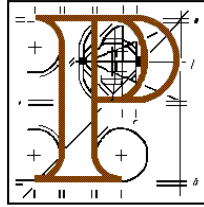


## An Bord Pleanála



## Inspector's Report

### Development:

Ten year permission to construct a windfarm and all associated infrastructure. The proposed windfarm will comprise the provision of a total of up to 12 no turbines, with a maximum overall blade tip height of up to 136.5m, upgrading of existing and provision of new internal access roads, provision of a wind anemometry mast (up to 90metres in height), 3 no borrow pits, an electricity substation with control building and associated equipment, underground electricity connection cabling, 3 no temporary construction compounds and all ancillary site works, and includes the upgrading of site access junctions. The Planning Application is accompanied by an Environmental Impact Statement (EIS) and a Natura Impact Statement NIS. The current proposed development is intended to replace the windfarm development previously permitted at this location under Planning Ref 02/2228 as extended by PL Ref 09/438 and PL Ref 14/309

### Location:

**Glenmore, Boonamweel, Boolynacknockaun, Furoor, Kilmihill, Co Clare.**

### Planning Application

Planning Authority

Clare County Council

Planning Authority Register Ref. 14/575

Applicant

Clare Winds Limited.

Type of Application	Permission
Planning Authority Decision	Refuse Permission
<b>Planning Appeal</b>	
Appellants	Clare Winds Limited
Type of Appeals	First Party v Refusal
Observer(s)	
<b>Date of site inspection</b>	18 <sup>th</sup> October 2015 22 <sup>nd</sup> January 2016
Inspector:	<b>Bríd Maxwell</b>

## **1.0 INTRODUCTION**

- 1.1 This is a first party appeal of a decision by Clare County Council to refuse permission for the development of the proposed Glenmore Windfarm within the townland of Glenmore, Boolnamweel, Ballynackockaun, Furroor Kilmihill Co Clare on grounds of potential adverse ecological impact on Freshwater Pearl Mussel Species (*margaritifera margaritifera*) in the Doonbeg River.

## **2.0 SITE LOCATION AND DESCRIPTION**

- 2.1 The appeal site is located within a rural area of south west County Clare in the townlands of Glenmore, Boolynamweel, Booluynockaun and Furroor. Ennis Town is approximately 16 kilometres to the north east of the site. The village of Kilmihill is located approximately 4 kilometres to the southwest of the site. The appeal site is divided into two distinct site areas which lie to the east and west of the public road at Illaunatoo. Access is via local roads off the R484 Regional Road and N68 Secondary Road at Kilmihill to the south. The N68 which connects Ennis and Kilrush lies approximately 5 kilometres to the south of the site at its nearest point.
- 2.2 The topography of the site is aptly described as primarily gently sloping landscapes. The lands surrounding the site are generally at a similar elevation to the west and south while there are significantly higher lands to the east and north. The site is within of a rural working landscape with agriculture, forestry and turbarry being the main land uses. Wind Energy land use is also increasingly evident with the established Booltiagh development where 13 turbines are operational and the Boolnageragh development currently under development. Development within the western part of the appeal site in the townlands of Glenmore, Boolynamweel and Sorrel Island include road widening, borrow pit excavation and implementation of drainage measures. Land cover on the appeal site includes conifer plantation wet grassland and cut-over bog as well as smaller pockets of blanket bog, improved grassland and worked areas.
- 2.3 The western section of the appeal site which has an elevation range of between 120, and 170m OD is characterised by an upper raised plateau of blanket bog which is generally flat. The overall slope of the lower area of the landholding is to the south /southwest. The northern, eastern and south-eastern sections are dominated by forestry which varies from young to mature conifer trees. The southern and western sections of the landholding are dominated by poorly draining farmland and cutover bog.

- 2.4 The eastern section of the site which has an elevated range of between 130m and 200m OD is dominated by blanket bog and has a dense coverage of coniferous trees. The land slopes in a southwesterly direction and is drained by two main streams that flow through the site. Lough Arrow is located to the southeast of the landholding.
- 2.5 The site lies within the Slievecallan Upland Landscape Character Area (LCA) as identified by the Landscape character Assessment of County Clare described as a mix of pasture, silage and coniferous habitats.
- 2.6 The proposed development site lies within two water catchment areas; the Annageeragh / Creegh [Kiltmper Stream] and Doonbeg River catchments. The Cragnasgubgaun Bogs Natural Heritage Area NHA 002400 is partially located within the site. The NHA is formed by three separate blocks of land. The first block 0.41 sq.km borders the western study area while the second block is 0.47sq.m is in the centre of the site. The largest block 1.19sq.km is to the northwest. (Refer to figure 5.1 EIS) The Lough Acrow Bog NHA is to the east and south of the site. Lough Naminna Bog NHA is to the north of the site.

