Defence

- low-level aviation routes where wind farms should be restricted are outlined, including routes within three nautical miles (NM) of the N15 national road;
- where permission is granted, a condition should be attached requiring warning lighting to be fitted to turbines.

Irish Aviation Authority (IAA)

- warning lighting should be agreed and details of the turbines, including their locations, should be provided;
- the IAA should be notified within 30 days of commencing crane operations.

3.3.2. The main points raised and recommendations made during consultation by the planning authority with transboundary organisations in Northern Ireland can be summarised as follows:

Fermanagh & Omagh District Council

- the closest landscape character areas (LCAs) in Northern Ireland are LCA 2 (Lower Lough Erne) and LCA 3 (Croagh and Garvary River), both of which are considered to have high sensitivity to wind energy development;
- the magnitude of change from viewpoint 1 (Kane's Turn, A47 east of Belleek) is considered low, as is the visual impact from photomontage viewpoint 15 (Commons area, Belleek);
- concerns are expressed regarding the long-term views of the turbines from the Lower Lough Erne area at photomontage viewpoints 8, 9 and 14;
- the cumulative visual impact of the proposed development in conjunction with the permitted Derrykillew Community Wind Farm needs to be considered with respect to viewpoint 17 in particular;
- while the proposals would result in a very significant change in the landscape and despite concerns raised regarding critical viewpoints, the Council may consider that the impact of the proposals would be acceptable given the separation distances and the permitted Derrykillew Community Wind Farm;
- impacts on the natural and built environment, ecology, ornithology, residential amenity and telecommunications may need consideration.

Environmental Health Service

- no sensitive receptors in Northern Ireland have been considered in the noise assessment;
- the cumulative impacts of the subject proposals alongside the neighbouring permitted Derrykillew Community Wind Farm, including a sixth proposed wind turbine approximately 1.4km northeast of noise-sensitive receptors at Derrynacrannog Road, Belleek, needs to be addressed;
- cumulative noise assessment based on appropriate standards at nearby residential receptors in Northern Ireland is required, or narrative to justify why this was not undertaken;

- ETSU-R-97 standards for 'The Assessment and Rating of Noise from Wind Farms' require noise limits for a wind farm to be in the range of between 35 to 40dB $L_{A90, 10min}$, dependent on a number of factors;
- conditions with respect to noise compliance relative to ETSU standards are the norm in Northern Ireland and are recommended;
- additional conditions to address complaints procedures arising from the project, in line with the Institute of Acoustic's 'Good Practice Guide', should also be attached.

Department of Infrastructure (Rivers Planning Advisory Unit)

- a hydrological link via rivers to Northern Ireland from the site does not exist.

The Loughs Agency

- the proposed development falls outside the geographical jurisdiction of the Loughs Agency.

St. Angelo's Airport

- no issues with the proposed development.

Royal Society for the Protection of Birds (RSPB)

- the applicant should liaise with Birdwatch Ireland (BWI);
- vantage point surveys do not cover the entire site area, with specific turbine locations and buffer zones not within the areas visible from the vantage points. Better coverage via vantage point surveys would have been expected;
- the cumulative impacts of the development alongside the permitted Derrykillew Community Wind Farm may result in displacement of Hen Harriers from their current foraging areas and the loss of nesting areas;
- calculations used to determine the potential foraging displacement area for Hen Harrier appear to fall short based on the assertion that bird flight lines would only cover a ground foraging area of 1.1m in width, rather than a much wider area, including areas within 1km of either the proposed or neighbouring permitted Derrykillew Community Wind Farm. The calculations are not backed up and appear to disregard the core foraging area, as identified in the

Hen Harrier viable foraging enhancement area, as provided in appendix 6-7 of the EIAR;

- the potential displacement area for Hen Harrier is considerably higher than the 24.2ha calculated, therefore, the proposed compensation area should be of a greater scale than that proposed;
- recommendations in the event of a grant of planning permission are set out, including requirements relating to the management of afforested areas, avoiding the disturbance of nesting birds during the period 1st March to the 31st August, provision of a revised Hen Harrier enhancement plan with comprehensive monitoring proposals and the submission of a post-construction bird-monitoring programme.

Department of Agriculture, Environment and Rural Affairs - Northern Ireland Environmental Agency (NIEA)

Drainage & Water

- the applicant is directed to guidance within six Standing Advice notes addressing pollution prevention, sustainable drainage, discharges to water, abstractions, impoundments and culverting, as well as commercial and industrial development;
- should directional drilling be undertaken, as mentioned in the Construction and Environmental Management Plan (CEMP), mitigation measures would be required to prevent pollution to waterways in the event of any instance of frack-out;
- monitoring and maintenance schedules for all surface water mitigation measures would be necessary during the construction phase;
- the mobile bowser and fuel storage containers should comply with the requirements of oil storage legislation;
- construction method statements would be necessary for works in or near waterways;
- borrow pits should only be used if suitable alternatives are not available;
- requirements for sewage disposal are listed;

- the obligations set out under the Water Framework Directive (WFD) should not be compromised by the development;

Land, Soil & Water

- no comments to make regarding impacts on groundwater flow paths and private water supplies based on the separation distance to Northern Ireland;

Natural Heritage and Conversation Areas

- ornithological surveys carried out appear to be of a high standard using approved methods;
- the site is not likely to be of outstanding importance for foraging by birds of prey that are of conservation concern and breeding within Northern Ireland, with the closest Hen Harrier nest within Northern Ireland located 10km from the site – Hen Harrier foraging range for breeding birds is unlikely to extend beyond 11km based on a University College Cork (UCC) study titled 'Optimum scenarios for Hen Harrier Conservation in Ireland' and prepared for the Department of Agriculture, Food & the Marine;
- the site is proximate to the Pettigoe Plateau Special Protection Area (SPA), and the pair of Hen Harrier identified during surveying, regularly forage through this SPA;
- the project would not have a significant adverse impact on Hen Harriers nesting or foraging in Northern Ireland;
- Merlin was not identified to be nesting within 10km of the site in Northern Ireland and a former peregrine falcon nest site is located approximately 5km from the site, but peregrine falcon would not be at significant risk of displacement or collision from the project;
- breeding Golden Plover are a qualifying interest for the Pettigoe Plateau Special Protection Area (SPA), but the site does not appear to be on a regular migratory route for this species and the risk of collision over the lifetime of the project would be within acceptable limits;
- the project should avoid any significant disturbance of breeding waders in the vicinity and based on studies the single curlew observed during surveys would

be likely to be breeding outside the zone of potential disturbance, while lapwing were not observed;

- eight possible territories for snipe are identified in the wider area, with five of these within or impinging upon the 500m development buffer zones and two maybe at risk of displacement based on studies. Mitigation measures to at least maintain the existing snipe numbers or the possible creation or management of compensatory habitat for snipe may be necessary;
- disturbance of breeding red grouse in Northern Ireland would be negligible, and there are six possible territories for red grouse identified within 2km of the site, three of which overlap the 500m development buffer zone. While red grouse may initially be displaced during construction activities, studies reveal that they rapidly re-colonise during the operational phase of windfarms;
- Donegal Bay and the Upper Lough Erne are known to constitute a migration corridor for wintering Whooper Swans, however, based on the surveys the site does not appear to be on the main migration route and the impact on this bird species is considered negligible;
- the site is not situated on a regular flyway or foraging/roosting area for large numbers of waterfowl and the project would not have a significant effect on any migratory waterfowl populations moving into or out of Northern Ireland;
- the proposed development presents no significant threats to Northern Ireland or transboundary bird populations, or to the integrity of the Pettigoe Plateau SPA;
- given the decline of curlew and snipe and the susceptibility of these birds and red grouse to disturbance and displacement during construction activity, no construction work should occur between the 1st day of March and 31st August or the site should be monitored regularly by a qualified and experienced ornithologist for breeding activity and appropriate mitigation measures implemented to prevent disturbance of nest sites;
- current wet areas on site should be retained to provide habitat for snipe and any loss in such habitat should be compensated.

Department for Communities (Historic Environmental Division)

- the proposals are satisfactory based on archaeological policy requirements.

3.4. Third-Party Submissions

3.4.1. A total of 15 submissions from residents, a local community group and businesses of the Ballyshannon area were received by the planning authority during the prescribed period, with 11 of these submissions objecting to or raising concerns regarding the proposed development, while four submissions were submitted in support of the proposed development. The issues raised in the submissions are collectively summarised under the headings below:

Visual Amenities

- the height of the proposed turbines would restrict or spoil views of mountainous backdrops and would be excessive in this scenic landscape at an entrance to Donegal along the Wild Atlantic Way and along an elevated ridge;
- the site is not suitable for a wind farm based on its proximity to Ballyshannon heritage town, the village of Belleek and the 'open for consideration' wind energy development objectives for this area in the Development Plan;
- the photomontage from viewpoint 4 is misleading and other sensitive locations close to residential receptors should have been considered for the visual impact assessment;
- there are discrepancies in the landscape character designations for the area;
- the area features an overconcentration of powerlines relative to the regional energy demand and already fulfils its commitments to the national climate target;
- a setback of at least ten times the tip height to the nearest houses should be applied to restrict the turbine heights;

Residential Amenities

- low frequency noise emissions from the turbines during night-time would have negative impacts for neighbouring residents, including persons sensitive to noise emissions, such as those diagnosed with autism;
- the impacts arising from shadow flicker would exceed relevant standards and would be disruptive for residents, including for those working from home;
- various concerns are raised regarding the impacts of the development on local residences during construction, including the additional traffic and emissions;

Material Assets & the Economy

- interference with telecommunications services, including broadband infrastructures, would impact on residents and local businesses;
- proposals have potential to impact on the availability of local public water supplies, including those sourced from Columbkille Lough and Lough Unshin;
- there would be a depreciation in the value of local property based on the findings of several referenced studies;
- the local grid does not have capacity for the additional energy input;
- the local roads network would be incapable of accommodating the project equipment loading;
- negative impacts on tourism would arise, including the potential to discourage visitors to the area;
- wind energy is being implemented to benefit a capitalistic feast rather than a green agenda;
- a more secure and consistent energy supply should be considered and focused upon as an alternative to wind energy, to include other beneficial environmental actions;
- the economic benefits for the local area would be negligible and the development of the country needs to follow the vision and legacy approach advocated in the National Planning Framework;

Environmental Impacts

- project splitting arises, while regard should be had to High Court judgements and various CJEU judgements should be complied with in any grant of planning permission;
- negative impacts would arise for the environment and wildlife;
- AA cannot be carried out with reasonable certainty, particularly with respect to effects of the project on Hen Harrier, based on the specifics of the development details provided;
- impacts on the integrity of European sites proximate to the site, including the adjoining Golagh & Breesy Hill Special Area of Conservation (SAC) (Site Code: 002164);
- further consideration of the breeding area for Hen Harrier known to use the upland area is required;
- the Donegal area already has sufficient wind farms and cumulative consideration with the adjacent permitted windfarm, including environmental monitoring results for same, is required;

Community & Engagement

- despite comments in the application, residents were not consulted in relation to the proposals;
- meaningful community consultation, as well as active community engagement was not undertaken for the project;

Potential Positive Impacts

- the community gain fund, the educational benefits and the construction works would be of benefit to the locality;
- another renewable energy solution reducing the carbon footprint and moving away from fossil fuel burning is to be welcomed;
- the routes between the turbines would be open to walkers and others, and this would encourage tourists to the area.

4.0 Planning History

4.1. Appeal Site

4.1.1. Pre-planning discussions between representatives of the planning authority and the applicant regarding an eight turbine wind farm development, are stated to have taken place in July 2018 under planning authority reference (ref.) PP4899. Neither the applicant, nor the planning authority, have identified any previous planning applications within the appeal site boundaries.

4.2. Surrounding Area

4.2.1. Section 2.6 of the EIAR submitted by the applicant provides a detailed list of planning applications in the vicinity of the planning application site, while also identifying existing and permitted wind energy applications in a 20km radius of the appeal site, including applications in the Northern Ireland area. The majority of recent planning applications in the immediate vicinity of the turbine site and along the grid connection route options relate to one-off housing, domestic extensions and agricultural developments.

4.2.2. The permitted Derrykillew Community Wind Farm located 2km to the southeast of the appeal site and the existing Acres Wind Farm located 2km to the west of the appeal site entrance are the closest wind farm developments to the appeal site, and the respective planning applications for these two wind farms are detailed as follows:

<u>Derrykillew Community Wind Farm</u>

- ABP Ref. PL05E.245108 (planning authority ref. 14/51400) – a 10-year permission was granted by An Bord Pleanála in March 2016 for a five turbine wind farm, with turbine heights not exceeding 136m and with a lifespan of 25 years;
- planning authority ref. 18/51715 – retention permission was granted in February 2019 by the planning authority to Derrykillew Community Wind Farm Ltd. for a lattice-type meteorological mast 80m in height and its continued use for two years;

- ABP Ref. PL05E.304858 – in April 2020 the Board decided that a 110kv substation and connections to the national grid proposed to serve Derrykillew Community Wind Farm is a strategic infrastructure development (SID);
- ABP Ref. 307520-20 (planning authority ref. 19/51750) – permission was refused by the planning authority in June 2020 for amendments to the permitted Derrykillew Community Wind Farm (ABP Ref. PL05E.245108) comprising an increase in the height for all five previously permitted turbine tip heights to 150m, repositioning two turbines, revised ancillary works and an extended 30-year lifespan for the project. The reasons for refusal related to a lacuna in wind energy policy and noise impacts for receptors in Northern Ireland. A decision on this appeal is due in November 2020.

Acres Wind Farm

- planning authority ref. 13/50420 – permission was granted in February 2019 by the planning authority for an additional sixth turbine with maximum tip height of 130.5m, extending the wind farm originally permitted under ABP Refs. PL05.212856 and PL05.219705.

4.3. Similar Applications

4.3.1. Multiple wind energy planning applications, including SID applications (under Section 37 of the Planning and Development Act 2000, as amended) have been decided or are under consideration by the Board for the Donegal area and a selection of recent relevant cases is set out below. This does not purport to represent an exhaustive list of wind energy cases in Donegal or the wider area.

- ABP Ref. PL05E.300460 - SID application permitted in June 2018 for a wind farm comprising 19 turbines, a grid connection and all associated site works at Meenbog, Croaghonagh and Cashelnavean townlands located 27km to the northwest of the appeal site;
- ABP Ref. PL05E.304198 (planning authority ref. 18/50132) – planning permission granted by the Board in July 2019 for an additional turbine with an overall tip height of up to 124.5m located to the north of Killybegs and 25km northwest of the appeal site;

- ABP Ref. PL05E.304685 (planning authority ref. 18/50156) - planning permission was refused by the planning authority in May 2019 for a six wind turbine project with overall tip heights of up to 135m and all associated infrastructure, structures and services on a site at Momeen and Lettergull, 4.5km northeast of Raphoe, in the east of the county, due to a lacuna in wind energy policy and the implications of the project for the N14 national road scheme. An Bord Pleanála subsequently granted permission in July 2020 for the development, including a condition omitting two of the turbines;
- ABP Ref. PL05E.305861 (planning authority ref. 18/51230) - following refusal of planning permission by the planning authority in October 2019 for a six wind turbine project with overall tip heights of up to 124.5m and all associated infrastructure, structures and services on a site at Quigley's Point on the Inishowen peninsula, due to a reason relating to a lacuna in wind energy policy. A first-party appeal of this decision was lodged to An Bord Pleanála and a decision had not issued as of September 2020;
- ABP Ref. PL05E.306303 – SID application lodged in December 2019 for decommissioning and removal of 25 wind turbines and the construction of up to 13 wind turbines and all associated site development and ancillary works, including upgrade works associated with the existing 110kV grid connection and the widening of a junction and a local road at Keadew Upper, Cullinoboy and Clogher townlands, 22km to the northwest of the appeal site.

5.0 Policy & Context

Selected renewable energy, climate change and planning policy documents from a European, National, regional and local perspective are outlined below. Chapter 2 of the EIAR submitted provides detailed and extensive further information relating to the policy context for wind energy developments in Ireland and appendix A to this report provides a non-exhaustive list of reference documents relating to this appeal.

5.1. European Policy

5.1.1. Renewable Energy Directive 2018/2001/EU

This Directive promotes the use of energy from renewable sources and establishes a new binding renewable energy target for the EU of at least 32% in 2030, which is up from the 20% target set in the 2008 Directive. By the end of 2019, member states were required to submit a ten-year National Energy & Climate Plan (NECPs) for the 2021 to 2030 period, outlining how they will meet the new 2030 targets for renewable energy and energy efficiency.

5.1.2. 7th Environment Action Programme to 2020

This is an EU Action Programme that aims to guide the EU into a resource-efficient, green and competitive low-carbon economy. An 8th Action programme is expected to be prepared to cover the 2021 to 2030 period.

5.1.3. The Paris Agreement, 2015

Superseding the 2005 Kyoto Protocol, this agreement within the United Nations Framework Convention on Climate Change (UNFCCC), addresses greenhouse gas 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. 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 and is underpinned by the National Development Plan 2018-2027. Chapter 3 of the Framework addresses 'effective regional development' and includes the following policy priorities for the subject Northern and Western region:

- 'harnessing the potential of the region in renewable energy terms across the technological spectrum from wind and solar to biomass and wave 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’.

National Policy Objective (NPO) 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 NPO 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 informing 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’.

5.2.2. **National Energy and Climate Plan (NECP) 2021-2030**

This first draft of the NECP takes into account energy and climate policies developed to date, the levels of demographic and economic growth identified in the NPF and includes all of the climate and energy measures set out in the National Development Plan 2018-2027.

5.2.3. **Climate Action Plan 2019**

5.2.4. The Climate Action Plan 2019 seeks to realise a 30% reduction in greenhouse gas emissions and increase reliance on renewables from 30% to 70%, thereby adding 12GW of renewable energy capacity by 2030, whilst also phasing out reliance on

fossil fuels. This Action Plan sets out a major programme of change in order to achieve a net zero carbon energy system objective for Ireland, while also reflecting Ireland's commitment to achieving 2030 sustainable development goals. According to the Plan, increasing onshore and offshore wind capacity are the most economical options for electricity production based on the marginal abatement cost curve. To meet the required level of emissions reduction by 2030, Ireland will need up to 8.2GW in total of increased onshore wind capacity. Under the action item 'Regulatory Streamlining of Renewables and Grid Development', the Plan identifies the publishing of updated planning guidelines for onshore wind in 2019. In terms of land use, the Action Plan outlines that the management of land affects how much carbon is emitted to or removed from the atmosphere.

5.2.5. Wind Energy Development Guidelines (2006)

The Wind Energy Development Guidelines 2006 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 with respect to a focused review of the 2006 Guidelines and a 'preferred draft approach' to the review was announced in June 2017.

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

These interim guidelines were issued under Section 28 of the Planning and Development Act 2000, as amended. They focus on administrative procedure and do not replace or amend the Wind Energy Development Guidelines 2006, which remain in place pending the completion of ongoing review. Section 28 of the aforementioned 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 interim guidelines provide specific guidance on making, reviewing, varying and amending the wind energy policies or objectives of a Development Plan or a Local Area Plan. A planning authority shall acknowledge and document specific national strategy relating to energy policy, indicate how the implementation of a Development Plan or a 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 in a Development Plan or a Local Area Plan to introduce or vary a mandatory setback distance or distances for wind turbines from specified land uses or classes of land use. This approach is reaffirmed in the Departmental Circular PL5/2017.

5.2.7. Draft Wind Energy Development Guidelines 2019

The current Departmental approach is to address a number of key aspects of the 2006 Guidelines, including sound or noise, visual amenity setback, shadow flicker, consultation obligations, community dividend and grid connections. Consultation on the draft Guidelines ended in February 2020.

The draft guidelines identify Specific Planning Policy Requirements (SPPR), and subject to formal adoption of the Guidelines, it is intended that these SPPRs would be applied by planning authorities and An Bord Pleanála in the performance of their functions, as well as having regard to additional matters for consideration in assessing wind energy developments. Notable changes in the draft guidelines when compared with the 2006 wind energy guidelines relate to community engagement, noise limits and minimum separation distances.

5.3. Regional Policy

5.3.1. Regional Spatial & Economic Strategy for the Northern and Western Regional Assembly

The Regional Spatial and Economic Strategy (RSES) provides a 12-year high-level development framework for the Northern and Western Region that supports the implementation of the National Planning Framework (NPF) and the relevant economic policies and objectives of Government. The Strategy recognises the

success of the region in the provision of renewable energy from hydropower and onshore wind energy, with wind turbines a new feature in the region's landscapes. The significance of the potential for all new energy outputs connecting to the national electricity grid are also recognised, as are the challenges to same, including a new regulatory environment in the guise of wind energy guidelines to replace the 2006 guidelines, and a fit for purpose transmission network.

5.4. Local Policy

5.4.1. Donegal County Development Plan 2018-2024

Policy

Section 8.2 of the Development Plan outlines the aim for energy development in the County, involving the facilitation of development comprising a diverse energy portfolio, including wind and other energy sources. A host of objectives and policies supporting the development of wind energy projects in the County and aimed at controlling the locations and impacts of wind energy developments are also listed within section 8.2 of the Development Plan.

Development Guidelines

Development guidelines and technical standards for wind energy developments are outlined in section 6 of Part B to Appendix 3 of the Plan, which lists additional locations where wind energy projects must not be located, including '(c) areas identified as locations where wind farm development would not be acceptable, as identified on map 8.2.1 of the Plan' and '(f) areas within a setback distance of ten times the tip height of proposed turbines from residential properties and other centres of human habitation'. A centre of human habitation is defined in the Plan to include schools, hospitals, churches, residential buildings or buildings used for public assembly.

It is understood that in light of both a High Court Order (Record Number 2018/533JR between Planree Limited and Donegal County Council) dated 5th November 2018 and the publication of the Draft Wind Energy Guidelines on 12th December 2019, certain provisions of the Development Plan, comprising section 6.5(c) and (f) of the Wind Energy standards at Part B: Appendix 3 'Development Guidelines and Technical Standards' and Map 8.2.1, were ordered to be deleted and/or removed

from the Development Plan. The Development Plan is to be read in light of this Order pending any possible future variation of same and the planning authority intends preparing a variation to the Development Plan regarding wind energy.

Prior to the Order requiring removal of specific elements of the Plan, with the exception of the western end of the site comprising the new access track off the L-7775 local road, the appeal site, including turbine locations, was located within an area where wind farm developments are 'open to consideration' and the Plan had stated that these areas:

- have been identified having regard to a range of factors, including wind energy potential (through the wind speed atlas www.seai.ie), existing grid connections, proposed grid connections, natural heritage designations and landscape sensitivity, road infrastructure and where potential conflict with natural heritage designations may be managed effectively.

Landscape Designation

To conserve, protect and manage the County's natural heritage for future generations and encourage appreciation and enjoyment of these resources, section 7.1 of the Plan categorises the landscape of the County into three areas, as illustrated in Map 7.1.1 of the Plan, including areas of 'Especially High Scenic Amenity' (EHSA), 'High Scenic Amenity' (HSA) and 'Moderate Scenic Amenity' (MSA), none of which are considered to be of low landscape value. The appeal site is situated within the middle tier, a HSA area, which is defined in the Plan as comprising:

- 'landscapes of significant aesthetic, cultural, heritage and environmental quality that are unique to their locality and are a fundamental element of the landscape and identity of County Donegal. These areas have the capacity to absorb sensitively located development of scale, design and use that will enable assimilation into the receiving landscape and which does not detract from the quality of the landscape, subject to compliance with all other objectives and policies of the plan'.

Policy NH-P-7 of the Plan highlights that subject to other Plan objectives and policies, within a HSA it is policy to facilitate development of a nature, location and scale that allows development to integrate within and reflect the character and

amenity designation of the landscape. Within each of the three landscape classification areas, there may be areas that do not fully meet the definition of the designation, however, anomalies in landscape designation shall not be considered for wind energy proposals or ancillary works, individually or in the context of all other objectives and policies contained in the Plan.

Biodiversity

Section 7.1 of the Development Plan includes objectives and policies conserving, protecting and managing the county's natural heritage, including the following:

- **NH-O-1:** To protect, sustainably manage and enhance the rich biodiversity of County Donegal for present and future generations;
- **NH-O-3:** To maintain the conservation value of all existing and/or proposed SACs, SPAs, NHAs and RAMSAR sites including those plant and animal species that have been identified for protection under the EU Habitats Directive (92/43/EEC), EU Birds Directive (79/409/EEC as amended by 2009/147/EC), the Wildlife Acts (1976-2014) and the Flora Protection Order (2015).
- **NH-O-10:** To maintain and restore ecosystems and to conserve valuable or threatened habitats and species in order to prevent further loss of biodiversity and to meet the EU's target to halt biodiversity loss by 2020 through the implementation of the EU Biodiversity Strategy (2011) or as updated.
- **NH-P-5:** It is a policy of the Council to require consideration of the impact of potential development on habitats of natural value that are key features of the County's ecological network and to incorporate appropriate mitigating biodiversity measures into development proposals.

5.5. Natural Heritage Designations

5.5.1. The approximate distance and direction to a selection of the nearest European designated natural heritage sites to the appeal site, including Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), are listed in table 1 below.