### **3.0 THE PROPOSED DEVELOPMENT**

- 3.1 The application as set out in the public notices describes the proposed development as follows:

*“Ten year permission to construct a wind farm and all associated infrastructure. The proposed wind farm will comprise (a) the provision of a total of up to 12 no wind turbines, with a maximum overall blade tip height of up to 136.5m (b) upgrading of existing and provision of new internal access roads (c) provision of a wind anemometry mast (up to 90m in height) (d) 3 no borrow pits, (e) an electricity substation with control building and associated equipment, (f) underground electricity connection cabling (g) 3 no temporary construction compounds and (h) all ancillary site works, and includes the upgrading of site access junctions. The application is intended to supercede the windfarm development previously permitted on part of this site under PL Ref P02/2228 as extended by PL. Ref. P09/438 and PL Ref P 14/309.”*

- 3.2 The roads layout for the proposed development uses the existing onsite access roads and tracks where possible with approximately 3.3 kilometres of existing site roads, 1.7km of existing roadways and tracks requiring upgrading and approximately 2.7 kilometres of new access roads proposed to be constructed. The permanent footprint of the proposed development measures approximately 10.13 hectares which represents approximately 1.45% of the total EIS study area.

- 3.3 Site cabling is proposed by way of an underground 20kV electricity cable. Electricity and fibre optic cables running from the turbines to the substation compound will be run in cable ducts approximately 1.3m below ground surface along the side of roadways. As regards grid connection it is intended that the proposed wind farm will be connected to the national grid via an underground connection running from the proposed onsite substation to the existing Booltiagh 110kV Substation, located approximately two kilometres northeast. The underground cabling will follow the route of the existing public roadways.
- 3.4 Application details outline that the proposal seeks to upgrade the size of the wind turbines permitted and to increase the overall area of the site by extending the proposed wind farm to the east to include additional lands that are currently under commercial forestry. In Broad terms the permitted 11 turbine wind farm occupies the area in the vicinity of turbines 1,2,3,4,5, and 6 of the current proposal. It is asserted that the alterations are required to maximise efficiency and ensure that the site will make the best use of the wind resource passing over the site. Alterations between the permitted and proposed development are described as follows:
- Increase in overall turbine height from 115m to a maximum of 136.5m.
  - Increase in overall site area by including lands under commercial forestry to the east
  - Amendments to the locations of ten of the turbines with greater spacing between
  - Construction of 1 additional turbine location.
  - Changes to onsite roads layout.
  - Decrease in number of on-site borrow pits from four to three and use of the borrow pits as peat disposal areas for the site.
  - Relocation of the permitted anemometry mast to a new location.
  - Increase in the number of temporary construction compounds from one to three.
  - Minor relocation of the permitted electricity substation and redesign of the substation compound layout to take account of updated Eirgrid and ESB Networks requirements.
  - Use of two previously permitted access points and include a third access for the eastern site extension.
  - Provision of a community gain proposal comprising a community gain fund to support local environmental improvement and recreational social or community amenities and initiatives in the locality. An initial contribution of €6,250 per MW upon commissioning of the proposed windfarm is proposed. Should the maximum capacity of 30MW be installed this could total €187,500. Further payments of €1,250 per MW will be paid annually over the estimated 25 year operational period which could potentially yield

- a further €937,500 in local funding. The fund is to be administered by a community gain committee.
- 3.5 The proposed turbines will have a maximum ground to blade tip height of up to 136.5m and a maximum rotor diameter of up to 103m. Within this maximum turbine size envelope, various configurations of hub height, rotor diameter and ground to blade tip height may be used. It is anticipated that the proposed wind turbines will have a rated electrical power output in the 2.0 to 3.0 megawatt range depending on further wind data analysis and power output modelling. For the purposes of the EIA a rated output of 2.5mW has been chosen to calculate the power output of the proposed 12 turbine windfarm which would result in an installed capacity of 30mW.
- 3.6 The Wind farm control building is proposed within the substation compound towards the western end of the site. Some alterations were made to the proposed substation in the response to the request for additional information. The building will include staff welfare facilities including a single toilet with a low flush cistern and low flow wash basin. It is intended to use an on-site agricultural water supply combined with rainwater harvesting from building roofs as water source. It is proposed that wastewater will be managed by way of sealed storage tank with tankering off site by permitted waste collector.
- 3.7 A river crossing is proposed to connect the proposed road running east from turbine 12 to turbine 8 over stream 7 (as referenced in Chapter 7 of EIS). Stream 7 flows into the Greygrove River downstream of the site. The proposed watercourse crossing will be bridged using a clear span bridge so as to leave the natural bed and banks undisturbed. A natural bank path of at least three metres wide will be retained at each side for mammals and natural recolonisation of native vegetation. Silt fences are proposed to be installed between bridge works and stream to ensure no silt discharges to the stream during this phase of works.
- 3.8 The proposal includes provision of six turbines to the east and six turbines to the west of the public road at Ilaunatoo. The western portion of the proposed development will be accessed from the Glenmore public road and only localised upgrading will be required to facilitate turbine delivery. The eastern portion of the site at Boolynackaun will be accessed from the local road between Kilmaley and Creegh and enter the site from the north.
- 3.9 One permanent anemometry mast is proposed. The mast will be a slender structure up to 90metres in height. The mast will either be free standing or will be supported by guyed wires radiating out 50-60metre in three directions from the tower.

- 3.10 Three temporary construction compounds proposed for the eastern and western sections of the site adjacent to the existing access roads. Temporary port-a-loo toilets will be provided during construction phase. Wastewater will be directed to a sealed storage tank and will be tinkered off site by an authorised waste collector.
- 3.11 As outlined the site currently partially comprises commercial forestry plantation with 55% of the site under forestry. A total of 9.9 hectares of forestry will have to be felled within and around the development footprint and an additional 4.3 hectares of trees to be felled around the turbine locations in order to prevent trees causing turbulence effect. This brings the total felling area to 14.2 hectares.

## **4.0 PLANNING POLICY**

### **4.1 National Policy and Guidelines**

#### **4.1.1 *Delivering a Sustainable Energy Future for Ireland – The Energy Policy Framework 2007-2020***

This is a Government White Paper. The overriding objective is to ensure that energy is consistently available at competitive prices, with minimal risk of supply disruption. It is an objective to achieve 15% of electricity consumption, on a national basis, from renewable energy sources by 2010, and 33% by 2020 (target increased to 40% in Government budget speech of 2009).

#### **4.1.2 *National Renewable Energy Action Plan 2010***

This Plan implements EU Directive 2009/28/EC on the promotion of the use of energy from renewable sources, which sets out agreed new climate and energy targets- 20-20-20 by 2020 – 20% reduction in greenhouse gas emissions; 20% energy efficiency, and 20% of the EU's energy consumption to be from renewable sources. In relation to the electricity sector, the plan has set a target of 40% electricity consumption from renewable sources by 2020.

#### **4.1.3 *Strategy for Renewable Energy, 2012–2020***

The Strategy for Renewable Energy, 2012–2020 is the most recent policy statement on renewable energy. It reiterates the Government's view that the development of sources of renewable energy is critical to reducing dependency on fossil fuel imports, securing sustainable and competitive energy supplies and underpinning the move towards a low-carbon economy. The Strategy sets out specific actions the Government will take to accelerate the development of wind, ocean and bio-energy, R&D, sustainable transport energy, and supporting energy infrastructure. Strategic Goal 1 aims to achieve progressively more renewable electricity from onshore and offshore wind power for the domestic and export markets.

#### **4.1.4 *Ireland's Second National Energy Efficiency Action Plan to 2020 (March 2013)***

This Plan sets out strategy to reduce Ireland's dependence on imported fossil fuels, improve energy efficiency across a number of sectors and ensure a sustainable energy future.