Table 1. Natural Heritage Designations

Site Code	Site Name	Distance	Direction
002164	Lough Golagh and Breesy Hill SAC	Adjoining	northeast
UK0016607	Pettigoe Plateau SAC	2.3km	east
UK9020051	Pettigoe Plateau SPA	2.3km	east
004151	Donegal Bay SPA	3.3km	west
001992	Tamur Bog SAC	3.8km	northeast
002303	Dunmuckrum Turloughs SAC	4.2km	west
000138	Durnesh Lough SAC	4.6km	northwest
000115	Ballintra SAC	5.0km	north
004145	Durnesh Lough SPA	5.0km	northwest
000428	Lough Melvin SAC	7.4km	south
UK0030047	Lough Melvin SAC	7.9km	south
001125	Dunragh Loughs / Pettigoe Plateau SAC	10.1km	northeast
004099	Pettigoe Plateau Nature Reserve SPA	11.5km	northeast
004187	Sligo Leitrim Uplands SPA	12.4km	southwest
001403	Arroo Mountain SAC	12.4km	southwest
004057	Lough Derg (Donegal) SPA	13.9km	northeast
000163	Lough Eske and Ardnamona Wood SAC	14.8km	north
000625	Bunduff Lough and Machair/Trawalua/Mullaghmore SAC	14.9km	southwest
UK0030045	Largalinny SAC	15km	southeast

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:

Planning Policy

- a review of the Report of the Joint Committee on Climate Action Climate Change: A Cross Party Consensus for Change (March 2019) and the Climate Action Plan 2019 is provided with references to actions that would be

supported by the subject project, including the transition to decarbonised electricity and the achievement of the 2030 renewable energy delivery target;

- in revising the wind energy policy in the Development Plan, the planning authority failed to comply with the Departmental Circular PL20-13, which advised local authorities to defer amending their policy until such time as the Wind Energy Development Guidelines 2006 are updated;
- the planning authority intends to undertake a variation of the Development Plan on foot of High Court action (under 2018/533JR Planree Ltd. v Donegal County Council) in order to address the void in spatial wind energy policy in the Development Plan, however this variation process will only commence following publication of the revised Wind Energy Guidelines;
- to refuse permission for the proposed development on the basis of 'prematurity' is inappropriate and is not provided for in planning legislation based on the significant and robust policy support for wind energy development in the Development Plan, the provisions of the Wind Energy Development Guidelines 2006, including the requirement for planning authorities and An Bord Pleanála to have regard to same in the performance of its functions, and recent case law arising from a High Court judgement 2016/920 JR (Element Power Ireland Limited v An Bord Pleanála), which held that refusal of a wind energy development in the absence of a national wind energy strategy was not a valid reason for refusal of planning permission;
- the absence of a wind energy strategy map from the Development Plan should not merit a reason for refusal of planning permission and the application can be judged on its own merits, as justified in An Bord Pleanála decision (Ref. 304198-18), whereby a grant of planning permission was issued in July 2019 for an additional turbine to a wind farm near Killybegs;
- due consideration of the suitability of the site for the proposed development is contained within the EIAR submitted and the planning authority should not have been restrained as part of the EIA process in adjudicating on the proposed development, particularly considering the lack of any landscape, amenity or ecological sensitivity for the site area;

Birds

- an accurate description of the baseline environment for Hen Harrier is outlined in the EIAR, which leads to an accurate prediction of the likely effects on this bird species, as well as the necessary mitigation measures and the predicted residual impacts;
- Hen Harrier are not qualifying interest for European sites within the zone of influence of the project;
- studies, analysis and reporting of Hen Harrier follow the appropriate guidance and no gaps or inconsistencies in the data or uncertainties in the assessments subsequently arose;
- vantage point surveys follow the relevant guidance and provided sufficient and comprehensive coverage of all areas to allow for collision-risk modelling to be completed, including the areas proximate to turbines 1 and 2;
- the assessment of Hen Harrier use of the site is based on core data surveys over a continuous 27-month period (2016-2018), including two breeding and two winter seasons. Survey records for the previous 2014-2015 period are included with the appeal and the EIAR, and these records revealed that Hen Harrier had bred within the site between 2014 and 2015 and this subsequently informed the 2016 to 2018 surveys. The 2016 to 2018 surveys reveal the local pair of Hen Harrier attempted to breed in areas located more than 1km from the site. The most recent survey from August 2019 confirmed that an active nest site had been established between proposed turbines 1 and 2;
- the 2km survey area and the 500m key study area recommended under the NatureScot guidelines was applied, while a 1km buffer zone was applied cognisant of Hen Harrier reproduction outputs outlined in a paper by Fernandez-Bellon et al (2016) and as part of the identification of a suitable enhancement area to mitigate the potential displacement effect;
- 250m habitat avoidance and 500m temporal flight-activity displacement buffers from turbines were applied based on a ‘Pearce-Higgins model’ and a revised Hen Harrier enhancement plan is appended to the grounds of appeal;

- the submission from the RSPB refers to the vantage point survey for turbine 4 being slightly outside the 2km visibility buffer required under the NatureScot survey methods, but this was undertaken in order to avoid disturbing an identified Hen Harrier roost site;
- Hen Harrier do not extensively use the site and the sub-optimal nature of the semi-mature, mature and felled conifer plantations at the locations of turbines 1 and 2, ensure that no potential significant displacement barrier effects exists regarding the wintering or breeding Hen Harrier population;
- the concept of habitat enhancement in the context of non-SPA Hen Harrier has been established and accepted as part of the permitted developments at Meenbog Wind Farm in Donegal (ABP Ref. 300460-17) and Castlepook Wind Farm in Cork (ABP Ref. PL04.240434);
- objective NH-O-3 of the Development Plan, as referenced by the planning authority in their decision to refuse permission, is not relevant, as it only refers to protected species to the extent that they are included in European sites, NHAs and RAMSAR (wetlands of international importance) sites;
- should the Board be minded to exclude proposed turbines 1 and 2, the proposed enhancement plan would continue to be adopted in the interest of biodiversity net gain;
- the Department of Agriculture, Environment and Rural Affairs (NI) does not object to the development on ornithological grounds;

Noise

- receptors in Northern Ireland were considered from the outset of the surveys, which identified that baseline noise monitoring was not necessary at these receptors based on the application of appropriate standards, and a conclusion that no significant adverse effects arising from the proposed development was arrived at. A Technical Note addressing this is appended to the grounds of appeal;
- robust consideration of noise impacts was undertaken, including the cumulative impacts with the permitted Derrykillew Community Wind Farm, in

line with the relevant guidance, and it can be concluded that the amenities of neighbouring residents would not be significantly impacted on;

Transportation Routes

- notwithstanding that a road safety audit is not typical for this stage of a project of this nature, a road safety audit has been carried out and appended as part of the grounds of appeal. This reveals that the overall design is appropriate and would not impact on traffic safety;
- a traffic and transport assessment was undertaken and a statement in relation to this was included as part of the EIAR submitted with the application, and this concluded that there would not be a significant adverse impact on road users during the construction or operational phases of the proposed development;
- details of haul and cabling routes requested by the Roads and Transportation section of the planning authority were provided with the planning application;
- the conditions set out by the Roads and Transportation section would appear reasonable, with the exception of the bond amounting to €360k, which would be excessive considering the local authority's ongoing obligation to maintain the existing road network along the delivery route and as the applicant would reinstate roads following condition surveys;

Bats

- the applicant wishes to add that bat surveys were undertaken in line with the best available guidelines available from Bat Conservation Ireland and the United Kingdom (UK) Bat Conservation Trust (BCT) and no limitations were encountered;
- the bat survey methodology also complies with the NatureScot 2019 guidelines, with the proposed setbacks from turbine blades to the forest edge compliant with the prescribed standards;
- additional bat surveys would be completed in October 2019 to meet the NatureScot guideline requirements and the results of same would be available upon request to the Board;

Visual Impacts

- the planning authority report recognises that the site does not impact on designated views or prospects detailed on Map 7.1.1 of the Development Plan;
- in the context of the existing use of the immediate area as managed commercial forestry, it is concluded that the visual impact of the proposed development would have only a slight cumulative visual effect;
- Fermanagh & Omagh District Council found that concerns regarding the visual impacts of the project from certain views may be considered acceptable given the permitted Derrykillew Community Wind Farm and the separation distances;
- contrary to the planning authority assessment, the visual impacts, as well as on tourist attractions, including the Wild Atlantic Way, have been fully considered as part of the EIAR and studies have highlighted that development of on-shore wind farms does not impact significantly on tourist activity and opinions;

Water

- appended to the grounds of appeal is a separate technical note specifically addressing the hydrological impacts of the development on drinking water supplies of Lough Unshin and Columbkille Lough, and concluding that the proposed development, including design and mitigation measures, would ensure the protection of the water environment and local water supplies;
- no turbines would be located within the catchment of Columbkille Lough and the nearest turbine (no.2) would be 310m from Lough Unshin;
- mitigation measures would be employed to address water quality during construction and supplementary measures would be put in place in the event that significant volumes of water require additional treatment;

Other Matters

- positive recreational and economic benefits for local communities would arise from the proposed amenity trails, the community benefit scheme and the community investment opportunities, as recognised in third-party submissions;
- mitigation measures for the project to address the impacts with respect to shadow flicker, telecommunications, geology, water, air and climate were deemed satisfactory by the planning authority;
- measures prescribed by the IFI, IAA, the Department of Defence and the National Monuments Section of the Department of Culture, Heritage and the Gaeltacht are noted and acceptable to the applicant;
- third-party submissions recognise the benefits that the project would have in aiding a transition to renewable energy from the use of fossil fuels;
- property values in the locality would not be impacted on;
- project splitting does not arise, given that both an EIAR and a NIS were submitted, and as the project grid connection options have been provided and considered as part of the EIAR and NIS;
- legal judgements cited by third parties have informed the nature and scope of the planning application.

6.2. Observations

6.2.1. Two observations were submitted in response to the grounds of appeal, one of which was on behalf of a group of residents from the Ballyshannon area, and a second observation was submitted from the operator of a guest accommodation business located approximately 2km to the southeast of the appeal site. The issues raised by the observers support the planning authority's reasons for refusal of the planning permission and can be collectively summarised as follows:

Planning Policy

- the site and surrounding area is highly sensitive from an ecological and visual perspective, as exemplified in environmental designations and Development Plan policy;
- planning policy enhancing and protecting the quality of places and landscapes, as set out within the NPF, would not be realised via this proposed development;
- wind farms, including their remnants, have significant economic, ecological and wider impacts for society;

Biodiversity

- the site area, containing moors and heathlands, is not typical for wind farms, given the variety of habitat and species, and the designation of these areas;
- there is a lack of certainty regarding the impacts of the development on Lough Golagh and Breesy Hill SAC, as well as flora and fauna, including brown trout, found in local lakes;
- the EIAR has revealed that negative effects, including unexpected circumstances, cannot be avoided, despite the mitigation measures proposed;
- details of proposed post-construction monitoring for the project are not provided in the EIAR and the findings of the EIAR are incorrect;

Birds

- conclusions arrived at in the EIAR relating to impacts on birds were not accurate and the proposals present significant endangerment to raptors via collision with turbine blades, including Hen Harrier resident in the area that are protected under European and Irish legislation;
- during May 2019 Whooper swans have been sighted in Lough Meenaskeagh, located 1km southeast of the site;

Water

- it is difficult to understand how measures within the CEMP would ensure that the proposed development would not impact on public water supplies and the

integrity of European sites, with significant potential for failure arising from unexpected scenarios, such as peat movement and pollutant run-off during the extensive excavation and construction works;

Visual Impacts & Tourism

- the photomontages prepared for the project are not representative and are misleading;
- the proposed development is destined to impact on the tourism potential of Ballyshannon and Belleek, which have benefitted from their position along the Wild Atlantic Way;
- the proposed development would be visible from an expansive area, it would have an excessive cumulative impact when viewed amongst other turbines within 20km of the site and it would damage the landscape character of neighbouring areas. Potential screening would not be fixed due to seasonality and the rotational nature of the commercial tree cover, which needs to be considered in assessing the visual impact of the development;
- alternative uses for the site and locations for the turbines should not be overlooked, and the value of the wilderness of the site needs to be appreciated as part of this assessment, particularly given the attraction of the area to outdoor enthusiasts and the potential economic impacts for tourism;
- to assert that the subject area is 'open for consideration' for wind farm developments, fails to appreciate the landscape classification assigned to this area in the Development Plan;

Human Health

- excessive noise emissions would arise for neighbouring properties, as exemplified in other existing similar size developments;
- shadow flicker would arise;

Roads

- the grid connection works would lead to delays for local traffic;

- the road network required, including widened tracks, would require extensive works, which would lead to destruction of habitat and biodiversity, as well as inevitable alteration of the entire ecosystem;

Consultation

- over half the consultees did not respond to scoping and as a result the EIAR may lack considerable information and a range of opinions;
- only 33 persons attended the public consultation event and public polling was not undertaken, while residents 2km from the site have not been consulted in relation to the project;
- local persons would have less of a desire to use the area following the erection of the turbines;
- the four observations submitted to the planning authority in support of the proposed development were disingenuous and were ultimately not submitted in support of climate change considerations.

6.3. Planning Authority Response

6.3.1. The planning authority's response to the grounds of appeal states that they wish to rely on their previous assessments of the proposed development with additional commentary that can be summarised as follows:

- sufficient policy to enable determination of the application does not exist following a recent High Court judgement 2018/533 JR (Planree Ltd. v Donegal County Council);
- in arriving at a decision to refuse permission based on the impacts of the proposed development on Hen Harrier, the planning authority considered the submissions made with regard to biodiversity and planning policy;
- notwithstanding the appellant's willingness to omit turbines 1 and 2, further investigation and surveying is merited;
- the appellant's comments are noted with respect to the rationale for an absence of noise monitoring at receptors in Northern Ireland;

- in the event of a grant of planning permission, compliance with the recommendations of the road safety audit submitted with the grounds of appeal should form conditions of the permission.

6.4. Further Submissions

6.4.1. The Department of Housing, Planning and Local Government advised that the development is likely to have significant effects on the environment in a transboundary state (Northern Ireland) and the consultation undertaken as part of the application process and appeal are noted by this Department. Following additional consultation during the appeal with the Department of Infrastructure (Northern Ireland) further submissions were made, as outlined below.

- Fermanagh & Omagh District Council provide similar commentary to that initially submitted in response to consultation with the planning authority. The neighbouring Council object to the proposed development based on amenity grounds, from an environmental perspective and due to the visual impacts of the scale, size and number of turbines, including the significant adverse effects of the project on the landscape character of the Lower Lough Erne area, the Croagh and Garvary River area and from selected photomontage viewpoints (nos.1, 8, 9, 14 and 17) in County Fermanagh;
- NIEA - outlines that their previous comments with respect to drainage and water remain valid, while no further comment is provided with respect to land, soil and air. With respect to natural heritage, it is noted that the appendix to the EIAR detailing Hen Harrier surveys, supports their previous assessment of the potential impact of the development on Hen Harrier and that the development presents no significant threat to Northern Ireland or transboundary bird populations or to the integrity of the Pettigoe Plateau SPA;
- The Historical Environmental Agency of the Department of Agriculture, Environment and Rural Affairs (Northern Ireland) - referred to their previous submission and did not have any additional comments with respect to historic monuments;
- The Loughs Agency - outlines the potential impacts of the development on water and lists two conditions in the event that permission is granted for the

proposed development, including provision of an earthworks management plan and the use of fuel interceptors;

- St. Angelo's Airport - advised that they had no issue with the proposed development;
- Rivers Planning Advisory Unit of the Department of Infrastructure (Northern Ireland) - advised that they have no concerns regarding flood risk potentially emanating from the site to Northern Ireland;
- Environmental Health Service (Northern Ireland) - recognise that the cumulative impacts of the development alongside the adjacent wind farm have been considered in the EIAR, and that no noise sensitive receptors in Northern Ireland are identified. It is requested that the applicant should outline why noise sensitive receptors in Northern Ireland were excluded and any calculations used should identify noise sensitive receptors where the cumulative noise arising would exceed 35 dB $L_{A90, 10min}$ for wind speeds of up to 10m/s. Receptors financially involved are also requested to be declared, where a fixed higher noise level greater than 45dB would arise;
- RSPB (Northern Ireland) - advise that they have no further comments to make, as updated ecological information did not appear to have been provided.

6.4.2. Following consultation by An Bord Pleanála with The Heritage Council, Fáilte Ireland, the Commission for Energy Regulation, the Minister for Communications, Marine and Natural Resources and Irish Water, further responses were not received.

7.0 Environmental Impact Assessment

7.1. Introduction & Statutory Provisions

7.1.1. Projects for the purposes of EIA are identified in Schedule 5 of the Planning and Development Regulations 2001-2020 and the proposed seven-turbine wind farm estimated to provide an installed capacity of 27MW of energy comes within the scope of Part 3(i) of Schedule 5, 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’.

7.1.2. An Environmental Impact Assessment Report (EIAR) accompanied the application. It is laid out in four volumes, including the main volume 1 initially containing a non-technical summary, followed by the individual EIAR chapters and ending with a list of references for each respective chapter. Volume 2 of the EIAR is a photomontage booklet and appendices for chapters 2 to 13 of Volume 1 are contained in volumes 3 and 4 of the EIAR. I note that deforestation of greater than 70 hectares of conifer forest would not occur, a class of development under Part 2 (1)(d)(iii) of Schedule 5, as 20.8ha of conifer plantation would be felled to facilitate turbine bases, roads and associated infrastructure and 24ha of conifer plantation would be felled as part of the revised Hen Harrier Habitat Enhancement Plan.

7.1.3. Chapter 1 of the main volume provides an introduction to the project and primarily sets out the background and need for the project. It also lists the EIAR chapters and the names, competencies and expertise of those responsible in preparing the EIAR. This chapter of the EIAR outlines that no technical difficulties were encountered in compiling the required information for the EIAR. Any specific data limitations are detailed in the relevant chapters.

7.1.4. Chapter 2 provides the planning, renewable energy and climate change policy context for the project, as well as the screening, scoping and community engagement undertaken for the project and a description of the site and surrounding area. Chapter 2 also provides information on alternatives that were investigated by the developer, including a do-nothing scenario. Regarding the exploration of reasonable alternatives, the appellant 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 east of Ballyshannon has high potential for a wind energy development. Reasonable alternatives with respect to site design, development

design, ancillary features, including grid connection, access and land uses are also outlined within the EIAR. Within section 2.7.3 of the EIAR, the appellant outlines that ten turbines were initially considered, however to increase separation distances from residential receptors, a revised layout with eight turbines was subsequently proposed and following preplanning discussion this was reduced further to seven turbines to account for telecommunications links and the relationship with the N15 road. Rationale for the height of the turbines is outlined and the appellant 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, including land-take requirements, the ongoing commercial forestry operations, the potential energy outputs and the project cost. The option of avoiding the need for a borrow pit and serving the site via quarries or several borrow pits was also considered. Alternative processes and mitigation measures for the project are stated to have been considered. Having reviewed the matter of alternatives, I am satisfied that the EIAR has adequately identified and described reasonable alternatives that are relevant to the project and the main reasons for the options chosen are clear.

7.1.5. I am satisfied that a comprehensive description of the proposed development, including the construction, operation and decommissioning phases, as well as the proposed grid connection options, is provided within Chapter 3 of the EIAR.

7.1.6. Chapters 4 to 13 inclusive provide a description of the current state of the environment for each relevant environmental factor, together with an outline of the characteristics of the development, an assessment of the predicted impacts and details of the measures intended to mitigate such impacts. Chapter 14 provides consideration of the interactions. Measures envisaged to avoid, prevent or reduce and, if possible, offset likely significant adverse effects of the proposed development, have been set out within the individual chapters of the EIAR.

7.1.7. Having regard to the nature and scale of the proposed development and the nature of the receiving environment, while unplanned events and accidents cannot be ruled out, these would be dealt with in their own right outside of the planning process, including adherence to health and safety requirements and emergency response planning. Otherwise, within the meaning of Directive 2014/52/EU, and considering the effects on the environment, the project is not of a nature that would result in it

generating a risk of major accidents and/or natural disasters. These matters are addressed further below in section 7.2.

7.1.8. 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 application and appeal. A summary of the results of the submissions made by the planning authority, prescribed bodies, observers and other parties, 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 effects of shadow flicker and noise on human health;
- the potential impacts on designated sites and bird species, in particular Hen Harrier and migratory birds;
- the impacts of the works on water quality and the resulting implications for public water supplies and the biodiversity of neighbouring receiving waters;
- the visual impact of the proposed turbines when viewed from the immediate site area and the wider area, and the resulting implications of this impact for tourism.

7.1.9. These issues are addressed below under the relevant headings, and as appropriate in the reasoned conclusion and my recommendation. The likely significant direct and indirect effects of the development are considered under the following specific headings, which collectively address the factors set out in Article 3 of the EIA Directive 2014/52/EU:

- Population and Human Health;
- Biodiversity (with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC);
- Land, Soil and Geology;
- Water;
- Air and Climate;
- Landscape & Visual Impact;
- Cultural Heritage;

- Material Assets; and
- Interaction between the Factors.

7.1.10. Noise and vibration are assessed under the headings ‘Population and Human Health’ and ‘Biodiversity’. 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. The likely significant direct and indirect effects of the development are considered with respect to each of the seven proposed turbines, the development footprint and enhancement works, the subject study area and the zone of influence for the project, with specific reference to individual areas or turbine locations where necessary and relevant to focus the assessment. Cumulative impacts with existing and permitted developments are referenced and assessed throughout, including the ongoing operations on the associated commercial forestry plantation.

7.1.11. 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 2001-2020.

7.2. Population and Human Health

7.2.1. Chapter 4 of the EIAR, titled ‘Population & Human Health’, addresses property values, health and safety, shadow flicker and residential amenity. I assess issues relating to noise and vibration impacts on human health under this heading. I also propose to assess the issue of community benefits under this heading, while I assess dust emissions as part of the impacts on ‘air’ under section 7.6 below.

Employment & Economic Activity

7.2.2. It is stated that the project would create up to 40 direct jobs during the construction phase, which is expected to take between 12 and 18 months. 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 effects on population in the area, while short-term benefits to the local economy and local services would be likely to arise from the construction activity.

Shadow Flicker

7.2.3. The 2006 Guidelines 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 that the impact of the development would be significant. As noted below, there are no dwellings within 500m of the proposed turbines. The draft Guidelines 2019 do not refer to strict time limits, but appear to be moving towards the elimination of shadow flicker from wind energy developments. The 2006 Guidelines consider the risk of shadow flicker to be very low at distances greater than ten-rotor diameters from a respective turbine, which would equate to 1,370m for the subject proposals. Consequently, there is an absence of directly applicable current standards in terms of the daily or annual receipt of shadow flicker for houses in the 500m to 1,370m range of the subject turbines.

7.2.4. Observers to the application and appeal have highlighted concerns in relation to the impact of shadow flicker on neighbouring properties. In order to present a worst-case scenario, an assessment was undertaken and presented in the EIAR for all occupied properties located within ten-rotor diameters of the proposed turbines. A total of 64 residential receptors have been identified within the 1.37km radius, which includes 40 houses, 22 derelict houses and two permitted houses that are not yet constructed (IDs 2 and 65). The nearest occupied house to a proposed turbine is property ID36, which would be located a minimum of 620m south of turbines 5 and 6. The occupied houses at property IDs 7 and 34 would both be located 630m from their nearest turbines.

7.2.5. To address the potential for shadow flicker, computer software was used by the appellant. In addition, the following worst-case scenario conditions are initially 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.

7.2.6. Table 4.9 of the EIAR details the properties that may be affected and the relevant turbines. Of the 42 occupied and permitted houses, the modelling predicts that 25 may experience some shadow flicker in excess of the 2006 guidelines threshold of 30 minutes per day. Following the application of a regional average sunshine of 29% during daylight hours through the year, based on Met Éireann data, and a wind direction reduction factor of 30%, based on the most onerous wind direction calculated from readings from a local met mast, no houses would exceed the annual shadow flicker threshold of in excess of 30 hours per annum.

7.2.7. As noted above, Table 4.12 of the EIAR lists the turbines that could be programmed to switch off to reduce daily shadow flicker below the maximum limits. Each of the turbines give rise to some element of shadow flicker at occupied houses, with the greatest daily impact for house IDs 24, 25 and 26, which are north of Columbkille Lough and between 720m and 880m from the nearest proposed turbines. Impacts arising from cumulative shadow flicker are discounted by the appellant based on the separation distance between the proposed and permitted turbines in Derrykillew Community Wind Farm.

7.2.8. Potential for shadow flicker has been considered as part of the design process and the appellant outlines that this influenced the proposed layout. Taking into consideration the application of a worst-case scenario, the application of the 2006 Guidelines shadow flicker thresholds for properties and to the location of properties within a ten-rotor diameter of proposed turbines, I consider the appellant's shadow flicker model and their description of the likely impacts of shadow flicker to be reasonably robust.

7.2.9. As the model indicates that there is potential for shadow flicker to occur at occupied houses, the draft Guidelines 2019 require the appellant to explore the possibility of eliminating the occurrence of potential flicker. If shadow flicker is not eliminated for a house, or another potentially affected property, then clearly specified measures providing for automated turbine shut down to eliminate shadow flicker should be required as a condition of a grant of permission based on the draft Guidelines 2019. The appellant states that they are committed to zero shadow flicker at occupied

houses. Based on the worst-case scenario, section 4.9.3.9 of the EIAR sets out the features to be employed to eliminate the incidences of shadow flicker at any affected property, which entail established practices, including screening measures and/or wind turbine control measures, such as turbine shut down. The EIAR does not outline the times that the turbines would be programmed to shut down to eliminate shadow flicker to the 25 houses identified that could be affected.

7.2.10. I am satisfied that the appellant has proposed and demonstrated that control mechanisms would be in place for the operational duration of the wind energy development project to eliminate shadow flicker. The potential impact arising from shadow flicker on properties in the vicinity would not be significant subject to a condition to ensure that shadow flicker is eliminated at affected properties. I consider that the issue can be adequately addressed by way of a condition comparable to that employed in other permissions for wind energy developments, whereby provision is made for the implementation of a wind farm shadow flicker compliance and monitoring programme, details of which can be agreed with the planning authority. Accordingly, I am satisfied that significant residual impacts for human health would not arise from shadow flicker, as this would be addressed via the separation distances achieved and by the operational paramaters, with scope to shut down specific turbines, as and when necessary.