#### **4.1.5 *Guidelines for Planning Authorities on Wind Farm Development and Wind Energy Development 2006***

The Guidelines offer advice on planning for wind energy through the Development Plan process, and in determining applications for planning permission, and are intended to ensure consistency of approach in the identification of suitable locations for wind energy developments, and acknowledge that locational considerations are important. These considerations include ease of vehicular access and connection to the electricity grid. It is acknowledged that visual impact is amongst the more important issues when deciding a particular application. Whilst there is no set-back distance specified, it is indicated at section 5.6 that noise is likely to a problem at less than 500m. In relation to shadow flicker, section 5.12 states that impact at neighbouring offices and dwellings within 500m should not exceed 30 hours per year or 30 minutes per day. It goes on to state that at distances greater than 10 rotor diameters, the potential for shadow flicker is very low. Section 5.13, dealing with 'windtake', states that distances between turbines will generally be 3 rotor diameters in the crosswind direction and 7 rotor diameters in the prevailing downwind direction. This section goes on to state- 'Bearing in mind the requirements for optimal performance, a distance of not less than two rotor blades from adjoining property boundaries will generally be acceptable, unless by written agreement of adjoining landowners to a lesser distance. However, where permission for wind energy development has been granted on an adjacent site, the principle of the minimum separation distances between turbines in crosswind and downwind directions indicated above should be respected'.

#### **4.1.6 *Proposed Revisions to Wind Energy Development Guidelines 2006***

These Draft Guidelines were introduced by the Department of Environment, Community and Local Government, in December 2013, to deal with limited aspects of wind farm developments. A consultation period was allowed – up to 21<sup>st</sup> February 2014. The revisions proposed are-

- A more stringent absolute outdoor noise limit (day and night) of 40 dB for future wind energy developments.
- A mandatory setback of 500m between a wind turbine and the curtilage of the nearest dwelling, for amenity considerations.
- A condition to be attached to all future planning permissions for wind farms to ensure that there will be no shadow flicker at any dwelling within 10 rotor diameters of a wind turbine. If shadow



flicker does occur, the wind energy developer/operator should be required to take necessary measures, such as turbine shutdown for the period necessary to eliminate the shadow flicker. There is no indication to date as to proposed changes, if any, to the 2006 Guidelines.

## **4.2 Clare County Development Plan 2011-2017**

- 4.2.1 CDP 10.2 Development Objective: Renewable Energy – “to encourage and favourably consider proposals for renewable energy developments and ancillary facilities in order to meet national, regional and local renewable energy targets.
- 4.2.2 Development Plan Objective 10.3 Wind Energy Development and Residential Amenity: seeks to:
- (a) Promote and facilitate wind energy production in the County. Proposals for the development of infrastructure for the production and distribution of electricity through the harnessing of wind energy will be determined by reference to the County Wind Energy Strategy and the associated SEA and HAD.
  - (b) To strike an appropriate balance between facilitating wind energy development and protecting the residential amenity of neighbouring property in respect of noise proliferation and visual impact”
  - (c) Ensure that all proposals for wind energy development in the County are fully compliant with the Habitats Directive.
- 4.2.3 CDP Objective 17.3 Natura 2000 sites. CDP 17.4 Requirements for Habitats Directive Assessment under the Habitats Directive 1992
- 4.2.4 The Clare Renewable Energy Strategy (RES) 2014-2020 was adopted into the county development plan on 12<sup>th</sup> May 2014 (Variation No 1 & Volume 8). The strategy outlines the renewable energy resource that is deliverable in County Clare. Its vision is to position the County as the national leader in renewable energy generation, supporting energy efficiency and conservation, with an accessible modern telecommunications infrastructure, achieving balanced social and economic development and assisting Ireland’s Green Energy target. The Wind Energy Strategy has an overall target of 550MW of electricity to be generated from wind energy by 2017.
- 4.2.5 Within the Wind Energy Strategy (Volume 5) the site is located within an area designated as a Strategic Area for wind energy development and an area classified as “Acceptable in Principle”. The objective for the Strategic Areas (WES8) states that these areas are eminently suitable for wind farm development and notes their good / excellent wind resource, access to

grid, distance from properties and location outside designated sites. A target of 400MW from these areas is identified. Projects within these areas must:

- Demonstrate conformity with existing and approved wind farms to avoid visual clutter,
- Be designed and developed in line with the wind energy development guidelines for planning authorities DoEHLG 2006 in terms of siting layout and environmental studies,
- Provide a habitats directive assessment under the Habitats Regulations if the site is located in close proximity to a SAC or SPA.
- Be developed in a comprehensive manner avoiding the piecemeal development of the areas designated as strategic.

4.2.6 The site is also within the functional area of the West Clare Local Area Plan 2012-2018.

(Relevant Extracts from the County Development Plan are attached in appendices to this report.)

## 5.0 PLANNING HISTORY

### On the western part of the appeal site

- **02/2228** Permission for an eleven turbine wind farm development. Max height 115 metres. (In broad terms the permitted 11 turbine windfarm occupies the area in the vicinity of turbines 1, 2, 3, 4, 5 and 6 of the current proposal). The permission was subject to 29 conditions of which I note. Condition 3 "Works on the windfarm shall not proceed until full permission has been granted for the electricity connection to the national grid. Condition 8 annual breeding surveys shall be continued up until at least three years after construction for Hen Harriers. Condition 11. Detailed method statement for the safe disposal of excavated peat to be devised and submitted to NPWS. Condition 12. Detailed habitat management plan for the site to be submitted. **PL Ref 09/438** - extension of duration for 5 years. **14/309** Further extension of duration expires 26<sup>th</sup> June 2017.
- **PL13/122** Application to replace existing permission granted under PL Ref 02/2228 with a windfarm comprising of 13 turbines with an overall ground to blade tip height of up to 136.5metres. Refused in September 2013 for two reasons related to impact on Freshwater Pearl Mussel in the Doonbeg River and impact on winter bird species.
- **05/336** Application by Patrick King for dwellinghouse, private garage and a sewage treatment plant and ancillary site works. Permission granted 2006.
- **06/1999** Permission to Patrick King for livestock slatted unit with cubicles, Granted 23/11/2006.

#### **SITES IN THE VICINITY.**

Within the wider area there have been a significant number of applications lodged for wind farm developments which include the following:

#### **Cahermurphy**

- **PL245189 PL Ref 14/551**– Concurrent appeal before the Board at Cahermurphy approximately 3km to the west of the appeal site for a 10 year permission to construct windfarm of total of 4 no wind turbines with a maximum ground to top blade tip height of 131m. The proposal is intended to replace an existing permission for a 6 turbine windfarm granted under PL Ref 03-2071, as extended by PL Ref 09-267 and PL Ref 13-507

#### **Kiltumper**

- **PL03.234010 09/358** Permission granted to construct a windfarm **Kiltumper, Kilmihill**. The development to consist of 2 turbines site tracks and hard standing areas, an anemometry mast a small control building and compound, underground cabling, site signage, temporary site works and all ancillary works.

#### **Coor West**

- **239378 (11/360) Coor West** circa 8km northwest of the site Permission granted by the Board February 2014 on appeal for 4 wind turbines.

#### **Booltiagh**

- **07-2900** Permission for erection of six wind turbines at Booltiagh approximately 1.5km north of the appeal site with towers up to 80metres in height and total tip height up to 120m with ancillary equipment for generation of electricity and two borrow pits.
- **PL03.120616 P00-567** Permission granted in 2001 for a 15 turbine development at Booltiagh.
- **08/1678** Permission **granted** for modification of Condition 2 of permitted development P07/2900, to extend the permitted lifetime to twenty years from the date of commissioning.
- **PL03.236950 09/0828.**: Booltiagh southern extension. Permission **refused** under for a two-turbine extension to an existing windfarm at Booltiagh. Two reasons for refusal related to significant adverse impact on hen harrier and inadequate EIS.

#### **Boolynageleragh**

- **03/79** Permission for erection of 19 turbines at Lissycasey circa 7km east of the appeal site. Expired.
- **PL03.236376 (PL09/479)** Hibernian Wind Power Limited. Application for permission for development consisting of wind energy project 11 turbines at **Boolnageragh**. Nine turbines permitted by the Board.

- **PL03.12326 (Reg. Ref. 99/2384):** Permission *refused* on appeal under for a 17 turbines windfarm at Letteragh and Boolynagleragh for one reason related to visual impact on the skyline along the Ben Dash Ridge, particularly from the north and from Scenic Route number 17.
- **PL03.244095** 10 year permission for extension to Boolynagleragh Windfarm to include 7 turbines and all ancillary works. **Concurrent application currently before the Board.**

#### **Kilmaley**

- **PL03.239933 (P11/301)** Permission for wind energy development consisting the erection of six wind turbines (maximum hub height 90m, maximum blade diameter 93m), one permanent meteorological mast, access road and internal site tracks electricity substation underground cabling and all associated site works. Kilmaley Co Clare, approximately 4km north east of the site. Permission expires 20/2/2023

#### **High Street**

- **Reg. Ref. 03/80:** Permission *granted* under **PL03.204911** for a 10 turbine windfarm at Fruar North and **High Street, Lissycasey circa 3km east of the appeal site.** **Reg. Ref. 09/248:** Permission *granted* for extension of duration of permission for a windfarm at Fruar North/High Street, Lissycasey.
- **Reg. Ref. 03/1559:** Permission *granted* for erection of Wind Monitoring Mast at Moyglass.