Noise & Vibration

7.2.11. Section 10 of the EIAR deals with noise and vibration. The planning authority decided to refuse permission for the development, partly because of concerns regarding the impacts of the development on residents due to an absence of detailed comprehensive data assessing noise. The Environmental Health Service of Fermanagh & Omagh District Council raised concerns that noise-sensitive receptors in Northern Ireland had not been considered in the appellant's noise assessment and that the potential cumulative impacts of the proposals alongside the permitted and proposed Derrykillew Community Wind Farm development required due consideration. In terms of the baseline noise, four stations were monitored over the March to April 2018 period. Background noise was found to be dominated by road traffic, farm machinery and human activities. A detailed technical report was provided by the appellant with the grounds of appeal, clarifying that following the approach and standards set out in the Department of Trade and Industry (UK)

Energy Technology Support Unit (ETSU) publication 'The Assessment and Rating of Noise from Wind Farms' (1996), receptors in Northern Ireland were initially considered as part of the project study area for noise impacts and also within the noise impacts scoping exercise. Within this technical note the appellant outlined that a number of receiver locations in the Northern Ireland area were initially identified to be within the cumulative 35dB L_{A90} noise contour impacted by the proposed development, but that on examination these receiver locations were confirmed to be dominated by at least 10dB of noise from the permitted wind farm at Derrykillew and that the contribution from the proposed wind farm would be less than 25dB. Consequently, based on the ETSU-derived standards, further noise assessment of the impacts of the proposed development on these receiver locations would not be necessary.

7.2.12. I am satisfied that a comprehensive description of the noise impacts of the proposed development was undertaken by the appellant, including the identification of an appropriate project study area and the extent of noise monitoring, is in accordance with recommended practice, including the methodology within the draft Guidelines 2019, the ETSU standards and the Environmental Protection Agency's (EPA) 'Guidance Note on Noise Assessment of Wind Turbine Operations at EPA Licensed Sites (NG3)', which require a two-week minimum monitoring duration. Furthermore, based on the additional information provided by the appellant, the initial failure to provide the data collated for the wider receptors, as part of the description of noise impacts in the EIAR, does not necessarily indicate that there was no interest or attempt to assess these impacts. Consequently, an assessment of the noise impacts of the proposed development was not inhibited.

7.2.13. The project would result in an increase in noise and vibration levels in the vicinity of the proposed development site, including the grid connection route and the haul routes, during the 12 to 18-month construction phase, but this would be temporary in duration. The greatest potential impacts from construction activities would be associated with excavation, piling and pouring of the turbine bases and the extraction of materials from the borrow pit. The type of activity and equipment that would generate the noise and vibration at this stage of the proposed development are much the same as those that would be used during other large-scale infrastructural works in the countryside.

7.2.14. Based on the worst-case scenario, entailing the cumulative noise impacts at the closest house to a turbine (house ID36, which is 620m from turbines 5 and 6), the noise levels arising from the construction of a typical wind turbine would be in the order of 55bB $L_{AEQ,T,}$ which would be within the best practice construction noise limits 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 significant noise impacts from the construction of the turbine bases are not predicted.

7.2.15. Excavation of the centrally-positioned borrow pit site would comprise two possible scenarios, involving either rock breaking or blasting, and it is estimated that these excavations would occur over a three-month period during daytime hours. Predicted excavation activity noise levels relative to the nearest residential properties arising from a rock breaker and a mobile crusher, as well as blasting served by a mobile crusher, would be within best practice limits based on standards outlined in the aforementioned 'Code of Practice for Noise and Vibration Control on Construction and Open Sites'. Blasting would also be limited to eight to 12 blasts over a three to four-week period, with only one blast per single working day. There would be only one occupied house within approximately 850m of the proposed borrow pit, with house ID36 located 400m to the south. It is highly unlikely that vibrations from blasting would have a significant impact on housing, given the distance to neighbouring receptors, and in the event of a grant of permission a condition can be attached to limit the times of blasting, to require monitoring and to ensure adequate warning of neighbouring sensitive receptors.

7.2.16. While it is noted that piling may occur at turbine 5, given the stated separation distances of 640m to 720m between this turbine and the nearest houses (IDs 27 & 36), no impact would be likely to arise for neighbouring sensitive receptors from vibration during the construction of the turbines. Potential for peat slide is considered further below under section 7.4 of this report.

7.2.17. Various measures are outlined in section 10.6.2.6 of the EIAR to address the potential significant construction phase noise and vibration impacts, including the use of mufflers and acoustic screens, and I would note that the 'Quarries and Ancillary Activities Guidelines for Planning Authorities' allow for relaxation in the standard noise level limits to allow for temporary and short-term operations, such as the three-month rock-breaking or blasting activity at the borrow pit. Similarly, the

flow of traffic transporting material to and from the turbine locations, the haul routes and the grid connection route, would also be likely to be a potential source of increased noise. Based on surveys, modelling and the standards outlined in the Code of Practice, significant effects on the nearest noise sensitive locations are not expected to arise from the construction activities, including the construction of the substation compound, the grid connection works and the use of the haul route. Best practice and well-established measures are to be adhered to during the construction phase, including limiting of operations and control measures, particularly for plant and machinery. 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 and I am satisfied that the residual impacts arising from noise during the construction phase of the proposed development would not be significant for population and human health.

7.2.18. 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, however, sufficient modelling details for the turbines would be available to allow a reasonably accurate noise assessment to be undertaken. A noise descriptor of $L_{90, 10min}$, is typically used to describe background noise levels. The derived $L_{A90, 10min}$ daytime and night-time background noise levels for the area, as indicated in Table 10.7 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 35dB $L_{A90, 10min}$ for wind speeds up to 6m/s, whilst there are no daytime levels over 40dB $L_{A90, 10min}$ at wind speeds up to 7m/s. The derived $L_{A90, 10min}$ for wind speeds between 7m/s and 10m/s during daytime and night-time periods at monitoring location H034 are considerably higher than those identified for the other locations. Reasoning for same has not been provided by the appellant, but may be related to the presence of mature trees immediate to this monitoring location (H034).

7.2.19. The 2006 Guidelines, which were informed by the ETSU standards, provide for a maximum fixed limit of 45dB in relation to noise emissions at sensitive locations. The ETSU standards were the subject of an Institute of Acoustics good practice guide published in 2013 and the following ETSU-derived noise criterion have been

used by the appellant in the EIAR to identify potential exceedance of noise limitations in the proposed development:

- 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.

7.2.20. As set out within section 5.7.4 of the draft Guidelines 2019, the preferred draft approach proposed for noise restriction limits are consistent with World Health Organisation (WHO) 2018 guidelines of 5dB(A) above existing background noise within a range of 35dB to 43dB(A) and with 43dB(A) being the maximum fixed noise limit permitted day and night. The draft Guidelines 2019 would therefore appear to be generally more restrictive in terms of noise limitations than those provided for under the 2006 Guidelines. While the noise criterion applied by the appellant within their EIAR to identify exceedances in noise emissions at sensitive receptors would not strictly align with those outlined under the draft Guidelines 2019, the appellant followed an established approach generally in line with best practice guidelines that would have been available at the time of submitting the application, while having regard to the 2006 Guidelines. Assuming daytime hours of between 7am and 11pm, the noise criterion levels applied by the appellant in their assessment are broadly in line with those applied in a recent Board Order for a wind energy development (ABP-306500-20).

7.2.21. An initial worst-case scenario assessment was undertaken assuming that all noise locations are downwind of all turbines at the same time. Noise was modelled for 64 receptors, the results of which are set out in Table 10.22 of the EIAR. While the noise receptors with the IDs 47 and 58 are not listed, I am satisfied that a sufficient representative sample has been provided to allow for a comprehensive assessment of the noise impacts at these ID locations. With the exception of two houses (IDs 7 and 36), the predicted noise levels at each receptor location for the various wind speeds would not exceed the noise limit criteria adopted for the assessment based on the ETSU standards. A noise contour for the rated power wind speed 7m/s (the

highest noise emission) is provided in Appendix 10.5. The noise level limitations for house ID7 would be marginally exceeded at night time for wind speeds of 7m/s to 10m/s, while various exceedances within the range of 0.1dB to 5dB are predicted to arise at house ID36. Some exceedances are expected for ruinous properties. The significant exceedances at house ID7 are marginal and would be confined to times when the wind is off the east, southeast and south. Furthermore, based on the rounding of integers, which the draft Guidelines 2019 clarify to be advisable, exceedances would not be likely at house ID7. Exceedances at house ID36 would occur for winds off all directions, but are greatest when off the north and northeast and notably do not exceed the 43dB(A) limit when off the prevailing southwest and west wind directions. Documentary evidence of an agreement between the house occupiers/owners and the developer have not been provided with the planning application. The appellant has stated that the exceedances would be adequately controlled and mitigated by the curtailment of turbine operations, as listed in table 10.25 of the EIAR. Following selection of the project turbine technology, a detailed curtailment strategy, including details of any subsequent required curtailment of wind turbine operations in certain wind speeds and directions, should be submitted to the planning authority prior to the commissioning of the project and any measures should be subsequently undertaken as part of the operation of the development.

7.2.22. Exceedances of noise limits appear to be very much limited to one property based on the present noise assessment model and I am satisfied that a condition requiring the developer to submit a noise compliance monitoring programme prior to the commencement of the development, including any mitigation measures such as the de-rating of particular turbines, as well as the consequent operational results of the initial noise compliance monitoring, should be attached in the event of a grant of permission.

7.2.23. An operational noise assessment has been undertaken cumulatively with two development scenarios for the Derrykillew Community Wind Farm, including the permitted five turbines and an amended wind farm with six turbines, although I note that the planning application submitted for this neighbouring site does not propose additional turbines. Using the ETSU-R-97 standards the additional noise contribution of the Derrykillew Community Wind Farm is expected to be minimal.

7.2.24. The draft Guidelines 2019 recognise that noise from wind turbines and ancillary equipment can include special audible characteristics such as tonal noise, amplitude modulation and low frequency components, but that there is no evidence that wind turbines generate perceptible infrasound. The appellant has stated that should low frequency noise issues be identified, 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)'.

7.2.25. 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 appellant to comply with best practice as per the Guidelines in relation to noise generation. Based on this assessment and with the imposition of suitable and appropriate planning conditions, I am satisfied that the proposed development would not have a significant adverse impact on residential properties arising from noise. Should the identified limited exceedance arise these can be addressed by way of control restrictions attached as conditions to a permission.

Risks of Major Accidents and / or Disasters

7.2.26. Section 5.7 of the 2006 Guidelines 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. Peat instability and failure are addressed in section 7.5.2.4 of the EIAR and assessed further below under section 7.4. Matters pertaining to aviation are addressed under section 7.9 below. The issue of fire hazard is addressed in the appellant's emergency response plan forming part of the CEMP appended to the EIAR. Donegal County Council's Chief Fire Office noted that a fire safety certificate would be required for the substation. The appellant is committed to updating the emergency response plan during the project. I am satisfied, having regard to the individual aspects on the application assessed in each chapter and the mitigation measures proposed that the proposed development is not susceptible to major accidents and / or disasters.

Community Consultation & Benefits

7.2.27. Section 3.4 of the EIAR outlines the rationale for the waymarked 7.3km-long amenity trails, as well as the various elements of the trails and how they would be operated with education and recreational benefits for a wide variety of users.

7.2.28. Observers to the appeal assert that adequate meaningful consultation was not undertaken for the project. The draft Guidelines 2019 refer to the preparation of a Community Report, details of which would be submitted as part of the application. The information provided as part of the application and appeal outlines the extent of community engagement and consultation undertaken by the appellant for this project, and this appears to adhere to the approaches supported by the 'Code of Practice for Wind Energy Development in Ireland on Guidelines for Community Engagement' (2016), as well as the 'Good Practice WIND – Good Practice Guide' (2012).

7.2.29. The 'Code of Practice for Wind Energy Development in Ireland on Guidelines for Community Engagement' (2016)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. The proposed development includes a community benefit fund and strategy, as detailed within section 3.5 of the EIAR. According to the appellant, the community-benefit fund would follow the approach set out within the renewable energy support scheme (RESS) and this would amount to €165,000 per annum for the local community over the life of the project with economic, environmental and social benefits for the area. Local economic and environmental sustainability schemes are to be provided 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 appellant also outlines that they are requesting expressions of interest from the local community to invest in the wind farm. A local business support strategy would also be undertaken, whereby local supplies, contractors and businesses are considered for appropriate opportunities as part of the proposed development. A number of observers to the application supported the potential community benefits that could be realised via the project. The community benefit scheme is broadly in line with those proposed for other wind energy developments in Ireland.

Grid Connection

7.2.30. The connection to the national grid does not form part of the planning application. Three grid connection options have been put forward with the preferred route to be based on ESB/EirGrid requirements. Comprehensive description of the grid connection proposals are provided within the EIAR, allowing for a comprehensive assessment of these options, and I am satisfied that the detail provided is sufficient to enable the Board to thoroughly assess the environmental impacts arising.

Conclusion

7.2.31. 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. Significant impacts on residential amenity would not arise based on the assessment above, and significant depreciation in the value of property in the vicinity would not be likely. I am also satisfied that significant cumulative effects are not likely to arise and that permission for the proposed development should not be withheld on the grounds of cumulative effects on population and human health.

7.3. Biodiversity

7.3.1. Chapters 5 and 6 of the EIAR deal with biodiversity, including flora and fauna, and the application was accompanied by a NIS. Whilst there may be a degree of overlap, the NIS is dealt with in detail in section 8 below. The EIAR identifies key ecological and ornithological receptors, including species and habitats occurring within the zone of influence of the development where potential effects are anticipated. Potential impacts on biodiversity associated with the proposed development, include loss of habitat and disturbance or displacement of species.

Designated Sites & Key Habitats

7.3.2. The site does not overlap a European or National designated site, but it does adjoin Lough Golagh and Breesy Hill SAC and it is positioned upstream of sites, including Donegal Bay SPA, which overlaps the Erne Estuary/Finner Dunes proposed Natural Heritage Area (pNHA). The proposed turbine development works would be 190m

from the Lough Golagh and Breesy Hill SAC and direct impacts would not arise. Conclusions within section 8 of this report outline whether the proposed development, individually or in combination with other plans or projects would adversely affect the integrity of Lough Golagh and Breesy Hill SAC or other European sites in view of their conservation objectives. Potential for significant effects on the Erne Estuary/Finner Dunes pNHA, in particular arising from impacts on water quality, are considered under section 7.5 of this report.

7.3.3. Habitats recorded within the site study area are identified in figures 5.5a and 5.5b of the EIAR. The turbine site is dominated by conifer plantation habitats, including sitka spruce and lodgepole pine forestry of varying ages. The key habitats found to correspond to EU Habitats Directive Annex I habitats, are considered to include wet heath, upland blanket bog, transition mire and quaking bog, dystrophic lakes and upland eroding rivers. Various measures would be employed initially to avoid impacting on habitats and where potential impacts could arise mitigation measures including site specific construction methods, pollution containment measures, measures to control water quality and adherence to guidelines are proposed. Significant residual impacts would not arise from the loss of approximately 0.16ha of upland blanket bog to facilitate the construction of the access to turbine 4, as the hydrological regime would be maintained. The appellant states that 24.2ha of forestry off site would be restored to peatland habitat under a revised Hen Harrier enhancement plan. Impacts on the habitat of key ecological receptors are addressed further below.

7.3.4. The draft Guidelines 2019 identify areas protected for wildlife, including European sites, as possible noise-sensitive locations that may require testing. Testing based on four noise monitoring locations was undertaken and I recognise that monitoring did not take place from the adjoining Lough Golagh and Breesy Hill SAC. However, this site is not particularly noise sensitive given that the conservation objective for the site solely relates to conserving the condition of active blanket bogs. Other neighbouring sites, including SPAs, would not be highly susceptible to noise impacts from the development given their separation distance to the turbine site.

Flora

7.3.5. Vegetation surveys were undertaken during 2018 and species recorded in the various habitats are outlined within Appendix 5.2 of the EIAR. Annex II flora species or other flora listed in the Flora (Protection) Order 2015 or as red list species were not recorded on site or along the haul and grid connection routes.

7.3.6. Approximately 200m of sections of hedgerows and treelines are to be removed for the purposes of the new 1.2km-long access road from the west off the L-7755-2 at Tullyhork. The access road would remain in situ during the operational stage, although it is stated that the main operational access to the site would be from the L-7795-1 local road at Cashelard. Consequently, I am satisfied that the new road section to facilitate turbine delivery access should be decommissioned following the construction phase and the ground and hedgerows reinstated with native species. This matter is addressed further below with respect to the impact of the proposed development on material assets such as traffic and landscape.

7.3.7. An invasive species management plan is included as appendix 5-3 to the EIAR, specifically to address the control and spread of rhododendron, which was recorded at various locations within the site, along the grid connection route and within the study area. Other invasive species identified along the grid connection route, snowberry and montbretia, were considered to be low impact, and general biosecurity measures would be employed during the construction of the development to address the potential spread of invasive species.

Aquatic Biodiversity

7.3.8. An aquatic survey was undertaken in 2018, details of which are included as appendix 5-1 to the EIAR, with seven of the sampling locations used having a hydrological connection with the appeal site. A baseline for water quality monitoring has been established via the surveys and the EPA water quality data.

7.3.9. Following consultation with the NPWS to identify possible protected species in the locality, records of freshwater crayfish and freshwater pearl mussel were confirmed not to be within the surface water catchment of the appeal site. Potential impacts on fish and aquatic biodiversity would be most likely to arise during the construction phase, from the release of pollutants or excess sediment impacting on water quality. Observers to the application state that the proposed development would impact on

brown trout that use the neighbouring lakes. The IFI has commented on the application and outlined various recommendations with regards to construction methods, including the operation of machinery and site restoration, as well as the monitoring and control of water quality and flows. Potential for significant adverse impacts on aquatic biodiversity during the construction and decommissioning phases are 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 would arise on watercourses. The project CEMP and associated method statements, follow best construction practises, 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. Kick sampling was not undertaken within the channel flowing south to Assaroe Lake, which drains the southwest end of the site. In order to comprehensively address any potential alterations in water and to identify the performance of control measures, prior to the commencement of development sampling should be undertaken on this stream, to be followed by monitoring.

Fauna (excluding birds)

7.3.10. Faunal surveys of the study area surrounding the site were undertaken in 2018 and, following this, targeted surveys for key ecological receptors, including otter, badger, red squirrel and bats were undertaken. Evidence of mammals, reptiles and amphibians using the site and immediate area, is provided by the appellant and it was concluded that the proposed development would not impact on species, including fox, pine marten, red deer, Irish hare, common frog, common lizard and smooth newt.

7.3.11. Breeding sites or holts for otter were not observed during surveys, although the watercourses within the study would be likely to be used by otter for foraging and commuting. Badger setts were not identified within the study area, nor were active dreys for red squirrel. Sightings of otter, badger and red squirrel were recorded during surveys, although habitat loss or degradation, as well as disturbance of these

species, is not anticipated during the construction, operational or decommissioning phases of the project, given the nature of the receiving environment and in light of the design and mitigation measures proposed for the development.

7.3.12. A variety of invertebrates were recorded during surveys of the site, none of which are of protected or threatened status. The closest records of marsh fritillary to the appeal site, relate to a location 6.7km to the northwest of the appeal site, which is considered to be a substantial distance for this species from the proposed development. Design elements and mitigation measures to address potential impacts of the development on water, which could impact on aquatic macro-invertebrates, are discussed under section 7.5 below. Potential for significant impacts to arise for invertebrates is unlikely.

7.3.13. An initial survey of the national bat database identified that seven of the nine bat species in Ireland have been recorded within a 10km radius of the site study area. Bat surveys were conducted in the study area in 2018, entailing a mix of roost, manual transects and static-detector surveys, as well as bat call analysis, to identify potential roosting, commuting or foraging areas and the quality of same. In addition and cognisant of the commercial forestry cover, bat surveys at ground level and at 75m above ground were undertaken using the met mast on the neighbouring Derrykillew Community Wind Farm. I note that the high-level survey was undertaken 2.2km to the southeast of proposed turbine 5, as other high-level infrastructure is not presently available on the site or closer to the site. The closed canopy forestry, as well as the grasslands and peatland habitats are considered of negligible suitability for bat habitat. The forestry edge habitats, lakes and watercourses were described as having moderate suitability for commuting or foraging bats. A single soprano pipistrelle bat was initially recorded at a building in disrepair within the study area and follow-up surveys revealed that the structure had subsequently been destroyed by fire.

7.3.14. Seven bat species were recorded on site during the various surveys, including Soprano Pipistrelle, Common Pipistrelle, Pipistrelle sp, Leisler's bat, Nathusius pipistrelle, myotis sp and Brown Long-eared Bat. It was not possible to determine the precise number of individual bats based on bat calls and 10% of the recorded bat passes were recorded at height. Soprano Pipistrelle were the most abundant of bats recorded and the highest levels of bat activity were detected in July and August with

most bat recordings along forestry edge locations and with highest concentrations around Lough Aghvog, adjacent to the east of turbine 3. I am satisfied that the surveys undertaken allow for a comprehensive overview of bat activity at all proposed turbine locations and across the seasons.

7.3.15. The appellant concludes that a net loss of roosting or foraging habitat would not arise for bats and suitable sites for maternity colonies, swarming or hibernation were not available within the site study area. Bats would be likely to be disturbed by the noise and movement of the operational turbines, however, given the low to moderate bat activity at the site, and as large populations were not using the site, significant displacement or disturbance of bats is not anticipated. Habitat connectivity would not substantially alter with hedgerow used by commuting and foraging bats largely being maintained and where hedgerows/treelines are removed for the purposes of the junction and road upgrades, these would be reinstated with native hedge and tree species. To reduce risk of collision during the operational phase of the project, in adherence to the Natural England Guidelines titled 'Bats and Onshore Wind Turbines Interim Guidance', no replacement trees would be planted in a position within 50m of turbine blade paths in order to avoid creating favourable conditions for flying insects and foraging bats proximate to the turbines. Surveying for bat roosts would be undertaken prior to works along the final grid connection route. Standard features post-construction, including monitoring and fatality searches, are proposed.

7.3.16. On the basis of the details provided I am satisfied that based on the surveyed use of the site by bats and the proposed measures to address works required to construct the development and reduce impacts on bat populations, the proposed development would not have significant adverse impacts on bats. The risk of collision with turbine blades during operation of the turbines would be mitigated by the positioning of the turbine blades sufficient distances from vegetation, by seeking the advice from a qualified ecologist and by following best practice and procedures during the operational phase.

Birds

7.3.17. Chapter 6 of the EIAR specifically addresses ornithology. Potential impacts of the development on birds are stated to include direct habitat loss, displacement and collision with infrastructure, including the moving turbine blades. The planning

authority decided to refuse planning permission for the proposed development, partly as the development would have a negative impact on nesting and foraging areas used by Hen Harrier. In assessing the proposed development, I have considered all aspects proposed, including the 100m-high met mast options and the introduction of formal amenity trails within the site, with potential to increase visitors or human activity in the site and the immediate area.

7.3.18. Currently there is no existing formal National guidance document for the assessment of wind farm development impacts on bird species, but there are guidance documents available from a Scottish perspective, and these are frequently referenced when considering the impacts of Irish wind energy projects on birds. Empirical studies and other documents are also available to provide some scientific basis when assessing the potential impact of wind farms on birds, many of which directly relate to the Irish context. In assessing the project impacts, I have reviewed various studies and documents, including those referenced by parties to the appeal and those listed in appendix A to this report.

7.3.19. The area east of the L-7795-1 local road and Columbkille Lough, proposed to accommodate turbines 1, 2 and 3, is identified as being of low to moderate sensitivity to wind farms based on a Birdwatch Ireland sensitivity mapping tool. According to the EIAR, initial desk-based surveys, including a review of atlases and previous surveys, as well as reconnaissance surveys in the study area during 2014 and 2015, indicated the potential range of bird species that could use the area.

7.3.20. With respect to surveying for the project, detailed knowledge of bird distribution and flight activity is necessary in order to predict the potential effects of a wind farm on birds. The appellant asserts that the specialist studies, analysis and reporting were undertaken in accordance with various guidelines. The appellant's core data for the description of ornithology is based on a combination of distribution and abundance surveys, including field surveys of two full winter and two breeding seasons over the 2016 to 2018 period, and vantage point surveys. Walkover transect surveys for breeding birds and winter birds were also undertaken within a survey or study area extending 500m beyond the site boundaries. Winter transect surveys were undertaken from 2015 to 2017 to identify target species and ground birds of conservation value. Focussed surveys were undertaken for Red Grouse, waders, including Curlew, Lapwing, Woodcock and Snipe, and breeding raptors, including

Hen Harrier and Merlin. Wetland and waterbird counts were also undertaken for an area extending 2km to 5km from the turbine site. Further winter surveys were undertaken to identify Hen Harrier winter roosts, as well as Whooper swan roosting, foraging and commuter areas.

7.3.21. In line with NatureScot guidance (2017) titled 'Recommended bird survey methods to inform impact assessment of onshore wind farms', surveying took place over a two-year period spanning all times of the year. The appellant accepts that breeding bird walkover surveys in 2016 did not cover the full period March to August, but that priority species surveys in 2016, including areas within 500m of the development boundary, and walkover surveys throughout the 2018 breeding season, would compensate for the shortfall in breeding bird surveying time. I am satisfied that the level of surveying would appear to be sufficient and appropriate relative to the scale and location of the project and the NatureScot Guidelines (2017).

7.3.22. The areas covered by fixed-point vantage surveys are illustrated in figure 6.2 of the EIAR with one vantage point location (no.4) moved during the survey period to ensure adequate separation distance from an identified communal winter roost site for Hen Harrier. Relocation of the vantage point would comply with the approach set out in the NatureScot Guidelines (2017), in order to minimise disturbance of sensitive sites for target species. In refusing permission, the planning authority states that the submitted viewshed evidence indicated coverage from vantage point no.1 had a significant gap in data, to the northeast. Figure 6.2 of the EIAR reveals that portions of the core site boundary below 10m heights were not visible from all the vantage points, including the area to the east of Lough Unshin, as referenced by the planning authority. I also note that a much greater area to that referenced by the planning authority, including the area proposed to accommodate turbine 4, would not appear to be covered by the vantage point surveys. The NatureScot surveying guidance highlights that vantage point surveys are undertaken to quantify the level of flight activity and its distribution over the survey area, with the primary purpose to provide input data for the collision-risk model, which predicts bird mortalities from collision with turbines. Consequently, it is the visibility of the airspace to be occupied by the turbine rotors that is of prime importance. The turbine blades would potentially sweep to 12.5m over immediate ground level based on the application drawing no.1046-22, therefore, tree cover, as well as topographical features, can restrict

visibility. The area to the east of Lough Unshin that is asserted not to be covered by vantage point surveys, would not be within the collision risk zone. As referenced by the appellant in the grounds of appeal, the area to the east of Lough Unshin may have been outside the 180 degree viewshed arc from vantage point 1, this area and flights of targeted bird species were regularly recorded within this area, including those recorded for Hen Harrier and Buzzards. Based on the mapped and recorded survey results included in appendix 6-4 of the EIAR, the collision risk zone at the proposed location of turbine 4 was sufficiently visible given that flights of Lesser Black-Backed Gull, Herring Gull, Buzzard and Kestrel were recorded within this zone. I am therefore satisfied that the vantage point surveys, including the areas to be covered, were undertaken in a manner that would facilitate a sufficiently comprehensive assessment of the potential collision risk for birds from the proposed turbines.

7.3.23. The possible locations of the overhead grid lines traversing the river Erne are both in areas at Cathleen's Falls Generating Station and the Cliff Generating Station that already feature extensive existing infrastructure, including electrical lines traversing the river. Considering the context for these crossing points and the limited length of proposed overhead line options, including the potential to line mark, the impact of the overhead lines proposed would not present significant impacts for birds, including via collision risk. Option 1 presented by the appellant in drawing no.1046-19 for the met mast, featuring guy wires, could have substantially greater implications for bird species via collision, when compared with the free-standing mast in option 2 (drawing no.1046-20). Consequently, in the absence of detailed description of impacts arising, particularly from the collision risk with guy wires, given the limited potential for the fixed, temporary free-standing mast to impact on birds, in the event of planning permission being granted, the free-standing met mast (option 2) should be identified as the preferred option.

7.3.24. 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 6.6 to the EIAR). It was only prepared for bird species 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 of the proposals on bird populations.

7.3.25. As supported by the data provided in Appendix 6-1, section 6.4 of the EIAR sets out the bird species observed during surveys, with 22 species either 'Annex I' species, species of community interest (SCIs), red-listed species or raptors. The following 'Annex I' species were observed; Golden Plover, Whooper Swan, Little Egret, Hen Harrier, Merlin, Peregrine Falcon and Goshawk. Target and secondary species were identified based on the surveying undertaken. Based on observations arising from the various field surveys and consideration of habitat suitability, including connectivity with European sites, the appellant considered that the following birds were sensitive to the project and the key ornithological receptors; Golden Plover, Whooper Swan, Lesser Black-backed Gull, Herring Gull, Hen Harrier, Red Grouse, Woodcock, Sparrowhawk, Kestrel, Common Buzzard and Long-eared Owl. Based on the information available, including the conservation significance of birds identified during the various surveys and the information and submissions included with the application and appeal, I am satisfied that the bird species identified would be the key ornithological receptors for this project.

7.3.26. Only during the wetland and waterbird counts were Little Egret recorded at Assaroe Lake and Lower Lough Erne, neighbouring lake sites that are over 1km from the site. An individual Merlin flight was only recorded during vantage point surveys with one flight within the potential collision risk zone. During vantage point surveys Peregrine Falcon were recorded inside and outside the 500m site buffer, with one flight within the collision risk zone. No observations were made of breeding Peregrine Falcon within the buffer area or the site, although in 2018 a breeding pair with one chick was observed at Croaghbreesy over 2km from the site. Peregrine Falcon are a qualifying interest for Sligo / Leitrim Uplands SPA (Site Code: 004187), which is located 12.4km to the southwest of the turbine site and is within the maximum foraging range based on NatureScot guidelines. Impacts on this bird species is further assessed below under section 8. Two observations of Goshawk flights outside the 500m buffer were recorded during surveys and two further observations during winter walkovers. Roosting or feeding observations of this migrant species were not made. One observation of a Barn Owl was recorded in a location 1.9km from the site, while

three observations of individual Wigeon were recorded from Lough Assaroe and within the site at Lough Aghvog. A pair of Lapwing were observed once outside the 500m buffer zone. It can be concluded that the evidence suggests that the development site is not presently of significance for Little Egret, Merlin, Peregrine Falcon, Goshawk, Barn Owl, Wigeon and Lapwing, and the proposed development would therefore not impact significantly on these bird species.

7.3.27. Golden Plover are a qualifying interest for Pettigoe SPA (Site Code: UK 9020051), which is located 1.9km to the northeast of the site and within the core foraging range of this species based on NatureScot guidelines (2016) when assessing connectivity. This species was recorded once within the site and its 500m buffer during the vantage point surveys in October 2016 and it was not recorded wintering, feeding or roosting. Based on the flock of 12 birds observed, the collision risk of one bird for every 164 years is considered insignificant in the context of county, national and international populations of Golden Plover. The appellant asserts that studies referenced within the EIAR highlight no significant decline in bird populations for this species during the operation of wind farms.

7.3.28. Whooper Swan are a qualifying interest for Durnesh Lough SPA (Site Code: 004145), which is located 4.9km to the northwest and is within the core foraging range of this species based on NatureScot Guidelines (2016). Whooper Swan were not recorded using the site and the appellant asserts that studies referenced within the EIAR highlight no significant disturbance for Whooper Swans would arise from the construction activities. On two occasions the bird was recorded flying within 200m of the site, with flights within the potential collision risk zone, and there were seven observations of Whooper Swans in groups of three to 17 outside of the 500m site buffer. A collision risk of one bird for every 250 years is estimated, which is considered insignificant in the context of county, national and international populations of Whooper Swans.

7.3.29. Lesser Black-backed Gull and Herring Gull are both qualifying interests for Lough Derg (Donegal) SPA (Site Code: 004057), which is located 13.9km to the northeast. Inishgoosk Island in Lough Derg supports the largest colony of nesting Lesser Black-backed Gull in Ireland, as well as a colony of Herring Gull of national importance. The NPWS estimate 500 pairs of nesting Lesser Black-backed Gull and 100 pairs of Herring Gull use Inishgoosk island. Both of these gull species were not recorded

using the site, although they were recorded flying within the potential collision risk zone. Collision risks of one Lesser Black-backed Gull for every 3.4 years and one Herring Gull for every 45 years are estimated, but these are not considered significant in the context of local, county, national and international populations of Lesser Black-backed Gull.

7.3.30. The Northern Ireland Environmental Agency (NIEA) stated that there are six possible territories for red grouse identified within 2km of the site, three of which overlap the 500m buffer zone for the site. Surveys did not identify that this ground bird was roosting, foraging or breeding within the development site, although it was recorded within 500m of the site. No flights of red grouse at sufficient height were recorded within the potential collision risk zone, which would be expected given the low flight heights expected for these birds. It is asserted that Red Grouse re-colonise within a year following the construction phase for windfarms and that significant disturbance of this species would not arise from the proposed development.

7.3.31. Woodcock was observed on one occasion flying through the potential collision risk zone and an additional individual sighting of this bird was observed outside the 500m site buffer. During winter walkover surveys, five observations of individual woodcock were recorded and during breeding bird surveys two observations of individual Woodcock were made in suitable nesting habitat that were recorded as possible breeding territories for this bird. The felling of trees is anticipated to temporarily reduce the distribution and availability of daytime roosting sites and a potential breeding site, although significant loss of habitat during construction is not anticipated given the extent of suitable habitat that would remain in the surrounding area. The availability of other suitable habitat in the vicinity would also ensure that the temporary displacement of Woodcock would not be significant. In the context of extensive suitable habitat in the surrounding area, significant displacement or barrier effects for Woodcock is also anticipated not to arise during the operational phase. A collision risk of one Woodcock for every 3,333 years is estimated, which is considered insignificant in the context of local, county, national and international populations of Woodcock.

7.3.32. Sparrowhawk were recorded in each of the surveys undertaken, both within and surrounding the site, with observations primarily of individual birds during both wintering and breeding seasons. Numerous flights were recorded within the

potential collision risk zone with Sparrowhawk observed in suitable nesting habitat and possible breeding territory. Two distinct breeding locations within the landownership area have been confirmed for breeding Sparrowhawk, which appear to be routinely occupied each year. The felling of trees would reduce the distribution and availability of possible nest sites and possibly lead to displacement of Sparrowhawk, however, the identified nest sites would remain, as would significant forest edge and foraging habitat. Based on observations, a collision risk of one Sparrowhawk for every 99 years is considered insignificant in the context of county, national and international populations of Sparrowhawk.

7.3.33. Kestrel were recorded in each of the surveys undertaken within and surrounding the site, with 39 flights recorded within the potential collision risk zone. Observations of Kestrel in suitable nesting habitats were made and possible breeding territories, including five identified breeding territories within 2km of the site for this bird species, one of which is within the site. Loss of feeding or nesting habitat would be minimal for this bird species as a result of the construction and operation of the proposed development given the availability of suitable alternative nesting and foraging habitat in the wider area. Significant displacement effects are not anticipated and despite Kestrel known to be particularly vulnerable to collision, a collision risk of one Kestrel for every six years is considered insignificant in the context of county, national and international populations of Kestrel.

7.3.34. Common Buzzard were also recorded in each of the appellant's surveys, both within and surrounding the site, as well as during the wintering and breeding seasons. Observations of Common Buzzard in suitable nesting habitats were made and six possible nest sites were identified around the site, including two within 500m and one within 1km of the development site. Given the availability of suitable alternative nesting habitat in the adjacent areas beyond the development footprint, the loss of nesting habitat would be minimal for this bird species during the construction and operation of the proposed development. Significant displacement effects are not anticipated and despite Common Buzzard known to avoid turbines by at least 500m, extensive areas of suitable foraging habitat would remain in the surrounding area. A collision risk of one Common Buzzard for every 22 years is considered insignificant in the context of county, national and international populations of Common Buzzard.

7.3.35. A Long-eared Owl was observed during the winter survey on the western boundary of the site, while confirmed breeding in separate locations within the landownership area was established with four observations of this bird species during priority surveys. No flights of Long-eared Owl within the potential collision risk zone were noted. Substantial alternative areas of suitable nesting and foraging habitat are stated to be available adjacent to the site study area, which the appellant asserts would alleviate the impacts of the development on Long-eared Owl during the construction and operation phases.

7.3.36. For species susceptible to disturbance, such as Curlew and Snipe, the Northern Ireland Environmental Agency (NIEA) has requested a restriction of construction during the breeding season and monitoring during construction by an ornithologist and I am satisfied that this would be required as a condition in the event of a grant of permission. During surveys one observation of Curlew in flight was recorded at Lough Assaroe, 1.8km to the south, and further observations were recorded suggesting a possible breeding territory for Curlew at Tullynasiddagh Lough, 2km to the northwest of the site. NIEA also request that current wet areas on site should be maintained to provide habitat for Snipe. Snipe were recorded in each of the surveys undertaken within and surrounding the site, with 50 flight observations but none were recorded within the potential collision risk zone. Observations of Snipe in suitable nesting habitats were made although, other than the vantage point observations, no other observations were within the development boundaries. With the exception of the priority species surveys, Tufted Duck was recorded during each of the surveys, including one observation of a pair of Tufted Duck within the collision risk zone and the other nearest observations of Tufted Duck to the development site on Lough Unshin and Lough Meensakeagh. The site appears to be of very limited importance for curlew, snipe and tufted duck.

7.3.37. Direct habitat loss, particularly for waterbirds, arising from potential changes in water quality and regime of the local environment and receiving watercourses would be limited by virtue of the avoidance of both in-stream works and as the proposed major project infrastructure would not be within 50m of watercourses. Other mitigation measures and monitoring are detailed within the EIAR as part of the project proposals to safeguard water quality and maintain a drainage neutral situation. Furthermore, based on the surveys and information available, there would not

appear to be evidence that the development site is situated on a migratory or regular-commuting route for birds, including Golden Plover, Whooper Swan and Greenland White-fronted Goose, therefore a barrier effect is not anticipated.

7.3.38. Greenland White-fronted Goose, Light-bellied Brent Goose, Chough, Sanderling, Common Scoter and Great Northern Diver are qualifying interests for neighbouring designated sites within the zone of influence of the development site. These birds were not recorded on site during surveys and the potential impact of the proposed development on these species is considered further in section 8 of this report.

7.3.39. The project design features, as detailed in the EIAR, include 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 6-9 to the EIAR. It aims to monitor parameters associated with collision, displacement/barrier effects and habituation. Surveys would be scheduled to coincide with Years 1, 2, 3, 5, 10 & 15 of the life time of the wind farm, including breeding bird, autumn migration / wintering birds' survey and corpse searches. These features are based on guidelines by NatureScot 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. It can be concluded that the proposed development would not have a significant impact on the bird species assessed above. Impacts on Hen Harrier are considered directly below.

Hen Harrier

7.3.40. The Hen Harrier is a protected raptor, included in Annex I of the Birds Directive (2009/147/EEC) and classed as amber-listed in the 'Birds of Conservation Concern in Ireland' (BOCCI; Colhoun & Cummins, 2013), as well as being red-listed in the United Kingdom. A 2015 national survey by the Department of Arts, Heritage and the Gaeltacht of breeding Hen Harrier in Ireland (Irish Wildlife Manuals No.93) provided a composite national population estimate of 108 to 157 breeding pairs. According to the NPWS, the development site is located in a non-designated regionally-important area for Hen Harrier and the identified pair of Hen Harrier confirmed to be breeding in the area are considered of national/international importance. Hen Harrier using the area are not connected with designated

European sites given the natural range of this species (NatureScot, 2016) and the separation distance from designated sites where the species is a qualifying interest.

7.3.41. As part of the planning authority's reason for refusal relating to impacts on Hen Harrier, it is stated that limited information on Hen Harrier flights between November 2014 and March 2015 was available to inform how the birds use the locality and that this data deficiency leads to uncertainty regarding the assessment of the potential impact of the development on Hen Harrier. As stated above, I am satisfied that the extent of breeding bird and wintering surveys, including those undertaken for Hen Harrier, at a minimum covering a 2km radius from the development boundary and surveying over a continuous period of two years, generally accords with the 'Recommended bird survey methods to inform impact assessment of onshore wind farms' (NatureScot, 2017).

7.3.42. Breeding territories for Hen Harrier were recorded within the core site boundaries in 2014 and in 2015, and to the southeast of the study area in 2016, 2017 and 2018 (see Figure 1.8 of appendix 6-7 to the EIAR) with repeated use of these territories. Within the grounds of appeal, the appellant states that following a failed nesting at the previous 2018 nest site location in early 2019, a pair of Hen Harrier subsequently nested in a location situated between proposed turbines 1 and 2 later in 2019 (see figure 2 of appendix 4 to the appellant's appeal submission). During the non-breeding season (mid-August to mid-March) Hen Harriers gather at communal or solitary roost sites at night with suitable cover, low ambient levels of disturbance and close to suitable foraging areas. These winter roosts sites for Hen Harrier were not observed within the site boundaries, but were identified in the wider area to the north and southeast of the site, as illustrated in figure 1.9 of appendix 6-7 to the EIAR, the closest of which relates to a site approximately 1.3km southeast from the appeal site boundary. Vantage point survey observations of Hen Harrier flights within the area are outlined by the appellant, including 96% of flights over 500m from the proposed turbine locations.

7.3.43. Hen Harriers forage over open heath or grasslands, scrub and farmland habitats, but they are also known to use recently afforested (pre-thicket) areas to both nest in and forage over. As referenced in a UCC report (2015a), adult male Hen Harriers forage at distances of up to 10km from nests, while females hunt mainly within 500m of the nest site. The appellant refers to other studies stating foraging ranges of up to 9km

and 15km for Hen Harrier, while also acknowledging that these ranges are not constant or circular. The NatureScot guidance document 'Assessing Connectivity with Special Protection Areas (SPAs) Guidance (2016)' indicates a core foraging range of 2km during the breeding season, with a maximum range of 10km.

7.3.44. The appellant acknowledges that suitable breeding habitat continues to exist within the site for Hen Harrier. According to the EIAR, which was prepared prior to the identification of the 2019 nest site, the potential for direct loss of supporting habitat arising from the development would be minimal based on the identified location of Hen Harrier breeding sites between 2016 and 2018, and as the proposals would only use existing forestry road infrastructure, as well as semi-mature, mature and felled commercial forestry areas. Furthermore, given the distances from the development to the identified winter roost sites, it is asserted by the appellant that there would be limited potential for the construction phase of the development to impact on the quality and availability of winter roost sites used by Hen Harrier in this area.

7.3.45. Within the NatureScot document titled 'A Review of Disturbance Distances in Selected Bird Species' (2007), the displacement of Hen Harrier has been suggested to potentially occur up to 500m around wind farm construction sites with some disruption up to 1km, depending on lines of visibility. Visibility between 500m and 1km of the 2019 nest site is limited by topography and ground cover, including forestry. Proposed turbines 3, 4, 5, 6 and 7, would be outside both the 500m displacement range and the 1km disturbance range based on the identified breeding territories. Proposed turbines 1 and 2, as well as the associated road and amenity trail infrastructures, are all within 500m of the identified 2019 Hen Harrier nest site. Proposed turbine 2, as well as the met mast, road and amenity trail infrastructure east of Lough Aghvog, would all be within 500m of the 2014 and 2015 identified breeding territory for the Hen Harrier. Consequently, displacement or disturbance of breeding Hen Harrier during the construction phase of the proposed development, particularly within areas proximate to turbines 1 and 2, cannot be ruled out.

7.3.46. The behavioural analysis for Hen Harrier arising from various studies, largely point to reduced Hen Harrier breeding, flight and foraging activity within areas proximate to operational turbines. As reported in the UCC (2015a) report titled 'The interactions between Hen Harriers and wind turbines', disturbance distances for Hen Harrier recorded from operational turbines were in the range of 250m and up to 500m. The

appellant states that the cyclical nature of forestry activities means that suitable nesting areas for Hen Harrier can develop and shift in line with the rotational felling / planting cycle. The areas of pre-thicket forestry, including first rotation and second rotation areas, which the Hen Harrier are known to forage in and have been shown to have a growing preference to nest within, are not mapped as part of the project, and there is potential based on my visual inspection, that these pre-thicket areas are located in various areas within the subject wind farm site, including areas proximate to the proposed turbine locations.

7.3.47. Based on the evidence collated during each of the surveys, the core foraging range for resident Hen Harrier in the subject area is mapped by the appellant in figure 2.2 of appendix 6-7 to the EIAR and this would overlap with proposed turbines 1, 2, 3 and 4. Based on ranges referenced above, the wider foraging range for the identified Hen Harrier would also include the locations of proposed turbines 5, 6 and 7. Consequently, Hen Harrier could potentially be displaced from using significant areas within their current foraging range during the operational phase of the development and the project, by virtue of the turbines, may lead to fragmentation of wider suitable foraging habitat for Hen Harrier.

7.3.48. Passerine bird species, including meadow pippet, are identified as a frequently recorded prey item in the diet of Hen Harriers. Based on recorded observations by the appellant, the population of meadow pippet, was considered of local importance only. NatureScot guidance states that passerine species are not significantly impacted by wind farms. Minimal change in prey availability would be anticipated based on the alterations in land use and the operation of the wind energy infrastructure.

7.3.49. Mitigation measures for the construction phase of the project to address impacts on birds, including Hen Harrier, are detailed in section 6.7.2 of the EIAR and include the removal of woody vegetation outside of the general breeding season and monitoring by an ornithologist. Construction activities would not be undertaken during the breeding season if nest sites are located within a 500m buffer of the works. Similar mitigation to the construction phase is proposed to avoid disturbance of breeding or winter roost sites during the project decommissioning stage.

7.3.50. To address the impacts on breeding habitat for Hen Harrier, within figure 2.1 of appendix 6-7 to the EIAR, the appellant has identified an alternative nest habitat enhancement area to the east of the site within a 1km range of the 2014 to 2018 Hen Harrier nest territories, but outside of a 1km displacement buffer from each of the subject proposed turbines and the permitted turbines within the neighbouring Derrykillew Community Wind Farm. Appendix 6-8 of the EIAR comprises a Hen Harrier Habitat Enhancement Plan document and this outlines that the existing forestry in the nest habitat enhancement area, which would include the 2018 breeding territory site, would be felled, the brash would be removed and the area allowed to revert to natural peatland. A revised Hen Harrier Habitat Enhancement Plan was appended to the grounds of appeal (appendix 2). The nest habitat enhancement area, covering 2.5ha, was based on the previously identified breeding territory areas and this habitat would be fenced off to reduce risk of predation by ground mammals.

7.3.51. The NatureScot Guidance document titled 'Wind farm proposals on afforested sites – Advice on reducing suitability for Hen Harrier, merlin and short-eared owl' (2016a) expect a developer to devise turbine layouts that avoid the core foraging ranges around recorded nest sites of Hen Harriers or otherwise provide a clear and full justification for the development with mitigation measures to address same. Again taking a 1km disturbance buffer from each of the proposed turbines, as well as the permitted turbines within the Derrykillew Community Wind Farm, and based on an estimated non-circular core foraging range for Hen Harrier amounting to 1,116ha, a foraging habitat enhancement area is illustrated on Figure 2.2 of appendix 6-7 to the EIAR. The foraging habitat enhancement area amounting to a stated 24ha would surround the proposed nest habitat enhancement area, adjacent to Lough Golagh and Breesy Hill SAC (Site Code: 002164) and the boundary with Northern Ireland. This area would also be altered from commercial forestry to form open moorland/peatland, by the permanent removal of forestry and resultant brash according to the appellant. Detailed rationale for the extent of foraging habitat within the revised enhancement plan is based on the observed Hen Harrier flights, the avoidance and loss of habitat within 250m of turbines and the displacement from habitat within 500m of turbines based on a 50% reduction in flight activity. Where necessary, forestry drainage channels would be blocked as part of this enhancement

plan. The enhancement plan would involve monitoring of vegetation and birds, as well as the removal of self-seeding conifers twice over the life of the proposed development, as well as measures to manage invasive species, if encountered.

7.3.52. According to the appellant, the impact of the development would be no greater than slight arising from the provision of an alternative and enhanced nesting and foraging habitat for the Hen Harrier, located 1km beyond the displacement buffer of the proposed turbines. The appellant asserts that no significant cumulative displacement effects on Hen Harrier would arise and the enhancement plan would ensure positive impacts for the species at a local level. It is also asserted by the appellant that during the operational phase of the project, no direct or indirect loss of habitat area would arise and there would also be potential for breeding Hen Harrier to reoccupy the study area at some stage in the future.

7.3.53. I am satisfied that the information provided and available suggests that the Hen Harrier winter roost sites at distances of greater than 1.3km from the proposed turbine locations, would be sufficient distances from the proposed development areas to avoid significant impacts, including via disturbance and displacement.

7.3.54. Within the grounds of appeal the appellant asserts that the evident avoidance of the development site by Hen Harrier based on surveys can be attributed to the lack of supporting habitat present within the development site boundary. This assertion would appear to overlook that they have acknowledged in the EIAR that the site continues to contain suitable habitat for Hen Harrier, as evidenced by the fact that the nest site for the local breeding Hen Harrier in 2019 was situated 213m and 420m respectively from proposed turbines 1 and 2. The evidence from previous breeding season nest sites also reveals that Hen Harrier fidelity to this area having previously reused nest sites and that a fixed nest site does not exist. Based on the information available, a net loss of potential breeding habitat for Hen Harrier during the construction phase of works would arise within the environs of proposed turbines 1 and 2, while the potential for Hen Harrier to utilise suitable breeding territories on site proximate to each of the operational turbines and associated infrastructure would also arise.

7.3.55. Flight data from the various surveys are recorded and a collision risk based on observations of one bird for every 1,111 years is considered insignificant by the

appellant in the context of the local, county, national and international populations of Hen Harrier. Should Hen Harrier reoccupy territory in the study area in future, the appellant asserts that the risk of Hen Harrier collision with turbine blades would not be significant, given the typically low flight heights relative to turbine blades, although some additional risk would be associated with fledgling and display flights.

7.3.56. Evidence of reduced Hen Harrier flights and associated foraging in areas proximate to turbines is referenced by the appellant based on a Pearce-Higgins et al (2009) study. I recognise that the turbine hub height (30m to 70m) and the number of turbines (14 to 42) per wind farm used in the Pearce-Higgins et al (2009) study differs from the 80m hub height and seven turbines proposed in the subject development. Notwithstanding this, considering the above and the location of turbines 1 to 4 inclusive within the core foraging range of Hen Harrier and the location of turbines 5, 6 and 7 within the wider foraging area, vital extensive areas of suitable existing and future habitat for Hen Harrier would be lost via the displacement effects during the operational phase of the project, which has potential to have significant adverse impacts on Hen Harrier dependent on this area. To avoid these significant adverse impacts, I am satisfied that some means of realistically compensating for the loss of suitable habitat area would be necessary, and the appellant has largely attempted to achieve this by means of a habitat area enhancement plan.