#### **Letteragh**

- **PL03.239933 Reg. Ref.11/361:** Permission *granted* ref. for a 6 turbine windfarm at **Letteragh .**

#### **Slieve Callan**

- **PL03.237524 Reg. Ref.10/0009:** Permission granted for a 29 turbine windfarm Slieve Callan approximately 9km north of the site
- **Reg. Ref.13/0558:** Permission *granted* for changes to substation and borrow pits permitted under **03.237524** Reg. Ref.10/0009 above.

#### **Crossmore**

- **Reg. Ref.09/0123:** Permission *granted* for a 7 turbine windfarm at Crossmore.

#### **Shragh**

- **PA0025** SID application for construction of 45 no wind turbines close to the village of Doonbeg approximately 16km southwest of the appeal site.

Refused by the Board based on the scale of the development being contrary to the provisions of the Clare Wind Energy Strategy, visual impact and potential impact on *Margaritifera margaritifera* Freshwater Pearl Mussel.

### **Booltiagh Substation**

- **PL03.245273 (P14/761)**

The Board upheld the decision of Clare County Council to grant permission for alterations and extensions to the existing Bootliagh 110kV Station. December 2015.

- **Slaghbooly**

**14/860 Application presently before Clare County council** by Brookfield Renewable Ireland Ltd. Slaghbooly Windfarm. 11 turbines with a tip height up to 131m. Townlands of Doolough, Bootliagh, Shanavough.

The extensive planning history of wind energy and associated infrastructure development proposals and permissions in the area is notable, and I highlight in particular concurrent proposals before the local authority **14/860 Slaghbooly**, and the Board **PL03.244095 Boolynageleragh**, and **PL03.245189 Cahermurphy**.

## **6.0 PLANNING AUTHORITY'S DELIBERATIONS AND DECISION**

### **6.1 Submissions**

6.1.1 Irish Aviation Authority submission requests that in the event of permission, the applicants be required to provide an agreed scheme of aviation obstacle warning lighting for the wind turbines and coordinates and elevation details of the built turbines for charting purposes. IAA to be notified at least 30 days prior to the erection of the development.

6.1.2 Department of Arts, Heritage and the Gaeltacht submission in relation to archaeology recommends that archaeological monitoring be carried out and included as a condition of permission.

6.1.3 Department of Arts, Heritage and the Gaeltacht In relation to Nature conservation notes the responsibility of Clare County Council as competent authority to carry out the screening for appropriate assessment and appropriate assessment if required. The overall windfarm site encompasses parts of the legally protected nature conservation sites Cragnashingaun Bog NHA (Site Code 002400) and Lough Acrow Bogs NHA (site code 002421). While the intention is to avoid these sites, an assessment of the likely direct indirect or cumulative effects including past effects of the project on these sites and on their reasons for designation, is

generally lacking. Particular concerns are noted in relation to Borrow Pit 1 and its associated drainage system which appears to encroach on the NHA and may have or may have had hydrological or other effects on habitats within the NHA. The likely effects of existing and future quarrying and extraction on the NHAs and the habitats for which they are designated ie peatland, including as a result of dust emissions or altered hydrology. The likely effects of the development on typical species of the habitats for which the NHAs were designated eg Golden Plover, Hen Harrier and curlew. The Department reiterates concerns raised repeatedly with the Council that these NHAs which are protected sites under the Wildlife Acts are categorised as acceptable in principle for wind energy development in the Clare Wind Energy Strategy of the County Development Plan.

6.1.4 The Department is of the view that potential direct indirect and cumulative effects on birds and their habitats is a particular concern in this case. However it is considered that the EIS contains limited information about birds in the receiving environment and that the assessment of potential effects is largely limited to an analysis of collision risks for two key species. For the department to advise further and for the council to carry out an environmental impact assessment of the current proposed development, further information and assessment of the likely effects of the development on birds is required including:

- Detailed and specific results of the bird surveys carried out including location, date, time, duration, weather, surveyor(s), species recorded. etc. (EIS contains summary bird information only)
- Specific records arising from vantage point watches which distinguish each of the vantage point locations( 3 in 2012 and 7 in 2013-2014)
- Bird survey data covering the autumn migratory period for birds; the importance of the site for golden plover and other passage migrants has not been assessed.
- Inclusion and analysis of available data from previous and ongoing bird surveys at the site, the original EIS and condition 8 of the original grant of permission are of particular relevance in this regard.
- Breeding bird surveys other than vantage point watches which were carried out and breeding birds at the site.
- Robust assessment and analysis of the likely direct, indirect and cumulative effects of the proposed development on birds, including as a result of displacement, habitat loss and fragmentation and disturbance as well as collision risk. This should include further assessment for the key species, Hen Harrier and Golden Plover as well as for Curlew (Former records of breeding at the site in the original EIS) and other species.
- Specific mitigation to avoid disturbance and displacement of breeding birds, particularly during construction.
- In relation to freshwater pearl mussel the Doonbeg river supports an important population of the globally threatened Annex II species, Freshwater Pearl Mussel (*Margaritifera margaritifera*). There are records

of Mussels about 3km downstream of the proposed development. Further assessment and analysis of the likely direct, indirect and cumulative effects of the proposed development on this extremely sensitive species is required.

- It should be demonstrated that the existing development is compliant with the original grant of permission notably conditions 8, 11 and 12 that relate to bird surveys and monitoring, the habitat management plan and monitoring of habitat recovery.
- Decommissioning and rehabilitation of parts of the existing infrastructure that is now defunct to be addressed.
- Effects of forestry clearfelling and replanting to be assessed.
- Grid connection should be assessed in the context of the EIA.

### **6.1.5 Third Party Submissions**

6.1.5.1 John McGuane, Glenmore, Kilmihill. No objection to turbines 7-12 however turbines 1-6 will have an impact on the locality noting cumulative impact of existing Booltiagh windfarm and further proposals in the area. Significant negative impact on the community arising from noise, impact on groundwater, impact of blasting, exacerbate negative impact on broadband and mobile networks and tv signals.

6.1.5.2 Sean and Noeleen Quinlivan object on basis of proximity to family home, concerns regarding blasting and quarrying, impact on water supply. Dispute right of way, noise, shadow flicker, ice throw, cumulative effects of windfarm at Booltiagh, negative impact on property values, lack of clarity in relation to the size and type of turbines, impact on forestry, flora and fauna, extent of cabling, health and safety impacts. Legal entitlement to carry out works is also questioned.

6.1.5.3 Stuart Hick and Teresa Considine - Environmental Impact Statement is inadequate. Site is an inappropriate location for industrial windfarms and will have a disproportionate impact on the local community. Land slippage potential. Environmental pollution and adverse impact on ecology.

6.1.5.4 Kilmaley Inagh Group Water Society Co-Op Society Ltd. notes that the source of the scheme which supplies water to 1950 homes in Kilmaley and Inagh and surrounding areas is Lough na Minna. Consultants from the GSI have been engaged to produce a ground water map for Lough na Minna to identify the groundwater catchment. Development is premature pending same. Concerns regarding construction impact on groundwater.

6.1.5.5 Michael and Mary Quinn, Boolynamweel, Kilmihill object to turbines no 3 and no 6. Potential for contamination of water supply and proximity to dwellings resulting in noise. devaluation of property, traffic disruption and negative impact on wildlife.

6.1.5.6 An Taisce submission asserts that the development of this site for wind energy needs to be assessed de novo and not on the basis of the previous application. It should be justified on the basis of appropriate national, regional and local authority area strategies for wind energy

development to ensure optimum site selection, while similarly avoiding locations with significant adverse impacts on ecology, significant landscapes and residential amenity.

6.1.5.7 Kilmaley and District Angling Association. Submission raises concerns in relation to impact on the water quality of the lake and surrounding Loch na Minna. Concern with proposal to surround Lough na Minna a significant source of recreation with giant pylons. Visual impact and impact on recreational amenity and environmental impact including impact on groundwater and surface water.

6.1.5.8 John McGuane, and other local residents of Glemore, Boolynamweel, Sorrel Island and Furoor North object to the development on general and specific elements of the proposal on the following grounds