7.3.57. For numerous cumulative reasons, I am not satisfied that the enhancement plan set out by the appellant could realistically achieve an additional immediate habitat area to compensate for the displacement and fragmentation effects of the development and the loss of the identified and potential breeding territories and foraging areas over the lifetime of the project. Firstly, it is far from conclusive that the enhancement plan would provide additional alternative habitat for breeding Hen Harrier to compensate for a loss in habitat area on site, as the nest enhancement habitat area has recently been used in 2018 as a breeding territory by Hen Harrier. Despite an initial failed 2019 nesting attempt by Hen Harrier at this enhancement area and the existing use of the habitat enhancement area for commercial forestry, even without interventions by the appellant to clear fell 24.2 hectares, these neighbouring lands could potentially be used again by Hen Harrier. The appellant has not provided any evidence to discount this, such as clarifying that pre-thicket first or second rotation

forestry areas do not exist within the enhancement plan area. Secondly, the enhancement area would require extensive works over a substantial area and the appellant has not outlined how long it would take following works for this clear-felled area to mature into the envisaged 'open moorland' nesting and foraging habitat for Hen Harrier with associated typical ground cover flora. Therefore, the short-term capacity to initially attract Hen Harrier to this area following clearance works is uncertain based on the enhancement plan and information available. Furthermore, clarity would be required as to whether or not the works can be undertaken by the appellant given that the enhancement area is not identified in planning application drawing no.1046-02 as an area within their control.

7.3.58. Finally, concerns arise regarding the calculation of the area required for the compensatory foraging habitat, including inputs to the model and the calculation of the Hen Harrier habitat area that would be lost or avoided. The Department of Culture, Heritage and the Gaeltacht, An Taisce and the RSPB have highlighted several concerns in their submissions regarding the approach in calculating the area of compensatory foraging habitat required for Hen Harrier, with each party claiming that the area required has been underestimated by the appellant. The planning authority's reason for refusal (no.2) refers to an absence of evidence supporting the appellant's claims that the displacement modelling would result in a loss of only 1% of the available core foraging habitat for Hen Harrier, or 2.2% of this habitat when taken cumulatively with other neighbouring developments. In response, the appellant has outlined that the extent of the foraging habitat enhancement area is based on Pearce-Higgins et al (2009) habitat avoidance rates and that a revised model undertaken and appended to the grounds of appeal identifies that 2.1% (24ha) of the total core foraging area (1,116ha) would be lost. The model used in the appellant's revised enhancement plan is in part based on 45 seconds of five surveyed Hen Harrier flights within a 500m buffer of the proposed turbine locations. As noted above, flight data accounting for the 2019 nest site location was not available and, therefore, could not have been accounted for in the revised habitat enhancement plan submitted. However, given the known position of this 2019 nest site, proximate and between the proposed turbine 1 and 2 locations, it is highly likely that an increased number of flights within the potential collision risk zone and within the 500m model buffer zone would be expected to occur if this data was available. I

recognise that Hen Harrier can exhibit typically low flight heights and avoidance behaviour, however, increased flights in the collision risk zone would be likely to occur, possibly including display flights. Consequently, the information used in the appellant's model would not allow for a reasonable determination of the temporal displacement of Hen Harrier and the likely loss of foraging habitat.

7.3.59. The appellant asserts that a loss of Hen Harrier habitat measuring 4.3ha within the avoidance and displacement zones of the proposed turbines would arise and that this would be realistic given the lack of optimum Hen Harrier foraging habitat, including non-conifer, open peatlands, grassland and scrub area within 250m of the turbines. I recognise that the remaining 19.6ha of the total revised enhancement area (24ha) was accounted for by a proposed sixth turbine to an 'optimised' Derrykillew Community Wind Farm on peatland habitat, but I am not aware of a planning application having been lodged for same. I note that the neighbouring permitted turbines have been accounted for in the temporal displacement effect model, including Hen Harrier flight times within their 500m buffer zone, but areas surrounding the neighbouring permitted turbines have not been included as part of the appellant's habitat avoidance effect model, despite these permitted turbines and their immediate areas being within or partially within the appellant's identified core foraging habitat for Hen Harrier (see figure 2-3 of appendix 6-7 to the EIAR) and featuring similar habitat to the appeal site. Given the existing and potential future rotational pre-thicket forestry areas potentially within 50m to 250m to each proposed turbine, which the appellant does not appear to have accounted for as being suitable Hen Harrier habitat, and the identification of extensive areas of wet heath, upland blanket bag, transition mire and quaking bog habitat (as per figures 5.5a and 5.5b of the EIAR) within 250m of the proposed turbine locations, I am not satisfied that the area of habitat that would be lost or avoided (4.3ha) has been arrived at via conclusive realistic calculation of the habitat avoidance effect. Furthermore, based on the appellant's assumed avoidance by Hen Harrier of areas within 250m of the turbines and the separation distances of on average 500m between the respective nearest turbine blade paths, particularly for turbines 3, 4, 5, 6 and 7, the positioning and layout of the proposed turbines would result in further indirect loss of Hen Harrier foraging habitat, by creating a barrier deterring use of identified and wider suitable foraging areas immediately to the west and north of the site.

7.3.60. Based on the above, the appellant has significantly underestimated the suitable habitat area that would be lost as a result of the proposed development and the permitted Derrykillew Community Wind Farm within the core and wider foraging area of Hen Harrier. The appellant's habitat enhancement plan would not realistically compensate for the cumulative loss of Hen Harrier habitat or provide immediate quality alternative habitat, and the actual loss in habitat would result in a significant reduction in the quality and area of habitat available for nesting and foraging Hen Harrier.

7.3.61. Having regard to the assessment above, I am satisfied that the main significant direct and indirect effects of the proposed development on Hen Harrier are as follows:

- significant negative impacts during the construction phase for wintering/roosting Hen Harrier, which would be avoided based on the separation distances to the locations of the winter roost sites that the Hen Harrier have shown fidelity towards;
- significant negative impacts on a confirmed breeding pair of Hen Harrier considered to be of national/international significance during the construction and operation phases of the wind farm arising from displacement and fragmentation of the core breeding territory for Hen Harrier;
- significant long-term negative cumulative impacts on Hen Harrier in combination with the permitted Derrykillew Community Wind Farm during the operation phase, as a result of the direct and indirect loss of substantial suitable breeding and foraging habitat for Hen Harrier;
- there is significant uncertainty as to the likely effectiveness of the proposed mitigation measures proposed to address the impacts of the development on Hen Harrier. Significant impacts would not be compensated for via the mitigation proposed, including the revised Hen Harrier habitat enhancement plan, and would, therefore, fail to preserve and maintain sufficient diversity of area and habitat for Hen Harrier breeding and foraging and would have a significant adverse effect on Hen Harrier;

- the proposed development would fail to ensure the continued presence and reproduction of Hen Harrier in their current area of distribution in south County Donegal.

Conclusion

7.3.62. With the exception of Hen Harrier, it is considered that the value of the development site and surrounding area for biodiversity, has been adequately surveyed and quantified and allows for an evaluation of impacts to be completed and the EIAR conclusions in relation to the residual impacts on biodiversity can be supported by a reasoned methodology. However, for the detailed reasons outlined above, I am not satisfied that the proposed development, including the cumulative effects with the Derrykillew Community Wind Farm, would not have a significant adverse impact on Hen Harrier.

7.4. Land, Soil & Geology

7.4.1. Section 7 of the submitted EIAR assesses and evaluates the potential for significant impacts on lands, soils and geology. Investigations undertaken by the appellant comprised desk studies of the windfarm site, the grid connection route and the surrounding study area, alongside geotechnical investigations during 2018, including 209 peat probes, 18 gouge cores, a peat stability assessment and the logging of findings.

7.4.2. The EIAR outlines that the turbine site area has been primarily used by Coillte for commercial forestry, while the immediate areas primarily comprise peatlands, forestry and agriculture lands. Ground conditions along the ridge accommodating the turbine site are dominated by shallow peats with rocky outcrops. As per the published subsoil map for the area, the eastern section of the site is almost entirely covered by blanket peat, while the western section comprises a mix of blanket peat, till derived from metamorphic rocks and bedrock outcrops/subcrops. Based on the Geological Survey of Ireland (GSI) bedrock map, the turbine site is underlain by Precambrian quartzites, gneisses and schists, with trending mapped faults that would not be impacted by the development. The closest karst features are identified as depressions or springs between 2km to 3km to the northwest of the site. An area of geological heritage is identified on GSI maps for the area and this relates to a

mineralogy feature that is situated at Lough Columbkille bordering the access track leading to proposed turbine 2. Known areas of soil contamination, historic mines or licenced waste facilities were not identified by the appellant within the site or in the immediate vicinity of the site.

7.4.3. The greatest potential for impacts to land, soil and geology would arise during the construction phase of the project, particularly via peat slide and peat failure. The proposed tracks and primary infrastructure locations would be the initiation point for any peat failure. Geotechnical investigations were carried out and mapped and a peat stability assessment report was prepared and is appended to the EIAR (see Appendix 7-1). The peat depth probes within the proposed development footprint (see figures 7.2 & 7.3) accounted for the location for the anemometry mast, substation, construction compound, borrow pit and new access tracks. Peat thickness on site typically ranges from 0 to 5.4m, with an average depth of 1m. No peat was encountered in the area of proposed turbine 6.

7.4.4. In terms of peat stability, hand vane results revealed shear strengths in the range of 10 to 57kPa (kiloPascals) with an average value of 29kPa, which are typical of well-drained peat. Low shear strengths (2.5kPa) often indicative of peat failure conditions 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 the BS6031:2009: Code of Practice for Earthworks, a FoS minimum of 1.3 is taken as acceptable for the project. 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, one where there would be no surcharge and a second where a surcharge of 10kPa applies, shows all primary infrastructure locations where peat was present, having an acceptable FoS of greater than 1.3, indicating a low risk of peat failure.

7.4.5. A drained analysis, which is relevant to the long-term stability of the site, examines the effect of rainfall and other factors on the stability of the natural peat slopes on the site. Two loading conditions were tested and the findings revealed that for loading condition 1, subject of no surcharge, all 209 locations tested have a FoS within the range of 1.96 and in excess of 10, and therefore a low risk of peat instability. For

loading condition 2, where there would be a surcharge of 10kPa, all locations tested have a FoS of greater than 1.3, within the range of 2.15 and in excess of 10, thereby also indicating a low risk of peat instability. Peat depths of over 5m that are logged for central areas of the site, including the location of proposed turbine 5, are not considered to present significant risk of peat slides, as the deep peat is in an area consisting of typically flat topographical depressions, with low risk of peat slide, and the geotechnical risk register identifies that post-control measures would reduce the risk of peat failure to tolerable levels. Consequently, peat instability is not envisaged to be an issue should the proposed control measures be put in place, including construction design features, such as those outlined for the primary project infrastructures in the Geotechnical Risk Register forming Appendix B to the 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 construction practices forming part of the project are detailed in section 7.5.2.4 of the EIAR.

7.4.6. Within the appended Peat and Spoil Management Plan (see Appendix 7-2 to the EIAR), the appellant outlines that movement monitoring posts would be installed to observe any possible peat movements and a range of contingency proposals are outlined to address excessive movement. 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.

7.4.7. It is estimated that when taking into account a 15% contingency, approximately 103,000m^3 of aggregate for use on site would be required from the proposed borrow pit, primarily to construct hardstanding areas, as well as the upgrade and construction of the site access tracks. Higher-quality surfacing fill would be imported from local quarries, where possible. Foundation type and depth for the primary infrastructures, including hardstanding areas, would only be identifiable at detailed design stage, although based on a preliminary geotechnical assessment, piled foundations would be likely to be required for proposed turbine 5 where peat depths are deepest when compared with the other turbine locations. As noted above, the appellant has outlined reasons why the use of piled foundations at turbine 5 would not present significant risk of peat slide.

7.4.8. The Peat & Spoil Management Plan (appendix 7-2 to the EIAR) includes proposals for the placement and spreading of peat and other materials alongside excavations. Based on variable foundation depths for the site infrastructures, excavated peat and spoil are expected to amount to 84,455m^3 and it is estimated that 86,000m^3 could be stored in the proposed borrow pit, while an additional 8,500m^3 could be reused as landscaping features and alongside the access tracks. Figure 6 of the Peat & Spoil Management Plan and Drawing No.1046-18, includes a typical cross-section of the placed / stored material within the borrow pit, which would include a rock buttress to compartmentalise the fill materials and a 2m-high berm on the southern roadside boundary. Cabling between turbines and along the three grid connection options would be placed within shallow uniform trenches with excavated materials to be primarily backfilled.

7.4.9. Asides from peat instability and failure, other potential impacts during the construction phase include those relating to excavation works, contamination, erosion 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, use of bog and brash mats, sustainable use of excavated materials on site and a host of features outlined within the CEMP, forming Appendix 3-5 to the EIAR.

7.4.10. The appellant concludes that significant cumulative impacts on soil and geology would not arise during the construction phase, due to the localised nature of the proposed construction earthworks and the distance to other existing, proposed and permitted developments. Works along the grid connection route would largely entail the reinstatement of excavated materials into trenches running along forestry roads and public roads.

7.4.11. Impacts on soil and geology environment envisaged during the operational stage would largely relate to contamination via fuels and hydrocarbons, as well as the necessity for minor granular amounts to be required to maintain access tracks and hardstandings, which would be sourced intermittently from local quarries. Bunding and other measures, as listed as mitigation measures to address impacts on water quality, would be undertaken to address potential impacts via contamination to soil and peat. The existing compartmentalised rotational use of the lands adjoining the application site for commercial forestry would continue alongside the operation of the

proposed wind farm, and to compensate for the loss of 20.8ha of forestry lands, a replacement planting area would take place off site. During the decommissioning phase of the project, reversal or reduction of impacts at construction phase would be likely to arise, with the rehabilitation of construction areas, including turbine bases and access roads only used for the wind farm infrastructure. Mitigation measures proposed for the construction phase would also be applied during this phase.

7.4.12. Access for the public to the lands, including the network of tracks traversing the site, would be likely to be restricted during the construction period, but given the short-term temporary nature of the works and the proposed development of waymarked amenity routes across the site, the construction impacts for amenity and recreation users would not be significant or of a permanent nature.

7.4.13. On the basis of the information provided, including detailed site investigations, the assessment of peat stability, the excavations required, as well as the expected volumes of material, I am satisfied that the conclusions reached are robust and that the proposed development would not have adverse impacts on the land, 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. The Peat & Spoil Management Plan includes contingency design features to address excessive movement and peat slide during the construction and dewatering stage, which is when peat stability and failure would be most critical.

7.4.14. In conclusion, I am satisfied that the potential for impacts on lands, soils and geology can be avoided, managed and/or mitigated by measures that form part of the proposed development, by the proposed mitigation measures and with suitable conditions. I am therefore satisfied that the potential for direct or indirect impacts on lands, soils and geology can be ruled out. I am also satisfied that cumulative effects, in the context of the ongoing commercial forestry and other existing, permitted and proposed development in the vicinity of the site, are not likely to arise.

7.5. Water

7.5.1. Section 8 of the EIAR examines the potential impact of the development on hydrology and hydrogeology. A desk study, field mapping and a walkover survey during April 2018, including surface water flow and hydrochemistry tests, were

undertaken to inform the EIAR. The impacts were also informed by the testing, logging and assessments undertaken as part of the consideration of the impacts of the project on land, soil and geology.

7.5.2. The development site is located within the Erne surface water (hydrometric area 36). At a more localised level, the northern section of the site drains towards the Behy river, a tributary of the Abbey river, which eventually discharges to the River Erne estuary 7km downstream and to the west of the site. The southern section of the site drains to the south towards Assaroe Lake (Assaroe Lake/River Erne Catchment), primarily via Tullybaradair river, which initially flows eastwards from the site to Lough Meenaskeagh. The lands accommodating the grid connection routes also drain to Assaroe Lake. After passing through the hydro-electric power station at Ballyshannon, waters from Assaroe Lake also discharge to the River Erne estuary. There are eight small to medium size lakes on the northern and southern sides of the site, while the majority of the existing forestry plantations drain via a manmade network of collector and interceptor drains.

7.5.3. The most recent EPA surface water quality data available reveals a water quality rating (Q-rating) for the Abbey river of 'good' to 'high' status. The Water Framework Directive (WFD) status for the Abbey river is 'unassigned' with a risk result status subject to 'review', while the Tullybaradair river is rated as 'moderate' with a risk result status of 'at risk'. Sampling of water quality from three locations was undertaken to complement the long-term baseline water environment data logged by the EPA. This sampling indicated that surface water flows on site are largely derived from rainfall based on the electrical conductivity value. The levels of suspended solids from the sampling was well below Freshwater Fish Directive requirements for salmonoid and cyprinid waters. Low levels of nutrients and slightly acidic pH values, typical of peatland environments were noted in samples. Variations in the chloride content of samples were apportioned to local contamination, but were nevertheless well within the EC directive standards.

7.5.4. The bedrock that underlie the proposed development site are classified by the Geological Society of Ireland (GSI) as a 'Poor Aquifer', comprising bedrock that is generally unproductive except in local zones (PI) and bedrock that is generally unproductive (Pu). Small areas close to the Abbey river are mapped as Dinantian pure-bedded limestones that are regionally-important aquifer (karstified).

Groundwater flows would be largely concentrated in the upper fractured and weathered zones with short flowpaths following topography. Surface waters would be more vulnerable than groundwater based on the groundwater characteristics. The site is within the Ballyshannon East groundwater body for the purposes of the WFD and the quantitative and chemical status of the waters was considered 'good'.

7.5.5. 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 (to an accuracy of 1m to 50m) and the closest well that was identified is located 1km to the west of the site. The shallow nature of the cable trench is not expected to impact on wells located along the Cathleen Falls end of the proposed grid connection routes. Figure 8.5 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. Columbkille Lough and Lough Unshin on the north side of the site serve as public water supply sources. Columbkille Lough has a small localised catchment, while Lough Unshin drains a larger catchment, including an area to the east of the site proposed to accommodate turbines 1 and 2.

7.5.6. No recurring flood incidents or lands prone to flooding are identifiable from the Office of Public Works (OPW) indicative flood maps for the site. An area to the north of the site is identified as being within 'benefitting lands' associated with previous arterial drainage works to the Abbey river. The preliminary flood risk assessment maps available for the area, identify areas subject to pluvial or fluvial flooding, the most prominent of which is an area susceptible to a 1 in 100-year fluvial-flood event along a section of the stream draining to Lough Unshin on the eastern boundary of the site.

7.5.7. The development area would be largely accommodated on the higher ground on site and the proposed drainage would integrate with the existing forestry drainage network, which is considered to be of no major ecological or hydrological value. Proposed drainage alongside the access tracks and site work areas are illustrated in schematic format in plate 8.2 of the EIAR, encompassing upstream and downstream collector drains, check dams, chains of attenuation ponds and level spreaders with buffered outfall to site vegetation surface. Direct discharge to watercourses are not proposed. Two watercourse crossings would be upgraded as part of the proposed works, involving replacement of concrete pipes, with one crossing positioned on the

western end close to the new access road and another crossing centrally positioned within the site, close to proposed turbine 5. A new watercourse crossing is also proposed over a stream at the intersection of the proposed new access road with a local road on the western end of the site. The proposed underground grid connection options would consist of 24 no. watercourse crossings, however these are within existing culverts/bridges and an overhead line traversing the River Erne is proposed. As such no instream works are required. The permanent development footprint amounting to 12.3ha based on table 8.10 of the EIAR would result in a net increase of 19.9m^3 in daily run-off based on local baseline meteorological conditions.

7.5.8. Potential impacts of the proposed development during the construction phase are outlined in section 8.4.3 of the EIAR, including the following:

- clear felling of coniferous plantations;
- earthworks resulting in suspended solids entrainment in surface waters;
- changes in groundwater levels during excavation, including excavation of the borrow pit;
- dewatering and impacts on surface water quality;
- release of hydrocarbons;
- groundwater and surface water contamination;
- release of cement-based products;
- morphological changes to surface waters and drainage regimes;
- surface water quality during directional drilling;
- impacts on hydrologically-connected designated sites;
- impacts on public water supplies.

7.5.9. Comprehensive surface water mitigation and controls are proposed as part of the proposed development to protect receiving waters downstream, including known riparian habitat for trout, public water supplies and designated sites, including the Erne Estuary/Finner Dunes pNHA. Drainage proposed would mimic the existing hydrological regime in order to avoid changes to the flow volumes leaving the site. 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.

7.5.10. Project design features proposed include water treatment and controls, limited work times and areas, containment measures and the management of run-off and staff welfare facilities. Buffer zones of at least 50m from turbines and access roads to drains are proposed, with the exception of a stretch of the new access track at the western entrance to the site. Each watercourse crossing would feature a clear-span bridge, subject to consultation with the NPWS and IFI, and in line with work methodologies outlined in the appended CEMP (Appendix 3-4 to the EIAR). Pipe culverts may also be required given the nature of the forestry drainage regime and a methodology for constructing same is also outlined in the CEMP. No instream works are proposed and environmental management measures are outlined in the CEMP to address the adjacency of the works to watercourses. The proposed watercourse crossings have been designed to address 100-year flood flow levels and would separately be subject to Section 50 'arterial drainage' applications. Likely effects on downstream European sites are considered further below in section 8.

7.5.11. Observations to the appeal raise concerns regarding the impact of the development on the public water supplies sourced from Columbkille Lough and Lough Unshin. The appellant has illustrated the catchment of Columbkille Lough and outlined that no works are proposed within this catchment area. Works proposed within the catchment of Lough Unshin on the east side of the site include, construction of foundations for turbines 1 and 2 and the construction of 1km of road upgrades and 100m of new roads. Turbine 2 would be 310m from the shore of Lough Unshin and a mobile siltbuster that would sieve out leakages and sediment would be employed. Overburden such as peat, as well as fuels and chemicals would not be stored and washing of cement trucks would not occur within the catchment. The application of best practice measures and the management of potential contamination sources, as proposed, inter alia, by the significant buffer to the lake, the control of materials and the cleaning proposals, would suitably address the potential risk to these lake bodies during the construction and operation phase of the project.

7.5.12. The primary risk to groundwater would be during the construction phase arising from cementitious materials, hydrocarbon spillages and leakages. Insignificant volumes

of groundwater seepage are anticipated based on conditions observed. 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 the construction phase. Potential to impact on groundwater levels and quality would be reduced by contingency measures outlined to prevent frac-out and an emergency response plan to deal with spillages.

7.5.13. Potential impacts arising for groundwater and surface water from the excavation works, including the borrow pit, are addressed in sections 8.4.3.3 and 8.4.3.4 of the EIAR. The appellant outlines that significant groundwater dewatering would not arise from the rock excavation works, as this would progress in a horizontal manner into the side of the outcropping bedrock and due to the topographical and hydrogeological setting. Rationale for this is provided by the appellant based on several assumptions relating to local bedrock conditions and an evaluation that surface water, as opposed to groundwater, would form the largest proportion of water to be managed and treated from the borrow pit. The appellant accepts that additional volumes of water would need to be treated by the runoff management system. The borrow pit would require excavation works into the hillside between 119m and 144m OD covering 1.4ha based on Drawing No.1046-18 and as such would require substantial engineering and groundworks. While a suite of proposals capable of addressing the additional water runoff from the borrow pit are specified, given that these proposals are based on several assumptions, I am satisfied that a condition would be necessary and reasonable to require detailed drainage proposals for this element of the project, in the event of a grant of planning permission.

7.5.14. 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. The increase in run-off arising from the construction of hardstanding areas and buildings would have negligible impacts considering the site context surrounding by undeveloped areas. Notwithstanding this, various storage and control features are proposed to address the replacement of natural surface with lower permeability surfaces, including settlement ponds that would be installed considerate of the greenfield run-off and would address potential for flooding.

7.5.15. A programme of surface water quality monitoring would be implemented during the construction phase with records to be maintained on site and alterations to the frequency of testing would be agreed with the planning authority. Monitoring of surface water would continue for 6 months after the development is completed. Mitigation measures employed during the construction phase, including temporary drainage and pollution control measures, would be applied during the decommissioning phase. No significant cumulative impacts on water quality with other projects are anticipated, given the separation distance to neighbouring wind farms, the overall area of the subject drainage catchment and the mitigation measures proposed to serve the subject development.

7.5.16. I am satisfied that the appellant has shown reasonable knowledge of the existing drainage regime for the area and that the EIAR conclusions regarding surface water and groundwater are reasonable. The most significant potential impacts would be likely to occur during the construction phase. I am satisfied, overall, that the development would not have a significant adverse impact on water quality subject to conditions and the proper implementation of the proposed project design features, including drainage proposals and the measures outlined in the Construction and Environmental Management Plan, which includes Watercourse Crossing Methodologies and an outline Site Drainage Management Plan. The measures proposed are comprehensive and are described as pre-emptive and proactive, with ongoing inspection, water-quality monitoring and maintenance.

7.5.17. I have considered all of the written submissions made in relation to water quality, hydrology and hydrogeology and the relevant contents of the file including the EIAR. I am satisfied that the potential for impacts on water quality, hydrology and hydrogeology can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, by the proposed mitigation measures and with suitable conditions. I am therefore satisfied that the potential for direct or indirect impacts on water quality, hydrology and hydrogeology can be ruled out. I am also satisfied that cumulative effects, in the context of existing and permitted development in the surrounding area, are not likely to arise.

7.6. Air and Climate

7.6.1. Chapter 9 of the EIAR addresses the impacts of the proposed development on air and climate. Baseline conditions to estimate the impacts of the development were assigned for the site based on the EPA air quality 'zone D', which is applicable to all areas in the country, excluding settlements with a population of greater than 15,000. The nearest ambient air quality data is available for a 'zone C' area 57km to the north in Letterkenny and this data dates from 2008-2009. As discussed in section 9 below, this wind energy development has significant potential to reduce emissions in the wider atmosphere, such as carbon dioxide and oxides.

7.6.2. 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 exhaust fumes from construction traffic and machinery, as well as from the on-site construction activity, in particular the excavation works, the movement of traffic and materials both within the site, along the haul route and along the grid connection routes. 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 in either the construction or operational phases.

7.6.3. Dust suppression measures and design features are proposed as part of the project to address the risk of release of dust particles during construction works. Given the separation distance from the project development areas, including the proposed borrow pit, to the nearest sensitive receptors, including 64 houses within 1.37km of the site and the nearest house 400m to the south of the borrow pit and 620m to the south of turbines 5 and 6, it would be unlikely that housing would be affected by dust emissions arising from the construction of the proposed development. A series of mitigation measures would be implemented in order to reduce dust emissions during the construction phase, including those listed on page 40 of the CEMP, such as the use of designated routes only, the wetting of areas, particularly in dry periods, the use of wheel cleansing areas and the use of tarpaulin covers.

7.6.4. 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 alongside the commercial forestry operations, I would not anticipate any significant detrimental impact on air quality during the operational phase.

7.6.5. Baseline climatic conditions and climate change targets are outlined within section 9.2 of the EIAR. Short-term slight negative impacts would be likely to arise from increased greenhouse gas emissions associated with the construction phase of the project, including the manufacturing and transportation of the infrastructures to the site. During the operation phase, the proposed development has significant potential to enable Ireland meet renewable energy targets, as briefly set out in section 5.2 of this report and to offset the necessity for burning fossil fuels as an energy source. A replacement forestry plantation off site is proposed to directly offset the loss of commercial forestry required to facilitate the development. As outlined in Appendix 3-2 to the EIAR, the growth of trees in the replantation area, would allow for fixation of atmospheric carbon. Peatlands are significant stores of organic carbon, and 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 to facilitate construction. Therefore, the works can either directly or indirectly allow the peat to dry out, which permits the full decomposition of the stored organic material and an associated release of the stored carbon as carbon dioxide. Table 9.8 of the EIAR presents the estimated carbon dioxide losses from the development, accounting for the loss of tree felling, decomposition of soil organic matter, turbine life (manufacture, construction and decommission) and the reduced carbon fixing potential. The estimated loss of carbon dioxide (42,000 tonne equivalent) is calculated to be a fraction (3.5%) of the total amount of the carbon dioxide emissions that would be offset by the proposal (1.2 million tonne equivalent) and would be offset within 13 months of the operation of the wind farm. Notwithstanding that the estimated loss of carbon dioxide for the project excludes the intention to fell almost 24 hectares of commercial forestry as part of the revised Hen Harrier Enhancement Plan (appendix 2 to the Grounds of Appeal), the expected total loss of carbon dioxide would not be substantive given the aforementioned anticipated offset period and as the habitat enhancement area would comprise the reinstatement of open moorland. Cumulative negative effects alongside other existing or permitted projects on air and climate are not anticipated.

7.6.6. I have considered all of the written submissions made in relation to air and climate and 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. The proposed development, would have a significant positive impact in terms of renewable energy production and reductions in greenhouse gas emissions and amendments to the proposed development. I am, therefore, satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of air and climate. I am also satisfied that cumulative effects are not likely to arise and that approval for the project should not be withheld for grounds relating to air and climate.

7.7. Landscape & Visual Impact

7.7.1. The proposed development has potential to have a considerable visual effect on the receiving environment. In particular, because of their height, number and moving elements, the turbines have potential to have a significant visual effect. The Development Plan outlines that the landscape of County Donegal is distinctive, unique and synonymous with the identity of the county, and an important contributory draw to the economy. The proposed turbines would be positioned between 110m and 135m OD centrally along an east-west aligned ridge, generally rising eastwards to Breesy Hill (258m OD) and falling westwards to Donegal Bay. The nearest existing wind energy development to the site, Acres Wind Farm, is situated 3km from the proposed turbines along a ridge between 110m to 120m OD and comprising seven turbines with heights of 130m. Permission has also been granted for five 136m-high turbines, known as the Derrykillew Community Wind Farm, situated 2km to the southeast of the appeal site on lands between 80m and 120m OD. While the site and immediate areas are predominated by commercial forestry and peatlands served by single-lane tracks, the lower areas extending out from the site are characterised by pastoral farmlands, interspersed with housing and farmsteads along a network of local roads. A chain of lower wetlands 1.5km to the north of the site are within Carricknahorna Lough and Lough Gorman pNHA (Ref. 002068).

7.7.2. Five of the proposed turbines would be distributed evenly and centrally along the subject ridge, while the two remaining turbines would be paired together on slightly

lower ground to the northeast, close to Lough Unshin. A host of ancillary development elements are proposed, including a substation 50m from the L-7795-1 local road and a temporary construction compound adjacent to this at c.140m OD. The proposed borrow pit would be 750m west of the L-7795-1 local road and situated on ground between 127m and 144m OD, while an anemometry mast with a maximum height of 100m is proposed to be positioned on the east side of the site approximately 250m south of the L-7815 local road. Other substantial visual elements of the proposed development comprise, the felling of commercial forestry, the construction and upgrade of access tracks, the removal of hedgerows to facilitate safe access along local roads, three sheltered viewing areas on elevated ground, a gated car park area along the L-7795-1 local road and an overhead line crossing the River Erne requiring pole/mast structures either side of the river, should the proposed grid connection link with Cathleen Falls or Cliff substations.

7.7.3. 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 reasons for refusal. As an advice note to the appellant following the reasons for refusal listed by the planning authority on their decision, the planning authority stated that in the absence of wind farm policy, the planning authority is precluded from completing a detailed landscape assessment regarding the appropriateness of the proposed development in the host landscape. The appeal site and the immediately surrounding area, is identified in the Development Plan as being within an area of high scenic amenity (HSA) and it is stated in the Development Plan that such areas have the capacity to absorb sensitively-located development of a scale, design and use that would enable assimilation into the receiving landscape.

7.7.4. The appellant asserts that the planning authority should not have been restrained in adjudicating on the visual impact of the development on the landscape, given the extent of information provided with the application. It has also been asserted that the principle of allowing a wind farm within an area of HSA is ‘open for consideration’. The appellant has also noted that the planning authority recognised in their assessment that designated views or prospects would not be impacted by the proposals. It is asserted by neighbouring third-party observers that the appeal site is not suitable for wind turbines and would best remain as an undeveloped area, and

that the proposed development has significant potential to impact on the visual amenities of the area, particularly in conjunction with other existing, permitted and proposed wind energy and electrical developments.

7.7.5. The Development Plan outlines that the Landscape Character Assessment (LCA) for Donegal provides a narrative for character areas and provides an evidence-base for the future development of policy. The LCA identifies that the proposed development would be largely located within the 'Lough Derg Uplands' (LCA 42), an upland rolling bog landscape, with the western end of the site, primarily comprising the new link road section, within the 'Donegal Bay Drumlins' (LCA 31), a distinctive drumlin belt. Figure 11.2 of the EIAR cumulatively identifies the landscape character areas for the south of Donegal and the neighbouring counties, as well as protected views and prospects. Policy NH-P-13 of the Development Plan requires consideration of proposals in the context of landscape classifications, views and prospects. From the outset I recognise that the natural qualities of the landscape have been substantially modified by commercial forestry operations, which also gives the landscape its distinctiveness.

7.7.6. The issue of landscape and visual impact is addressed within Chapter 11 of the submitted EIAR. The 2006 Guidelines 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 specific landscape types. The appellant'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 'transitional marginal land', which is a landscape characterised by both mountain moorland and farmland. It is on this basis that the appellant considers the small-scale, irregular-spacing and cluster for the proposed turbines to be appropriate in this particular setting and consistent with the 2006 Guidelines. The proposed turbines would be visible alongside the Derrykillew Community Wind Farm from 'hilly and flat farmland' and to a limited more distant extent from 'coastal zones'.

7.7.7. The EIAR gives due cognisance to the landscape character of the neighbouring counties of Sligo, Leitrim and Fermanagh, as well as the amenity routes serving these areas. Consultation from Fermanagh & Omagh District Council refers to the closest LCAs in Northern Ireland, which are LCA 2 (Lower Lough Erne) and LCA 3

(Croagh and Garvary River). The nearest proposed turbine would be a minimum of 2.2km to the northwest of these LCAs. Views of the turbines would also be possible from upland areas in neighbouring counties, although these views would be limited based on weather and light conditions. In view of the turbine site's location at a remove from neighbouring county boundaries, the potential visual impact on the quality and character of neighbouring landscapes outside the county would not be significant.

7.7.8. The approach within the 2006 Guidelines for the height of wind turbines on 'transitional marginal land' indicates a preference for short turbines, although taller turbines may be appropriate dependent on the profile and visual complexity of the terrain involved, with greater acceptability for uneven turbine height profiles in more rugged and undulating terrain. Each of the proposed turbines at 150m tip height are at the taller scale of turbines referred to under the 2006 Guidelines, whereby a tip-height over 100m is considered tall. The siting, design and wider context of the proposed turbines would be similar to the existing Acres Wind Farm and the permitted Derrykillew Community Wind Farm, although the height of the proposed turbines would be 14m higher than the Derrykillew Community turbines and 20m higher than the Acres turbines. I also note an appeal lodged with respect to proposals to increase the height of the Derrykillew Community wind turbines to 150m (ABP Ref. 307520-20). The terrain on site and the immediate area is undulating and the response to the height and spacing of the proposed turbines, considerate of the permitted and proposed turbines to Derrykillew Community Wind Farm, effectively addresses this terrain.

7.7.9. I am satisfied that the siting and design of the proposed turbines would be in accordance with the recommendations of the 2006 Guidelines. I submit that in the context of the existing turbines 3km to the west from the nearest proposed turbines, the proposed development would not introduce a new form of development into the wider landscape. The landscape has already been substantially altered by the existing commercial forestry activities. 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 to accommodate the proposed wind farm development, subject to further consideration of the visual impacts from specific vantage points, as discussed below.

Visual Impact

7.7.10. The EIAR considers the visual impact of the proposed development both during the construction phase, including the felling of 20.8ha of commercial forestry and the excavation of the borrow pit, as well as the operation phase. The excavation works at the borrow pit would be substantial, but this pit would be largely backfilled with peat from the other site excavation works and the ground would be reinstated following the completion of the construction phase. Views of the borrow pit would be primarily limited to the forest trail adjacent to this element of the project, due to tree cover, topography, including higher ground immediately to the rear, and the separation distances to neighbouring receptors, including the closest local road 500m to the south. It is also note that tree felling would occur on site with or without the project in the short to medium term. Temporary to short-term, imperceptible negative impacts would be expected to arise from the construction works, including site roads and compounds, however, no significant visual impacts are anticipated over the construction phase. The landscape effects of the turbines would only be fully evident during the operational phase.

7.7.11. The Zone of Theoretical Visibility (ZTV) shown in Figure 11.4 of the EIAR, illustrates the overall potential for the proposed turbines to be visible from the surrounding areas within a radius of 20km, alongside the permitted and proposed Derrykillew turbines, with all turbines at half blade position. I consider that the visuals submitted demonstrate the extent of the most relevant geographical areas likely to be impacted, including the most critical areas of influence that are of relevance in 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. Asides from those areas on site and immediate to the site infrastructure, due to the wider topographical features, there would be a greater propensity for the proposed development to be visible from the south and southwest, as illustrated in Figure 11.4

7.7.12. The EIAR submitted provides a visual assessment of the proposed development with 17 photomontages. These viewpoints portray the predicted views from the local community, the village of Belleek, the main transport and 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.

7.7.13. Observations flagged that photomontage viewpoints are misleading, including viewpoint 4, and that other sensitive locations close to residential receptors should have been considered. I have reviewed each of the photomontages in the field and, as a guide to visualising the subject proposals close up, I have also visited and observed the appearance of the neighbouring Acres Wind Farm. I recognise that the turbine type featured in the visuals submitted appears to be at variance with the type of turbine proposed in the submitted application drawing no. 1046-22, which features a more expansive blade length. 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. The appellant asserts that a number of additional viewpoints, as identified on figure 11.9, were considered for the photomontages, but these were noted to have limited or no visibility of the project.

7.7.14. 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 were queried by a number of observers, I consider that they were prepared and presented in a reasonable and competent manner.

7.7.15. I would submit that the photomontages indicate that the impact and the extent of visual dominance of the wind turbines alongside the permitted and proposed Derrykillew Community wind farm depends on the location from where the wind farm is viewed and the extent of local screening or vegetation. 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. There would also be potential for a slight increase in appearance if the blades were at full tip height. I have visited and considered the impact of the proposed development from various other locations, therefore, the absence of photomontage viewpoints, including views proximate to the turbines, is not detrimental to the submitted assessment.

7.7.16. Travelling east off the N15 and north off the R230 and A47 roads from Belleek, the wind farm would become visually prominent. From locations along 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. Where screening occurs and leading away from the turbines, 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, although this would be viewed amongst an already altered landscape, by virtue of the commercial afforestation.

7.7.17. Nine of the viewpoints are within 5km of the turbine site, which I consider to be the local environment. The appellant considers that from one location, viewpoint 6 at Cavangarden on the N15, the proposed development would result in a 'moderate' visual impact, with a further three viewpoints experiencing a 'slight' visual impact. The remainder of the viewpoints are considered to experience results ranging from 'no effect', 'not significant' or 'imperceptible'. The significance of the impact arises from both the visual sensitivity of the receptors and the magnitude of the impact. I would consider the sensitivity or significance of the effect of the proposed development from a visual perspective from locations within the site and immediate to the site to be 'significant', albeit this would be largely experienced from isolated forestry tracks, including those proposed to be used as amenity routes, and local roads. The visual impact would dissipate over distance and I am satisfied that the magnitude of change would result in a 'moderate' impact, from the 15 residential receptors within 620m to 1km from the proposed turbines. To address the potential visual disturbance of turbines of varying scales, the draft Guidelines 2019 require a setback distance of four times the tip height between a wind turbine and the nearest point of the curtilage of any residential property in the vicinity of the proposed development, subject to a minimum setback of 500m. This is achieved with the proposed turbine tip height at 150m and the curtilage of the nearest house to the site located 620m from the proposed turbines. Intermittent and partial views of the proposed turbines from the neighbouring roads would primarily arise between 1km to 5km of the proposed turbines, due to the screening offered by topography, field and road boundaries, and the commercial tree plantations.

7.7.18. Moving out from the immediate turbine site, viewpoints 1, 2, 15 and 17 reveal the appearance of the proposals close to the boundary with Fermanagh, including the village of Belleek. I am satisfied that the magnitude of change, arising from the proposed development would result in a 'slight' impact from these viewpoints, particularly given the potential juxtaposition alongside the permitted or proposed Derrykillew Community turbines. Progressing out from the local environment into the wider environment, panoramic views of the turbine development area would be available from across lakeside viewpoints 8, 9, 11, 12 and 14. While the lakeside areas are of significant landscape character, the significance of the impact on these areas would reduce with distance primarily due to the perceived magnitude of change. Long-distance panoramic views from coastal areas in the wider environment are also considered and the potential impacts from these areas are illustrated in viewpoints 13 and 16.

7.7.19. The EIAR also considers the cumulative visual impact of the proposed development at operational stage alongside other permitted, proposed or operational wind farms within a 20km study area. A cumulative ZTV map was submitted to illustrate the visibility of the proposed development and other wind turbines. The cumulative visual impact of the proposed wind farm in combination with other existing wind farms, including Acres Wind Farm, would not be significant given the separation distances over undulating lands and the land cover.

7.7.20. A new stretch of road would be required for the construction phase of the development along the western end of the site off the L-7775-2 local road, and this would remain in situ following the construction phase to enable access where necessary, although the main wind farm operational access would be off the L-7795-1, which dissects the site. The new access would require removal of 200m of hedgerows and roadside planting, including mature trees. The appellant outlines that the site roads and other construction features would have long-term, imperceptible to slight, negative visual impacts on the landscape. Given the temporary necessity for the new access road, the visual and ecological impacts and the intention to use an access off the L-7795-1 as the main operational access, the new road, as well as roadside and field boundaries should be reinstated and suitably landscaped following the construction stage of the project. Details of same should

be provided by the appellant, by way of condition, should the Board decide to grant planning permission for the development.

7.7.21. As noted in the 2006 Guidelines 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. Protected views and prospects are not shown to be impacted by the development and the overall conclusion arising from the visual impact assessment carried out is that impacts range from slight to high.

7.7.22. In conclusion, the proposal would have a moderate visual impact from locations in the immediate vicinity, including residential receptors, and a high visual impact from the proposed amenity trails and site itself, particularly in locations where screening is not available. The established commercial forestry operations already presents a moderated working landscape for the development and the existing Acres wind farm, ensures that the proposed development would not introduce a new element into the wider landscape. The visual character of the wider landscape has changed and would change further as a consequence of the proposal, but it would not result in a visual intrusion as to warrant a recommendation to refuse planning permission for the proposed development. I am therefore satisfied that the potential for direct or indirect impacts on landscape and visual amenity can be ruled out and that cumulative effects, in the context of existing wind energy development in the surrounding area and other permitted and proposed development in the vicinity of the site, are not likely to arise.

7.8. Cultural Heritage

7.8.1. Section 12 of the EIAR addresses archaeology and cultural heritage. It is stated that the site was subject of field surveys in April 2017, including the grid connection and haul route. During these walk-over investigations, no new archaeological sites were detected.

7.8.2. No UNESCO World Heritage sites are identified within 25km of the site and the three closest National Monuments are located between 14.7km and 18.3km from the site, comprising Donegal Castle, Donegal Friary and Tully Castle. Two of the proposed

turbines would be visible from the Donegal Friary (Ref. No.175), while the turbines would not be visible from the other National Monuments. Observations to the appeal refer to the impact of the proposed development on the setting and character of Belleek and Ballyshannon, including the heritage status assigned to the latter. I am satisfied that the setting and character of these settlements and monuments would not be significantly impacted upon by the proposals, particularly given the separation distance between the settlements and monuments and the turbine site, which would result in restricted visibility of the turbines from these sensitive neighbouring locations.

7.8.3. No recorded archaeological monuments are located within the wind farm site or within 1km of the site. Items of cultural heritage on site and in the vicinity of the site were identified by the appellant, including four limekilns that are extant and no longer evident on the ground, stone boundary walls, a ruinous stone house and a mass rock. Although the existing local cultural heritage items do not have protected status, the proposed development would incorporate mitigation measures to avoid impacting on these structures. In the wider context, the EIAR identifies recorded monuments and places (RMPs) and the locations of Northern Ireland Sites and Monuments Records (NISMRs) within 5km of the appeal site for the purposes of establishing the archaeological context for the proposed development. Of the 136 monuments noted, 23 are located in County Fermanagh, while the remainder are in County Donegal. The closest of these sites is 1.5km to the north of the proposed turbines and this is recorded as a megalithic tomb – unclassified (Ref. DG108-001----). The impact of the development on the RMPs and NISMRs was deemed to be slight or not significant, primarily based on the separation distances involved. The locations of recorded archaeological finds in neighbouring areas are identified on figure 12.7 of the EIAR. While there may be some change in the wider setting as a result of the proposed development, given the distance from the proposed development to each of the recorded sites and the archaeological finds, I consider that the impact of the proposal on known archaeological sites, including their setting, would not be significant and would not justify refusal of planning permission. Potential for shadow flicker to impact on the megalithic tomb – unclassified (Ref. DG108-001----) would be unlikely given the separation distances to the proposed turbines and this could be addressed if problematic via the curtailment strategy. The Department of Culture,

Heritage and the Gaeltacht require archaeological monitoring, including identification of the best means of recording archaeology should any materials be found. It is possible that the peat on site area 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 suitable means.

7.8.4. 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 12 structures within 5km of the turbine site that are included as Northern Ireland Listed Buildings or in the RPS, the closest of which relates to a farmyard outbuilding located at Cavangarden, 1km to the north of the new entrance to the site. There are eight National Inventory of Architectural Heritage (NIAH) sites recorded within 2km of the site, the closest of which relates to a cottage structure dating from c.1820 at Cashelard (Ref. 40910804), 620m to the south of proposed turbine 3. The likely significance of effects is considered 'not significant' for each of these sites. Following my assessment regarding the visual impact of the proposals on residential receptors proximate to the proposed turbines, I am satisfied that the magnitude of change that would result for the NIAH structures within 1km of the turbines would be 'moderate'. Impacts on other NIAH structures, as well as protected structures and listed buildings would dissipate with distance and would not be significant given the separation distances involved.

7.8.5. 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 largely subsurface with a possible overhead connection at the River Erne, no significant impacts on the setting of structures or monuments is anticipated. While there are recorded monuments close to the location of the grid connection crossing, their setting has already been compromised to an extent by existing structures and the proposed development would not significantly impact on these monuments.

7.8.6. The cumulative effects of the proposed development alongside the permitted and proposed Derrykillew Community Wind Farm, including viewshed analysis and use of photomontages, have been detailed in the EIAR. The EIAR sets out that archaeological monitoring of groundworks would occur, as well as preservation by record of any new sites. Archaeological monitoring of groundworks on site and

along the grid connection in the vicinity of monuments is also proposed. The decommissioning phase would not be expected to result in significant potential impacts on features of cultural heritage.

7.8.7. I have considered all of the written submissions made in relation to archaeology and cultural heritage and the relevant contents of the file, including the EIAR. I am satisfied that the potential for impacts on archaeology and cultural heritage can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, by the proposed mitigation measures and with suitable conditions. I am therefore satisfied that the potential for direct or indirect impacts on archaeology and cultural heritage can be ruled out. I am also satisfied that cumulative effects, in the context of existing and permitted wind energy development in the surrounding area and other existing and proposed development in the vicinity of the site, are not likely to arise.

7.9. Material Assets

7.9.1. Chapter 13 of the EIAR examines the likely significant effects of the project on tourism, traffic and transport and on telecommunications and aviation. I also consider issues regarding tourism under this heading.

Traffic & Transport

7.9.2. The greatest potential for an adverse impact of significance arising from traffic generation would be during the construction phase of the proposed development, in particular arising from additional traffic volumes and the requirements to facilitate the transport of abnormal size loads.

7.9.3. A Delivery Route Selection and Assessment Report was initially carried out for the project and this is included as Appendix 3-3 to the EIAR. This outlines that abnormal size turbine plant would be delivered by sea to Killybegs, where they would be transferred to extended articulated vehicles before taking a route eastwards via the R236 regional road and the N56 national road towards Donegal town bypass. Following the bypass, the deliveries would head southwards along the N15 to Ballyshannon, initially passing the two left turns towards the appeal site and serving the 1km stretch of the L-7775-2 local road. Delivery traffic would then take a three-point turn around the N15 / R231 roundabout, which is located 1km northeast of

Ballyshannon, and subsequently head back up the N15 northbound for a distance of 1.4km before taking a right turn at the southern junction with the L-7775-2, leading to the new site entrance. Following this deliveries would be transported across the new and upgraded tracks towards the proposed turbine locations, including two crossing points over local roads. Junction improvement works would be necessary along the intersection of the site access tracks with both the local roads L-7795-1 and L-7815-2 cutting across the site. Geometric autotrack drawings for each haul route junction are provided within Chapter 13 of the EIAR and these identify where remedial measures would be necessary to facilitate abnormal-size loads, including the three-point turn northeast of Ballyshannon (see Figures 13.26 & 13.27). HGVs would follow the same haul routes as the abnormal-size loads, with the exception of the option to also use the northern stretch of the L-7775-2 for those travelling from the Donegal town direction along the N15. The route assessment undertaken identifies improvements required along the haul route, including temporary measures at six locations, and relevant protocols would be enacted, where necessary.

7.9.4. In refusing permission for the proposed development, the planning authority initially outlined that a road safety audit is required for the proposed development. Appended to the grounds of appeal is a stage 1 road safety audit that builds on information provided as part of the transport assessments submitted with the application and this concludes that traffic safety would not be impacted by the proposed development. The appellant states that a stage 2 road safety audit would be undertaken in line with TII requirements on completion of the detailed design stage for the project. In response to the grounds of appeal, the planning authority noted the submission of the project road safety audit and requested that a condition be attached requiring compliance with the recommendations of the road safety audit, should permission be granted for the proposed development. Attachment of such a condition would appear reasonable and in the interests of traffic safety. On the basis of the information submitted and having visited the site and surrounding area, I am satisfied that the haul route appears to provide the most logical, as well as a practical and safe access route to the site.

7.9.5. The Roads and Transportation section of the planning authority requested that a bond of €360k be attached in the event of a grant of permission for the project, in order to insure the completion of works along all local roads on the haul route.

Within the grounds of appeal, the appellant asserts that the bond would be excessive considering the ongoing obligation to maintain the existing road network along the delivery route. The planning authority did not comment on this within their response to the grounds of appeal. The appellant states that pre and post-condition surveys would be undertaken along the haul route, while road surfaces and boundaries would be re-instated to pre-development conditions. Consequently, I am satisfied that the use of a bond to secure satisfactory reinstatement of roads upon cessation of the construction phase of the project would put an unreasonable burden on the developer.

7.9.6. The construction phase would be divided into two stages. The first stage entails site preparation and ground works with an expected duration of 12 to 18 months and with an estimated two-way passenger car units (PCUs) on standard delivery days of 32, increasing by a further 288 PCUs on the seven days of concrete pouring. Materials for the roadworks on site would be sourced from the proposed borrow pit on site. The second stage comprises the turbine construction phase, including delivery and assembly, which would take 13 days spread over seven weeks. It is estimated that 100 trips to and from the site in terms of abnormal loads would arise, with a further 14 trips by conventional heavy goods vehicles. Measures to reduce the impacts on traffic would include a delivery programme, alternative access solutions for workers, advance notifications and signage, as well as escorted convoys of abnormal size loads during off peak periods, preferably at night time.

7.9.7. During the construction days with the potential for the worst impact on traffic (peak period), namely the seven days when concrete would be poured alongside the general site preparations and ground works, the N56 national road between Killybegs and Donegal town and the L7775-2 local road would operate within capacity. A 4% increase in traffic would arise during the peak period along the N15 between Donegal town and Ballyshannon and the capacity tests estimate a 6% to 10% increase in traffic during the construction phase for the northern L-7775-2 / N15 road junction. Building upon the detail of the outline traffic management plan that was submitted as appendix 3-5 to the EIAR, a traffic management plan would be completed for the project and this would incorporate a range of mitigation measures to minimise the effect of the anticipated additional traffic. The proposed on-site borrow pit would reduce the necessity for construction traffic to use local roads in

accessing four of the turbine locations, as well as the compound areas and the majority of the site access roads. To access the eastern side of the site, including the locations of three of the turbines, construction traffic would traverse 130m and 150m of local roads. The borrow pit traffic would therefore only use lightly-trafficked local roads and would not pass any sensitive residential receptors.

7.9.8. Operational phase traffic serving the wind farm is estimated to amount to two trips per day, which would have negligible impacts on traffic in the area. The traffic associated with the amenity trails, including the five car parking spaces, would be likely to attract a slight increase in volumes of traffic to the area. A detailed description of the cumulative effects of the project on traffic has been outlined within the EIAR, including the associated amenity trails and the commercial forestry operations, as well as other existing and permitted projects in the area, including the permitted and proposed wind farm development at Derrykillew. The appellant has outlined that the existing access off the L-7795-1 would be used for the operational stage of the wind farm project (see figure 3.21 of the EIAR), and that the proposed new site entrance off the L-7775-2 would only be used during the operational phase, if necessary. Sightlines at each of the access junctions, including the amenity trail car park, would appear satisfactory, particularly considering the limited levels of traffic on each of the respective local roads.

7.9.9. The appellant states that the proposed grid connection cable would be installed in a trench within the roadways and would be laid by two teams in 150m daily stretches, with local road closures required. Observers highlight that the grid connection works would lead to delays for local traffic. While delays would be inevitable and would vary dependent upon the location of the works and the final grid route option undertaken, given the short-term nature of the works involved, taking approximately ten to 22 working days, the nature of the works and the local road network, including alternative route options for the public, as well as measures to include advance notice and signage to reduce the impacts arising, significant impacts arising from traffic delays would not be expected from the grid connection route works.

7.9.10. The construction phase of the project 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 visitors and would give rise to some inconvenience. Similarly, issues such as dust

generated during this phase of the development are noted, as addressed in section 7.6 above. The construction phase, however, is a short-term phase punctuated by brief busy periods of activity associated with turbine deliveries and turbine base construction, and I do not consider that the development would generate significant inconvenience for local residents or visitors 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, including the various measures outlined as part of the project within the EIAR submitted and the accompanying documentation.

7.9.11. 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, the ongoing commercial forestry or plans and projects in the area.

Tourism

7.9.12. Sections 4.3 and 4.4 of the EIAR address tourism and public perceptions of wind energy based on surveys undertaken in Ireland and Scotland. Observers to the appeal and application assert that the visual impact of the development would serve as a significant deterrent to tourism development in the area given the importance of the landscape in attracting tourists and for recreational purposes.

7.9.13. Figure 11.2 of the EIAR identifies amenity routes, including walking and cycling routes within 20km of the appeal site in the Donegal, Fermanagh, Leitrim and Sligo areas. The northern loop of the Kingfisher Cycle Trail passes through the appeal site along the L-7795-1 local road. There are no protected views or prospects in the Donegal area, within 5km of the turbine site. Asides from the amenity routes and the open landscape, the most important tourist attractions proximate to the turbine site are within neighbouring settlements, including those listed in section 4.3.2 of the EIAR. As addressed in section 7.7 above, views of the development would dissipate with distance and would be limited from urban areas, particularly due to existing screening. I am satisfied that the proposed development would have an

imperceptible impact on the amenity of attractions within neighbouring settlements. The turbines and associated development would be visible intermittently from amenity routes in the wider area, and would be most visible from the Kingfisher Cycle Trail as it passes through the immediate hilly terrain. The proposed development would have a moderate visual impact from this trail. During the construction phase for the grid connection, there is potential for restricted access for cyclists using the route along the L-7795-1 local road and possibly for a 1.5km stretch at Cathleen's Fall. The likely impacts would not be significant given the short-term schedule for the works involved and the potential for alternative routing to be provided to facilitate movement along the grid connection routes.

7.9.14. I acknowledge that the area has a distinctive open upland quality and the development would be visible from local accommodation providers and amenity routes, including the Wild Atlantic Way, the Kingfisher Cycle trails and the forestry trails on the site. The site itself is not a significant tourism destination and the proposals would provide for more formalised use of the existing trails on site, a common feature of many contemporary wind farm projects. While I would accept that the introduction of the proposed turbines into this landscape would significantly alter the appearance on the site, the project would not deter the use or amenity value of any attractions or the proposed formal amenity trails, and the turbines would sit amongst a long-established working environment, as it is largely defined by the ongoing commercial forestry operations.

Aviation

7.9.15. Section 13.2.3.2.3 of the EIAR addresses impacts on aviation. The closest airstrips or airports to the appeal site would appear to be at Finner Camp located 6.3km to the southwest, Enniskillen / St. Angelo's Airport located 30km to the southeast and at Strandhill Sligo Airport located 40km to the southwest. During consultation on the application, the Department of Defence outlined that they are opposed to wind farms within 3 nautical miles (NM) (5,556m) of low level routes, including the N15 national road, where they could affect air corps ability to access regional areas. The nearest proposed turbine would be 2.5km from the N15 and therefore within the 3NM route. Appendix 13-2 of the EIAR comprises an aeronautical technical note outlining that aviation operations, including regional access, deviation from course, loitering, reverse course, landing or forced landing, would not be inhibited by the proposed

development and that following project consultation the restriction request of the Department of Defence is not justified based on other recent permissions for wind farms in similar locations relative to national routes, the future mapping and recording of the proposed turbines and met mast, compliance with warning lighting proposals, the 4km corridor between the Acres Wind Farm and the proposed wind farm and as the 3NM-wide restriction corridor is not recognised in any known aviation regulations.

7.9.16. It is standard practice for the constructed tip heights and co-ordinates of turbines to be submitted to the Irish Aviation Authority (IAA) and the Department of Defence prior to the commissioning of turbines. Based on the information presented within the EIAR, including mitigation measures, the submission from the IAA and the context for the Acres Wind Farm, which is located closer to the N15 than the proposed turbines and at similar height and does not presently appear to restrict low-level aviation routes within the northwest region, I am satisfied that it would not be reasonable to refuse planning permission for the development on aviation grounds. Furthermore, in response to the Department of Defence aviation request it would not be reasonable or necessary to amend the proposed development, for example via omission of specific turbines within 3NM of the N15.

7.9.17. Aerial fertilisation of forestry areas on site and in the immediate area, if required, would be likely to be severely impeded by the proposed development and I note that this activity is controlled under S.I. No. 125/2012 - European Communities (Aerial Fertilisation) (Forestry) Regulations 2012. A restriction on aerial fertilisation of forestry would not have significant impacts.

Telecommunications

7.9.18. Observers have raised concerns regarding the potential for the development to interfere with telecommunication services, including broadband infrastructures, used by domestic and business customers. The constraints map included in section 2.4 of the EIAR identifies local telecommunications infrastructure and links traversing the site. The appellant states that the proposed turbines would be positioned well outside the telecom links or clearance zones identified and cited by the telecommunications operators during consultation. As part of the scoping exercise prior to the production of the EIAR, the appellant states that they contacted a wide

range of agencies involved in the communications industry, including broadcasters and companies providing broadband telecommunications services, with a synopsis of the contacts provided in Table 13.25 of the EIAR. Potential interference with telecommunications services was not flagged, however, a broadcaster, RTÉ 2rn, flagged a moderate risk of interference with television signals to households within 2km to the north of the proposed wind turbines. The appellant agreed to enter into a protocol document with the subject broadcaster, which would require them to monitor and rectify any problems should interference arise. I am satisfied that significant interference with telecommunications and broadcaster signals would be unlikely and the proposed development, including mitigation measures, has been designed and set out to suitably address interference should this arise.

7.9.19. I have considered all of the written submissions made in relation to material assets. I am satisfied that the potential for impacts on material assets, including traffic and transport, tourism, aviation and telecommunications, can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, by the proposed mitigation measures and with suitable conditions. I am therefore satisfied that the potential for direct or indirect impacts on material assets can be ruled out. I am also satisfied that cumulative effects, in the context of existing wind energy development in the surrounding area and other existing, permitted and proposed development in the vicinity of the site, are not likely to arise.

7.10. Interaction of the Factors

7.10.1. I have 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 of the interactions, and a summary of the interactions between factors is provided in section 14.2 of the EIAR.

7.10.2. The most dynamic interactions listed pertain to population and human beings and interactions between air and climate (dust and noise), hydrology (water quality), material assets (traffic) and the landscape. Similarly dynamic interactions between biodiversity, including birds, and hydrology (water quality), air and climate (reduced carbon emissions, noise and dust) are also anticipated. Interactions between biodiversity and landscape and visual impacts (vegetation removal) are also

identified. Interactions between land, soil and geology with water (water quality) and air and climate (dust) are also anticipated, as are interactions between materials assets (traffic) and air and climate (noise and dust), and between landscape and visual impacts and cultural heritage (recorded sites and monuments).

7.10.3. 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.

7.11. Reasoned Conclusion on the Significant Effects

7.11.1. Having regard to the examination of the application and appeal, including the environmental information contained above, and in particular to the EIAR and supplementary information provided by the appellant, the submissions from the planning authority, prescribed bodies and observers, it is considered that the main significant direct and indirect effects of the proposed development on the environment are as follows:

- potential impacts arising on population and human health as a result of noise and shadow flicker to residential property in the vicinity, which would be encountered during the operational phase and would be mitigated by detailed noise and shadow flicker curtailment strategies following selection of the turbine technology and subsequent curtailment of wind turbine operations in certain environmental conditions, including wind speeds, wind directions and lighting;
- potential impacts during the construction phase for wintering/roosting Hen Harrier, which would be avoided based on the separation distances to the locations of the winter roost sites that the Hen Harrier have shown fidelity towards;
- significant negative impacts on a confirmed breeding pair of Hen Harrier considered to be of national/international significance during the construction and operation phases of the wind farm arising from displacement and fragmentation of the core breeding territory for Hen Harrier;

- significant negative cumulative impacts on Hen Harrier in combination with the permitted Derrykillew Community Wind Farm during the operation phase, as a result of the direct and indirect loss of substantial suitable breeding and foraging habitat for Hen Harrier;
- there is significant uncertainty as to the likely effectiveness of the proposed mitigation measures proposed to address the impacts of the development on Hen Harrier. Significant impacts would not be compensated for via the mitigation proposed, including the revised Hen Harrier habitat enhancement plan, and would, therefore, fail to preserve and maintain sufficient diversity of area and habitat for Hen Harrier breeding and foraging and would have a significant adverse effect on Hen Harrier;
- the proposed development would fail to ensure the continued presence and reproduction of Hen Harrier in their current area of distribution in south County Donegal;
- potential impacts arising on lands, soil and geology, as a result of the increased risk of peat slide and failure, which would be mitigated by the measures to address peat stability, excavation, storage and removal, including monitoring;
- potential impacts on water quality, hydrology and hydrogeology 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;
- potential positive impacts on air and climate during the operational phase arising from the connection of renewable energy technology to the national grid, thereby facilitating a transition from fossil-fuel dependent energy sources to renewable sources;
- potential long-term visual impacts on landscape from intermittent sections of the local roads and trails within and traversing the site, the impacts of which

would be reduced where screening is available and maintained, and as these affected locations are isolated with limited through-traffic and visual receptors, as well as already featuring an altered landscape, by virtue of the long-established commercial forestry.

8.0 Appropriate Assessment

8.1. Introduction

8.1.1. This section addresses whether or not the project is connected with or necessary to the management of a European site, 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 is required. A NIS accompanies the application.

8.2. Appropriate Assessment Stage 1 Screening

8.2.1. In undertaking this screening I have considered the appellant's Appropriate Assessment Screening Report (Appendix 1 to their NIS). I have also had regard to the site synopsis, standard data forms and conservation objectives for the relevant European sites and to the entirety of the application and appeal documentation, including submissions received.

8.3. Project Description

8.3.1. A detailed description of the site, as well as the immediate, surrounding and wider areas is provided within the EIAR and referenced above. The project description, including grid connection options, is set out in Chapter 3 of the appellant's EIAR and summarised in section 2 of this report above.

8.3.2. The project is located in south County Donegal, within the Erne catchment. Neighbouring upland peat areas and watercourses, including the species they support would be 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 peatlands and watercourses, bird species would be a sensitive ecological feature in the study area.

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

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

8.5. Direct, Indirect or Secondary Impacts

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

- loss of habitat and species or disturbance, displacement or fragmentation;
- alterations to water quality, for example, through accidental spills or the release of suspended solids to ground and surface water;
- alterations to the hydrological regime and hydromorphology;
- the spread of invasive species.

8.6. Connectivity & Likely Significant Effects

8.6.1. 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, as well as the source-pathway-receptor model and the sensitivities of the ecological receptors. Section 3.2 of the submitted AA Screening Report states that using the precautionary principle, European Sites within the zone of impact of the development were identified. The sites identified for initial screening include sites within the Erne, Foyle and Donegal Bay catchments, as well as maritime sites. These are identified in Table 3.1 and Figure 3.1 of the appellant's Appropriate Assessment Screening Report. Site codes, separation distances and the directions from the project site are listed in Table 1 above (see section 5.5), while conservation objectives for relevant SAC and SPA sites are detailed below in tables 2 and 3.

Table 2 – SAC Sites

SAC	Conservation Objectives
Lough Golagh and Breesy Hill	To restore the favourable conservation condition of Blanket bogs (* if active bog) 7130 Blanket bogs (* if active bog).
Pettigoe Plateau	To maintain (or restore where appropriate) to favourable condition: • Active Blanket Bog • Natural dystrophic lakes and ponds • European dry heath • Northern Atlantic wet heaths with Erica tetralix • Oligotrophic to mesotrophic standing water with vegetation belonging to Littorelletea uniflorae and/or of the IsoUto-Nanojuncetea.
Tamur Bog	To restore the favourable conservation condition of Northern Atlantic wet heaths with Erica tetralix; To restore the favourable conservation condition of Blanket bogs (*if active bog); To restore the favourable conservation condition of Depressions on peat substrates of the Rhynchosporion.
Dunmuckrum Turloughs	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: • 3180 Turloughs.
Durnesh Lough	To restore the favourable conservation condition of Coastal lagoons; To restore the favourable conservation condition of Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae).
Ballintra	To maintain the favourable conservation condition of European dry heaths; To maintain the favourable conservation condition of Limestone pavements.
Lough Melvin	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: • Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea [3130] • Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410] • Salmo salar (Salmon) [1106] • Lutra lutra (Otter) [1355].
Lough Melvin (UK)	To maintain (or restore where appropriate) to favourable condition: • Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflora and/or of the Isoet-Nanojuncetea • Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinia caeruleae) • Old sessile oak woods with Ilex and Blechnum in the British Isles • Salmon - Salmo salar.

Dunragh Loughs / Pettigoe Plateau	To restore the favourable conservation condition of Northern Atlantic wet heaths with Erica tetralix; To restore the favourable conservation condition of Blanket bogs (* if active bog).
Donegal Bay (Murvagh)	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide; To maintain the favourable conservation condition of Harbour Seal; To restore the favourable conservation condition of Fixed coastal dunes with herbaceous vegetation (grey dunes); To restore the favourable conservation condition of Humid dune slacks.
Arroo Mountain	To restore the favourable conservation condition of Northern Atlantic wet heaths with Erica tetralix; To restore the favourable conservation condition of European dry heaths; To maintain the favourable conservation condition of Alpine and Boreal heaths; To restore the favourable conservation condition of Blanket bogs; To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion); To restore the favourable conservation condition of Calcareous and calcshist screes of the montane to alpine levels (Thlaspietea rotundifolii); To restore the favourable conservation condition of Calcareous rocky slopes with chasmophytic vegetation.
Lough Eske and Ardnamona Wood	To restore the favourable conservation condition of Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae); To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion); To maintain the favourable conservation condition of Old sessile oak woods with Ilex and Blechnum in the British Isles; To restore the favourable conservation condition of Freshwater Pearl Mussel (Margaritifera margaritifera); To restore the favourable conservation condition of Atlantic Salmon (Salmo salar); To maintain the favourable conservation condition of Killarney Fern (Vandenboschia speciosa).
Bunduff Lough and Machair / Trawalua/ Mullaghmore	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide; To maintain the favourable conservation condition of Large shallow inlets and bays; To maintain the favourable conservation condition of Reefs; To restore the favourable conservation condition of Shifting dunes along the shoreline with Ammophila arenaria ('white dunes'); To restore the favourable conservation condition of Fixed coastal dunes with herbaceous vegetation ('grey dunes'); To maintain the favourable conservation condition of Machairs; To restore the favourable conservation condition of Juniperus communis formations on heaths or calcareous grasslands;

	To maintain the favourable conservation condition of Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco Brometalia); To maintain the favourable conservation condition of Alkaline fens; To maintain the favourable conservation condition of Petalwort;
Largalinny	To maintain (or restore where appropriate) the Old sessile oak woods with Ilex and Blechnum in the British Isles to favourable condition.

8.6.2. There is no connectivity between the proposed works site and Pettigoe Plateau SAC, Tamur Bog SAC, Lough Eske and Ardnamona Wood and Largalinny SAC, as these European sites are upstream of the works site and due to the distance over ground between these European sites and the proposed works site. There is no connectivity between the proposed works site and Dunmuckrum Turloughs SAC, Ballintra SAC, Lough Melvin (UK) SAC, Dunragh Loughs / Pettigoe Plateau SAC and Arroo Mountain SAC, due to the distance over ground and the absence of hydrological or habitat connection between these European sites and the proposed works site. A direct pathway between the proposed works site and Durnesh Lough SAC, Lough Melvin SAC, Donegal Bay (Murvagh) SAC and Bunduff Lough and Machair/Trawalua/Mullaghmore, does not exist, due to the separation distance over ground and across open marine waters.

8.6.3. There is a downstream hydrological pathway between the proposed works site and Lough Golagh and Breesy Hill SAC, as the proposed works, including an amenity trail would be positioned adjacent and upstream of this SAC site, including Lough Unshin. As such, there is a pathway via drainage from the appeal site to this receptor site and indirect effects on supporting habitat cannot be excluded.

Table 3 – SPA Sites

SPA	Conservation Objectives
Pettigoe Plateau	To maintain the selected feature (golden plover) in favourable condition: • Golden Plover.
Donegal Bay	To maintain the favourable conservation condition of Great Northern Diver; To maintain the favourable conservation condition of Light-bellied Brent Goose; To maintain the favourable conservation condition of Common Scoter; To maintain the favourable conservation condition of Sanderling; To maintain the favourable conservation condition of the wetland habitat in Donegal Bay SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.

Durnesh Lough	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA: • Whooper Swan - Cygnus Cygnus; • Greenland White-fronted Goose – Anser albifrons flavirostris.
Pettigoe Plateau Nature Reserve	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA: • Greenland White-fronted Goose – Anser albifrons flavirostris.
Sligo/Leitrim Uplands	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA: • Peregrine – Falco peregrinus; • Chough – Pyrrhocorax pyrrhocorax.
Lough Derg (Donegal)	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA: • Lesser Black-backed Gull – Larus fuscus; • Herring Gull – Larus argentatus.

8.6.4. In relation to screening for SPAs, due cognisance was taken of the NatureScot Guidance (2013) – Assessing Connectivity with Special Protection Areas and other information available, as per table 4 below.

Table 4 – SPA Site Qualifying Interests and Survey Observations

SPA Site, Qualifying Interest Bird Species	**NatureScot Range Guidance / Appellant's AA Report**	**Distance to appeal site**	**Observed during Surveys**
Pettigoe Plateau			
Golden Plover	Core range of 3km, with maximum range of 11km (Breeding)	2.3km	✓
Donegal Bay			
Great Northern Diver	N/A	3.3km	X
Light-bellied Brent Goose	Within range according to appellant	3.3km	X
Common Scoter	N/A	3.3km	X
Sanderling	N/A	3.3km	X
Black-throated Diver	Likely to be less than 10km	3.3km	X
Red-throated Diver	Generally less than 8km, but regular flights of 11-13.5km recorded on Western Isles	3.3km	X
Golden Plover	Core range of 3km, with maximum range of 11km (Breeding)	3.3km	✓
Bar-tailed Godwit	N/A	3.3km	X
Durnesh Lough			
Whooper Swan	Core range of less than 5km (winter)	5.0km	✓
Greenland White-front Goose	Core range of less than 5km (winter)	5.0km	X

Pettigoe Plateau Nature Reserve			
Greenland White-front Goose	Core range of less than 5km (winter)	11.5km	X
Sligo / Leitrim Uplands			
Peregrine Falcon	Core range of 2km, with maximum recorded distance in Britain of 18km. Mean distance of 3km, and maximum distance of 6.5km	12.4km	✓
Chough	N/A	12.4km	X
Lough Derg [Donegal]			
Lesser Black-backed Gull	Within range according to appellant	13.9km	✓
Herring Gull	Within range according to appellant	13.9km	✓

8.6.5. Of the SPA sites in the zone of influence of the project, there would only be downstream hydrological connectivity between the proposed works site and Donegal Bay SPA. Taking a precautionary approach, where maximum NatureScot ranges are available, as well as core foraging ranges and the observations during bird surveying for the project, the appeal site would be within the range of a number of qualifying interest bird species, including Golden Plover from Pettigoe Plateau SPA and Donegal Bay SPA. The appeal site would be at the outer core range for Whooper Swan from Durnesh Lough SPA, while the appeal site would be within the maximum range for Peregrine Falcon from Sligo / Leitrim Uplands SPA. Based on observations on site and guidance referenced by the appellant, the appeal site may be within the range of Lesser Black-backed Gull and Herring Gull connected with Lough Derg (Donegal) SPA.

8.6.6. With regards to the Donegal Bay SPA, the site synopsis outlines that Great Northern Diver, Black-throated Diver, Red-throated Diver, Golden Plover and Bar-tailed Godwit are regularly-occurring species for this site, which are also listed on Annex I of the EU Birds Directive. Black-throated diver, Red-throated diver, as well as the other regularly-occurring and qualifying interest species for Donegal Bay SPA are primarily coastal or migratory species that were not identified to be using the site or immediate area during bird surveys for the project. Greenland White-fronted Geese or Chough were not identified during surveying of the site and surrounding area. Suitable habitat for these bird species is not available on the appeal site. Direct or indirect significant effects from this project for these bird species are therefore not likely.

8.6.7. The appellant screened in the following five European sites, which I agree should be screened in based on the assessment above:

- Lough Golagh and Breesy Hill SAC (Site Code: 002164);
- Pettigoe Plateau SPA (Site Code: UK9020051);
- Donegal Bay SPA (Site Code: 004057);
- Durnesh Lough (Site Code: 004145);
- Lough Derg (Donegal) SPA (Site Code: 004151).

8.6.8. The NatureScot guide (2013) notes that the foraging range from a nest site during breeding season for peregrine falcon to be within 2km, but with a maximum recorded distance in Britain of 18km. Sligo/Leitrim Uplands SPA (Site Code: 004187) is located outside the core foraging range for peregrine falcon at the appeal site, but within this maximum range taking a precautionary approach applying the maximum range. Given the survey results, including observations of Peregrine Falcon, the potential foraging habitat for Peregrine Falcon at the site and immediate area and the distance from the works site to Sligo / Leitrim Uplands SPA, connectivity between the sites for Peregrine Falcon cannot be ruled out. Therefore, for the purposes of appropriate assessment, in addition to the five European sites listed above, Sligo / Leitrim Uplands SPA should be screened in.

8.6.9. Significant effects on all but six of the sites can be screened out of any further assessment, because of a combination of either the nature of the project and site, the absence of a hydrological connection between European sites and the appeal site, the separation distances from the appeal site over ground and/or open marine waters, the location of the European site outside of the range of qualifying interest bird species and as the appeal site would not be of importance for certain qualifying interest bird species based on the results of the extensive bird surveys undertaken for the project.

8.7. Stage 1 - Screening Conclusion

8.7.1. It is reasonable to conclude that on the basis of information on the file, which I consider 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 Pettigoe Plateau SAC (Site Code: UK0016607), Tamur Bog SAC (Site Code: 001992), Dunmuckrum Turloughs SAC (Site Code: 002303), Ballintra SAC (Site Code: 000115), Lough Melvin SAC (Site Code: 000428), Lough Melvin SAC (Site Code: UK0030047), Dunragh Loughs / Pettigoe Plateau SAC (Site Code: 001125), Pettigoe Plateau Nature Reserve SPA (Site Code: 004099), Arroo Mountain SAC (Site Code: 001403), Lough Eske and Ardnamona Wood SAC (Site Code: 000163), Bunduff Lough and Machair/Trawalua/Mullaghmore SAC (Site Code: 000625) and Largalinny SAC (Site Code: UK0030045).

8.7.2. Potential for significant indirect effects on the features of interest of the Lough Golagh and Breesy Hill SAC (Site Code: 002164) and Donegal Bay SPA (Site Code: 004057) arising from impacts on water quality, water regimes, hydromorphology and the spread of invasive species during construction/decommissioning phases or during operation cannot be screened out. Furthermore, the turbine site is within the range of bird species that are qualifying interests for Pettigoe Plateau SPA (Site Code: UK9020051), Donegal Bay SPA (Site Code: 004057), Durnesh Lough (Site Code: 004145), Lough Derg (Donegal) SPA (Site Code: 004151) and Sligo / Leitrim Uplands SPA (Site Code: 004187) and the potential loss, fragmentation and disturbance of habitat for the associated range of bird 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 Lough Golagh and Breesy Hill SAC (Site Code: 002164), Pettigoe Plateau SPA (Site Code: UK9020051), Donegal Bay SPA (Site Code: 004057), Durnesh Lough (Site Code: 004145), Lough Derg (Donegal) SPA (Site Code: 004151) and Sligo / Leitrim Uplands SPA (Site Code: 004187).

8.8. Stage 2 - Appropriate Assessment

8.8.1. The following is a summary of the objective scientific assessment of the implications of the project on the qualifying interest features of the European sites using the best scientific knowledge in the field. All aspects of the project that could result in significant effects are assessed and mitigation measures designed to avoid or reduce any adverse effects are both considered and assessed.

8.9. Test of Effects & Mitigation Measures

8.9.1. As the site of the proposed development, including grid connection route options, is at a remove from each of the European 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.

8.9.2. Section 7.5 above assesses the impacts of the proposed development on water and outlines the various proposals to drain the site at different stages of the project, as well as mitigation measures to control the impacts on water. The development drainage would integrate with the existing forestry drainage network and no instream works are required. Upstream and downstream collector drains, check dams, chains of attenuation ponds and level spreaders with buffered outfall to site vegetation surface are proposed as part of the drainage solution. The protective and integral design elements, as outlined in the EIAR and accompanying CEMP, include a comprehensive suite of proposals to avoid and reduce impacts on the hydrological regime and to prevent excess release of suspended solids, accidental spills or release of contaminants from made ground into the receiving watercourses, in accordance with best construction practice.

8.9.3. Rhododendron was recorded on site, along the grid connection route and within the site. An Invasive Species Management Plan is included as appendix 5-3 to the EIAR and the development would feature various elements to address the spread of invasive species.

8.9.4. An assessment of the impact of the development on Golden Plover, Whooper Swan, Lesser Black-backed Gull and Herring Gull was undertaken in section 7.3 of this report, and I am satisfied that based on the information available, the proposed development would not have likely significant effects on these birds. An assessment of the impact of the development on Peregrine Falcon was also undertaken above, where it was highlighted that the site was not of importance to this bird species. It was also noted that the Sligo / Leitrim Uplands SPA was on the outer range for peregrine falcon from the appeal site and NatureScot guidance (2013) advises that

in identifying connectivity maximum ranges should only be used in exceptional circumstances, for example, if there is a lack of other closer foraging sites. Extensive diverse rural foraging habitat for Peregrine Falcon is clearly evident in the intervening area between the Sligo / Leitrim Uplands SPA and the appeal site. As noted above, section 7.6 of the EIAR sets out various mitigation measures to protect bird species. These include noise limitations during the construction phase, restrictions on vegetation removal and the appointment of an Ecological Clerk of Works. A post-construction bird-monitoring programme would also be implemented. On the basis of the information available, I am satisfied that the proposed development would not have significant adverse effects for qualifying interest bird populations connected with neighbouring SPA sites.

8.9.5. The evidence available provides certainty that the project would not result in pollution of the pathways, alterations to hydromorphology, the spread of invasive species and significant adverse impacts for qualifying interest bird species, and it can be concluded that the proposed development would not be likely to have significant adverse impacts on European sites, subject of this Stage 2 AA, in view of the sites' conservation objectives.

8.9.6. I am therefore satisfied that the development would not cause changes to the key indicators of conservation value, including water quality or bird populations, comprising Golden Plover, Whooper Swan, Lesser Black-backed Gull, Herring Gull and Peregrine Falcon, hence there is no potential for any adverse impacts to occur on either the species or the habitats associated with Lough Golagh and Breesy Hill SAC (Site Code: 002164), Pettigoe Plateau SPA (Site Code: UK9020051), Donegal Bay SPA (Site Code: 004057), Durnesh Lough (Site Code: 004145), Lough Derg (Donegal) SPA (Site Code: 004151) and Sligo / Leitrim Uplands SPA (Site Code: 004187).

8.10. In-combination Effects

8.10.1. I note that the NIS assesses the potential in-combination effects that could possibly arise with due cognisance of the Donegal County Development Plan 2018-2024, the ongoing commercial forestry operations, and other neighbouring planning permissions and applications, including those for wind energy developments. The NIS submitted, concluded that there would be no in-combination effects arising from

the proposed development. Having regard to the foregoing, I consider that in-combination effects have been properly assessed and I consider that in-combination effects are not likely to arise.

8.11. Appropriate Assessment – Conclusion

8.11.1. 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 Golagh and Breesy Hill SAC (Site Code: 002164), Pettigoe Plateau SPA (Site Code: UK9020051), Donegal Bay SPA (Site Code: 004057), Durnesh Lough (Site Code: 004145), Lough Derg (Donegal) SPA (Site Code: 004151) and Sligo / Leitrim Uplands SPA (Site Code: 004187), or any other European site, in view of the site's Conservation Objectives.

9.0 Planning Assessment

9.1. This final stage in the assessment considers the proposed development in the context of EU, National, regional and local planning policy, as well as the development and legal context. Environmental matters, including the impacts of the proposed development on the residential and visual amenities of the area, traffic, water quality, noise, shadow flicker, biodiversity and other matters, are all considered as part of the EIA undertaken in section 7 of this report. An appropriate assessment of whether or not the project would be likely to have a significant effect on the integrity of European sites, either individually or in combination with other plans and projects, is undertaken in section 8 of this report.

9.2. The policy context for the proposed development in relation to renewable energy and climate change is set out in section 5 above and within the application, including Chapter 2 of the EIAR, as well as the application and appeal submissions. Section 11 of the Climate Action Plan 2019 addresses 'Agriculture, Forestry and Land Use' and highlights that switching land from one use to another can fundamentally change an area's capacity to store carbon, noting that forestry can sequester and store vast amounts of carbon, while peatlands embody 64% of the total soil organic carbon

stock in Ireland. The wind farm development footprint (12.2ha) sits on a relatively thin layer of upland peat and the overall lands for the project comprise 481ha that have been the subject of commercial afforestation for decades. As such a substantive and unquantifiable amount of stored carbon dioxide has been sequestered by these lands. The proposed development would result in the felling of 20.8ha in forestry area, which the applicant states would be offset by the planting of other lands north of Ferbane in County Offaly. Drainage proposals that would largely tie into the existing forestry drainage network would not lead to the extensive loss or degradation of peatland within the site. The loss of carbon dioxide to facilitate the development is estimated in section 9.2.3.3 of the EIAR submitted, including the estimated losses from organic soil matter and the felling of forestry. The proposed windfarm development is estimated to provide an installed capacity of 27MW of energy and in doing so would contribute to the achievement of the National renewable energy target from on-shore wind, as contained in the Climate Action Plan 2019, with the remaining forestry areas and peatlands continuing to sequester carbon. Based on the appellant's estimations the total carbon savings displaced from traditional carbon-based electricity generation over the 30-year lifetime of the project would be in the region of 1.2million tonnes. The carbon storage volume lost to facilitate the turbines and associated infrastructure would be negligible according to the appellant, as it would be offset within 13 months of the operation of the turbines. In contributing towards the achievement of renewable energy targets, the proposed windfarm would clearly support European and National renewable energy and climate change policies. I recognise that the estimated loss of carbon dioxide for the project excludes the 24 hectares of forestry to be felled as part of the revised Hen Harrier Enhancement Plan and I have addressed this and the impacts of the proposed development on climate under section 7.6 of this report above.

9.3. Reason no.1 of the planning authority's decision to refuse to grant permission for the proposed development was based on the opinion that following a recent High Court judgement (2018/533 JR Planree Ltd. v Donegal County Council), which required the deletion and/or removal of sections of the Donegal County Development Plan 2018-2024, as referenced in section 5.4 above, alongside the absence of updated National guidelines for wind energy, the planning authority were unable to comprehensively assess the subject wind energy proposals. The Draft Wind Energy Development

Guidelines 2019 were issued in December 2019 and are yet to be finalised. Consequently, the Wind Energy Development Guidelines 2006 remain the statutory national guidance for wind energy development, which planning authorities must have regard to in the determination of applications for wind energy developments. To provide an informative contemporary context, I refer to the contents of the draft Guidelines 2019 within the EIA above.

9.4. The Wind Energy Development Guidelines 2006 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. These 2006 Guidelines 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 2006 Guidelines recommend scales of spatial separation and varying heights for turbines in different landscape character areas. The appeal site falls within the landscape character type 'mountain moorland', which are noted to be often inappropriate for wind energy development, although some of these landscapes should be open for the consideration of wind energy developments, subject to appropriate design and landscape siting. The visual impact of the proposed development, including the appropriateness of the turbines in the landscape, has been assessed as being acceptable in section 7.7 above.

9.5. The Derrykillew Community Wind Farm permitted in March 2016 (under ABP Ref. PL05E.245108) is yet to be constructed 2km to the southeast of the appeal site. Despite the appellant's references to the subject proposals serving as an extension to this permitted wind farm and some potential connectivity via grid connection options, as well as possible long-range views where both of the site turbines would be visible together, given the separation distances between the sites, the subject proposals clearly form a standalone wind farm project that would be spatially distinct from this previously permitted wind farm.

9.6. The grounds of appeal assert that there is adequate planning and legal context to allow for due consideration of the proposed development, with a July 2019 decision regarding an additional turbine to an existing wind energy development near Killybegs in County Donegal (ABP Ref. 304198-18) asserted to provide precedent for

an assessment to be made, as well as a grant of planning permission to be reached. As outlined in the Development Plan, the overarching aim for energy in Donegal County is to facilitate the development of a diverse energy portfolio by the sustainable harnessing of the potential of renewable energy, including wind, to facilitate the appropriate development of associated infrastructure to enable the harnessing of these energy resources and to promote and facilitate the development of Donegal as a Centre of Excellence for renewable energy. I recognise the differences between the asserted precedent case (ABP Ref. 304198-18) and the appeal case, given that the precedent case would involve an extension of a previously permitted wind farm, having regard to the policies and objectives of the Development Plan, the National guidelines and the High Court judgement (2016/920 JR - Element Power Ireland Ltd and An Bord Pleanála), I am satisfied that there is sufficient guidance, planning policy and legal context to allow for a reasonable, fair and appropriate determination in relation to the acceptability of the proposed development for this site. I also note the July 2020 Board Order permitting a wind energy development near Raphoe in County Donegal under ABP Ref. PL05E.304685, which was not restricted by the planning and legal context.

9.7. A ten-year permission is sought for this wind farm development with a 30-year operational life. The neighbouring Derrykillew Community Wind Farm (ABP Ref. PL05E.245108) initially sought permission for an operational lifetime of 25 years for the wind farm, which excluded the three-year construction/commissioning period and the two-year decommissioning period. Permission was subsequently granted for a period of 25 years from the date of the commissioning of the wind turbines to enable the planning authority to review the operation of the wind farm in the light of the circumstances then prevailing. In June 2020 the planning authority decided to refuse permission (under ref. 19/51750) for amendments to this wind farm, including an extended 30-year operational life for the wind farm, although the two reasons for refusals did not refer to the lifespan of the project. An appeal of this decision (under ABP Ref. 307520-20) has been lodged and a decision is due in November 2020. The 2006 Guidelines outline that the inclusion of a condition that limits the life span of a wind energy development should be avoided, except in exceptional circumstances and that permissions greater than 5 years may be appropriate to safeguard the permission from expiring before a grid connection is granted. With

continual improvements in technology, the lifespan of wind energy infrastructure been growing and permissions for wind farms with 30-year lifespans are increasingly becoming the norm for projects of this scale. Delays in connecting to the grid can often result in a need to have an extended time period for the permission. Consequently, I am satisfied that subject to further consideration below, if the Board are minded to grant permission, it would be appropriate to allow for a ten-year permission period providing for a wind farm with a 30-year operational life. General development contributions would also apply in the event of a grant of permission for the proposed development.

9.8. The planning authority decided to refuse permission for the proposed development partly on the grounds that the proposals would materially contravene objectives NH-O-3 and NH-O-10 of the Development Plan, which relate to the preservation of biodiversity and the conservation of sensitive environmental sites, including European sites. The planning authority also decided to refuse permission for the development, as they considered that it would materially contravene Policy T-P-8 of the Development Plan, which requires a Traffic and Transport Assessment and a Road Safety Audit for any development proposing access to the Strategic Road Network. I am satisfied that this policy and the objectives are not sufficiently specific so as to justify the use of the term 'materially contravene' in terms of normal planning practice. The Board should not, therefore, consider itself constrained by Section 37(2) of the Planning and Development Act. I also note that the appellant has provided a Traffic and Transport Assessment as part of the EIAR and a Road Safety Audit as part of the grounds of appeal. However, should the Board consider otherwise, I note that the following:

- the Government's Climate Action Plan 2019 sets out that a 2030 national target of 70% renewables energy is likely to require a total of 8.2Gw of onshore wind energy;
- wind energy is of strategic importance in meeting National renewable energy targets;
- SEAI (2019) confirmation that the installed wind generation capacity of Ireland in 2017 was 3,318MW, and;

- the scale and energy output from the proposed development would amount to 27MW.

Therefore, the Board may grant permission, in accordance with the provisions of section 37(2)(b)(iii) of the Act, having considered that the proposed development would make a significant contribution towards the achievement of National targets for renewable energy.

9.9. 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. Submissions to the application assert that the applicant is splitting the overall development, thereby restricting the legality or the ability to perform assessments. 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 all aspects of the proposed development, including the grid connection options and the amenity trails, as well as the adjoining land uses, including the commercial forestry, as part of the cumulative impacts. Where appropriate, the EIAR also assesses the potential significant environmental impact which could arise from existing and other permitted developments in the area. I refer to the cumulative impacts throughout my assessments above.

9.10. As part of the EIA, I concluded that the proposed development, including the cumulative effects with the Derrykillew Community Wind Farm, would have a significant adverse impact on Hen Harrier, notwithstanding the mitigation measures proposed. Based on Percival (2003) the appellant asserts that the impact on Hen Harrier would be of low effect magnitude based on the loss of 1% habitat/population for Hen Harrier, however, I fail to see how this conclusion could reasonably be arrived at based on the information provided and my assessment above. The cumulative direct and indirect loss of suitable breeding and foraging habitat for Hen Harrier arising from the avoidance of areas and the barrier effect, which would not be compensated via the mitigation proposed, would clearly be well in excess of 5% (55ha) of the estimated existing habitat area (1,116ha) and therefore of at least medium magnitude of effect. As Hen Harrier are present at the site in nationally important numbers (>1% Irish population), their sensitivity would be ‘high’ and at

least a ‘high’ significance of effect must be arrived based on the Percival (2003) matrix, which states that a ‘high’ effect would represent a highly significant impact on bird populations and would warrant a refusal to grant planning permission.

9.11. In conclusion, to refuse permission for the proposed development based on a perceived inability to adequately assess wind energy developments with regard to planning policy and guidance would not be warranted, and having regard to the nature and scale of the proposed development, it is considered that the proposed development would facilitate and support the achievement of European and National renewable energy and climate change policies.

9.12. Notwithstanding this, objective NH-O-1 of the Donegal County Development Plan 2018-2024 aims to protect, sustainably manage and enhance the rich biodiversity of County Donegal for present and future generations and objective NH-O-10 aims to maintain and restore ecosystems and to conserve valuable or threatened habitats and species in order to prevent further loss of biodiversity. Policy NH-P-5 of the Donegal County Development Plan 2018-2024 requires consideration of the impact of development on habitats of natural value that are key features of the County’s ecological network and to incorporate appropriate mitigating biodiversity measures into development proposals. These objectives and this policy are considered to be reasonable. The appeal site is located in a non-designated regionally-important area for Hen Harrier, the identified pair of Hen Harrier confirmed to be breeding in the area are considered to be of national/international importance and the appeal site is identified as an important foraging habitat for Hen Harrier, which is afforded protection under Annex 1 of the EU Birds Directive (2009/147/EEC) and classed as amber-listed in the ‘Birds of Conservation Concern in Ireland’ (Colhoun & Cummins, 2013). The Board is not satisfied, based on the details submitted with the application and appeal, notwithstanding the mitigation measures set out to address the impacts on Hen Harrier, that the proposed development, by itself and in conjunction with the permitted Derrykillew Community Wind Farm development, would not have a significant adverse impact on Hen Harrier. It is considered that the proposed development would be contrary to objectives NH-O-1 and NH-O-10, as well as policy NH-P-5, of the Donegal County Development Plan 2018-2024, as set out above, and, therefore, would be contrary to the proper planning and sustainable

development of the area. Permission for the proposed development should be refused for this reason.

10.0 Recommendation

10.1. Having regard to the documentation on file, the observations and submissions received, the site inspection and the assessment above, I recommend that permission for the above described development be refused, for the following reasons and considerations.

11.0 Reasons and Considerations

In coming to this 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 greenhouse gases,

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

(c) the policies set out in the Regional Spatial and Economic Strategy for the Northern and Western Regional Assembly,

(d) the policies of the planning authority as set out in the Donegal County Development Plan 2018 -2024,

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

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

(g) the pattern of existing and permitted development and the distance to dwellings and other sensitive receptors from the proposed development,

(h) the Environmental Impact Assessment Report submitted,

(i) the Natura Impact Statement submitted,

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

(k) the report of the Inspector.

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, provided information that is reasonable and sufficient to allow the Board to carry out an Environmental Impact Assessment and to reach a reasoned conclusion on the significant effects of the proposed development on the environment, taking into account current knowledge and methods of assessment. The Board was satisfied that the information and data available was up to date at the time of taking the decision.

The Board was satisfied the Inspector's report sets out how these various environmental issues were addressed in the examination and recommendation and are incorporated into the Board's decision.

Reasoned Conclusions

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:

- potential impacts arising on population and human health as a result of noise and shadow flicker to residential property in the vicinity, which would be encountered during the operational phase and would be mitigated by detailed noise and shadow flicker curtailment strategies following selection of the turbine technology and subsequent curtailment of wind turbine operations in

certain environmental conditions, including wind speeds, wind directions and lighting;

- potential impacts during the construction phase for wintering/roosting Hen Harrier, which would be avoided based on the separation distances to the locations of the winter roost sites that the Hen Harrier have shown fidelity towards;
- significant negative impacts on a confirmed breeding pair of Hen Harrier considered to be of national/international significance during the construction and operation phases of the wind farm arising from displacement and fragmentation of the core breeding territory for Hen Harrier;
- significant negative cumulative impacts on Hen Harrier in combination with the permitted Derrykillew Community Wind Farm during the operation phase, as a result of the direct and indirect loss of substantial suitable breeding and foraging habitat for Hen Harrier;
- there is significant uncertainty as to the likely effectiveness of the proposed mitigation measures proposed to address the impacts of the development on Hen Harrier. Significant impacts would not be compensated for via the mitigation proposed, including the revised Hen Harrier habitat enhancement plan, and would, therefore, fail to preserve and maintain sufficient diversity of area and habitat for Hen Harrier breeding and foraging and would have a significant adverse effect on Hen Harrier;
- the proposed development would fail to ensure the continued presence and reproduction of Hen Harrier in their current area of distribution in south County Donegal;
- potential impacts arising on lands, soil and geology, as a result of the increased risk of peat slide and failure, which would be mitigated by the measures to address peat stability, excavation, storage and removal, including monitoring;
- potential impacts on water quality, hydrology and hydrogeology 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;

- potential positive impacts on air and climate during the operational phase arising from the connection of renewable energy technology to the national grid, thereby facilitating a transition from fossil-fuel dependent energy sources to renewable sources;
- potential long-term visual impacts on landscape from intermittent sections of the local roads and trails within and traversing the site, the impacts of which would be reduced where screening is available and maintained, and as these affected locations are isolated with limited through-traffic and visual receptors, as well as already featuring an altered landscape, by virtue of the long-established commercial forestry.

The Board concluded that the appeal site and surrounding area is of importance to Hen Harrier, a species included for protection in Annex I of the Birds Directive (2009/147/EEC) and classed as amber-listed in the 'Birds of Conservation Concern in Ireland' (Colhoun & Cummins, 2013), and that notwithstanding the mitigation measures set out by the appellant to address the impacts of the development on Hen Harrier, it is considered that the proposed development would have a significant adverse effect on Hen Harrier in failing to preserve and maintain sufficient diversity of area and habitat for Hen Harrier and failing to ensure the continued presence and reproduction of Hen Harrier in their current area of distribution in south County Donegal.

Appropriate Assessment: **- Stage 1**

The Board considered the Screening Report for Appropriate Assessment, the Natura Impact Statement and all the other relevant submissions and carried out both an appropriate assessment screening exercise and an appropriate assessment in relation to the potential effects of the proposed development on designated European Sites.

The Board agreed with the screening assessment and conclusion carried out in the Inspector's report that the Lough Golagh and Breesy Hill SAC (Site Code: 002164), Pettigoe Plateau SPA (Site Code: UK9020051), Donegal Bay SPA (Site Code: 004057), Durnesh Lough (Site Code: 004145), Lough Derg (Donegal) SPA (Site Code: 004151) and Sligo / Leitrim Uplands SPA (Site Code: 004187), 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 Golagh and Breesy Hill SAC (Site Code: 002164), Pettigoe Plateau SPA (Site Code: UK9020051), Donegal Bay SPA (Site Code: 004057), Durnesh Lough (Site Code: 004145), Lough Derg (Donegal) SPA (Site Code: 004151) and Sligo / Leitrim Uplands SPA (Site Code: 004187), 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.

Proper Planning and Sustainable Development

To refuse permission for the proposed development based on a perceived inability to adequately assess wind energy developments with regard to planning policy and guidance would not be warranted, and having regard to the nature and scale of the proposed development, it is considered that the proposed development would facilitate and support the achievement of European and National renewable energy and climate change policies.

Notwithstanding this, objective NH-O-1 of the Donegal County Development Plan 2018-2024 aims to protect, sustainably manage and enhance the rich biodiversity of County Donegal for present and future generations and objective NH-O-10 aims to maintain and restore ecosystems and to conserve valuable or threatened habitats and species in order to prevent further loss of biodiversity. Policy NH-P-5 of the Donegal County Development Plan 2018-2024 requires consideration of the impact of development on habitats of natural value that are key features of the County's ecological network and to incorporate appropriate mitigating biodiversity measures into development proposals. These objectives and this policy are considered to be reasonable. The appeal site is located in a non-designated regionally-important area for Hen Harrier, the identified pair of Hen Harrier confirmed to be breeding in the area are considered to be of national/international importance and the appeal site is identified as an important foraging habitat for Hen Harrier, which is afforded protection under Annex 1 of the EU Birds Directive (2009/147/EEC) and classed as amber-listed in the 'Birds of Conservation Concern in Ireland' (Colhoun & Cummins, 2013). The Board is not satisfied, based on the details submitted with the application and appeal, notwithstanding the mitigation measures set out to address the impacts on Hen Harrier, that the proposed development, by itself and in conjunction with the permitted Derrykillew Community Wind Farm development, would not have a significant adverse impact on Hen Harrier. It is considered that the proposed development would be contrary to objectives NH-O-1 and NH-O-10, as well as policy NH-P-5, of the Donegal County Development Plan 2018-2024, as set out above, and, therefore, would be contrary to the proper planning and sustainable development of the area.

Colm McLoughlin
Planning Inspector

7th October 2020

Appendices

Appendix A – 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)
- ‘Good Practice WIND – Good Practice Guide - A new resource for reconciling wind energy development with environmental and community interests’ (Intelligent Energy Europe, 2012);
- ‘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)
- ‘Visual Representation of Wind Farms Guidance’ (Scottish Natural Heritage, 2017)
- ‘The Planning System and Flood Risk Management – Guidelines for Planning Authorities’ (Department of Environment, Heritage and Local Government & OPW, 2009).
- ‘Strategy for Renewable Energy, 2012 – 2020’ (Department of Communications, Energy & Natural Resources, 2012)
- ‘National Renewable Energy Action Plan’ (Government of Ireland, 2010)
- ‘Climate Action and Low Carbon Development Act 2015’ (Government of Ireland, 2015)
- ‘Draft Renewable Electricity Policy and Development Framework’ (Department of Communications, Climate Action & Environment, 2016)

- ‘Code of Practice for Wind Energy Development in Ireland on Guidelines for Community Engagement’ (Department of Communications, Climate Action & Environment, 2016)
- ‘National Development Plan 2018-2027’ (Government of Ireland, 2018)
- ‘Ireland’s Transition to a Low Carbon Energy Future, 2015-2030’ (Department of Communications, Energy and Natural Resources, 2015)
- ‘Reproductive output of Hen Harriers (Circus cyaneus) in relation to wind turbine proximity’ Darío Fernández-Bellon, Sandra Irwin, Mark Wilson and John O’Halloran (School of Biological, Earth and Environmental Sciences, University College Cork, 2015);
- ‘Quarries and Ancillary Activities Guidelines for Planning Authorities’ (Department of the Environment, Heritage and Local Government, 2004);
- Environmental Noise Guidelines for the European Union (World Health Organization, 2018);
- ‘Birds of Conservation Concern in Ireland 2014 – 2019’ (Colhoun, K. & Cummins, S., 2013, in Irish Birds 9: p.523-544);
- ‘Wind farm proposals on afforested sites – advice on reducing suitability for Hen Harrier, merlin and short-eared owl’ (NatureScot, 2016a);
- ‘Assessment and mitigation of impacts of power lines and guyed meteorological masts on birds’ (NatureScot, 2016);
- ‘Hen Harrier Conservation and the Forestry Sector in Ireland’ (NPWS, 2015);
- ‘A Review of Disturbance Distances in Selected Bird Species’ M. Ruddock & D.P. Whitfield (NatureScot, 2007);
- ‘The interactions between Hen Harriers and wind turbines’ Mark Wilson, Darío Fernández-Bellon, Sandra Irwin and John O’Halloran (School of Biological, Earth and Environmental Sciences, University College Cork, 2015a);
- ‘The distribution of breeding birds around upland wind farms’ Pearce-Higgins, J.W., Stephen, L., Langston, R.H.W., Bainbridge, I.P. & Bullman, R. (Journal of Applied Ecology 2009, 46: 1323–1331);

- ‘Assessing Connectivity with Special Protection Areas (SPAs) – Guidance’ (NatureScot, 2016);
- ‘Recommended bird survey methods to inform impact assessment of onshore wind farms’ (NatureScot, 2017);
- ‘ Birds and Wind Farms in Ireland: A Review of Potential Issues and Impact Assessment’ (Percival, 2003, https://tethys.pnnl.gov/sites/default/files/publications/Percival_2003.pdf);
- ‘Renewable Energy in Ireland – 2019 Report’ (SEAI, 2019).