- Application is premature and cannot be considered pending a decision on P14/761 Booltiagh Substation upgrade
- Project splitting. Application premature pending grid connection details.
- Haphazard history of planning applications related to the development. Inadequacy of original application P02/2228 and its EIS and flawed approach of the Planning Authority in twice granting an extension of time without screening for Environmental Impact Assessment and Appropriate Assessment.
- Developer to be directed by the Planning Authority to make an application for substitute consent to An Bord Pleanála for the development granted under P02/2228 as extended under P/09/438 and P14/309.
- Threats arising from the proposed development to the ecology of the area, in particular the Freshwater Pearl Mussel population and its habitat in the Doonbeg River.
- Contrary to Clare County Renewable Energy Strategy and County Development Plan Policies and Water Framework Directive.
- Visual impact, shadow flicker, noise, loss of residential amenity and devaluation of property.
- Cumulative impact and question of the carrying capacity of the area for wind farm development from a policy perspective. Note in the initial application for the Booltiagh wind farm P00/567 and subsequently PL03/12616. This application proposed 26 turbines which was considered by An Bord Pleanála to be more than the landscape could carry and was reduced to 15 (with a further 4 later granted).
- Blasting proposals not assessed in the EIS or NIS.
- No geotechnical data to support the conclusion that there will be no impact on groundwater and wells in the area.
- Non-compliance with condition 3 of P02/2228 which means as a minimum and application for retention of development is required and to be accompanied by a remedial EIS and NIS.
- Settlement ponds are not capable of removal of fine particulates and the proposal to use chemicals for fine sediment removal inappropriate in fpm habitat context.



- Note reason no 3 in An Bord Pleanála refusal of 3PA0025.
- Planning Authority cannot from a statutory perspective decide to permit development which has serious risk of causing further deterioration in the Doonbeg River under the Surface Water Regulations 2009. The river is also a habitat for salmon and brook lamprey, both Annex II species under the Habitats Directive.
- Note Wind Turbines Bill 2012 and Wind Energy Guidelines Focussed Review with regard to the minimum separation distances between residential properties and wind turbines in reference to the overall height. On the basis of the bill there should not be any turbines of this scale within 1500m of a dwellinghouse.
- Visual impact assessment is provided in an abstract context. Cumulative impact needs to be considered. Sense of being overwhelmed where 89 turbines with permission were granted within a 10km radius of the site.
- If planning authority are disposed towards granting permission development should only be considered in areas of the site which are not close to dwellinghouses (Boolyknackaun) with the developer reframing proposals in this area to avoid impact to the Doonbeg River.
- Loss and deterioration of bird habitat. A significant number of annexed species: hen harrier, golden plover, red grouse etc. Avoidance area is growing and cumulative loss of habitat is not being addressed.
- Noise assessment notes that noise survey presented in the EIS for P14/575 indicates current night time baseline noise level of 20-30dB(La 50 10min (in the vicinity of H06. The projected nighttime noise with the proposed development is of the order of 45dB LA 90 10min) This represents a significant change in noise level experienced at H06 and an unwelcome and unwanted intrusion on the current situation. Development cannot achieve the requirements of the wind energy development regulations
- In relation to shadow flicker worst case scenario should be undertaken to assess the impact on long fine summer days. This would mean (at least) 10 of the 76 houses are affected by more than 30 hours per annum or 30 minutes per day.
- Assessment of impacts on the amenities of properties are deliberately underestimated in the EIA. The understatement of impact is exacerbated by the failure to fully take account of the cumulative and in combination effects of existing, permitted and proposed wind farm development in the area.
- 2002 application significantly lacked any survey material of the Doonbeg River for Freshwater Pearl Mussel, provided no winter bird survey details and provided limited bat survey details. Details superseded by information provided to An Bord Pleanála for Doonbeg wind farm 03PA0025. The understanding of the issues (ie species surveys, species ecology and sensitivity, best practice in catchment management) associated with this sensitive catchment changed quite dramatically between 2002 and 2014

such as could only mean that an addendum to the original EIS or a remedial Natura Impact Statement was required by the Planning Authority before they could reasonably grant the second extension of time on this development under P14/309.

#### **6.1.6 Department of Arts Heritage and the Gaeltacht Further to the submission of additional information**

- Archaeological monitoring is recommended.
- In relation to nature conservation, while the Department is aware that there is an existing permission for a windfarm on part of the current site, the EIA and appropriate assessment if required for the current proposed development must reflect the current environmental baseline and standards of best practice and must assess the proposed development in the context of current cumulative or in combination effects. The concentration of operational, permitted and proposed wind energy developments in this upland area of West Clare as well as a concentration of favoured areas for wind energy development in the Clare County Development Plan is noted.
- It has been determined that there is potential for significant effects on two European sites, River Shannon and River Fergus Estuaries SPA (site code 004077) and Mid Clare Coast SPA (site code 004182) because of the potential for effects on two bird species, cormorant and golden plover. This is based on the review and analysis of data arising from the surveys and assessments carried out for the project rather than an analysis of the likely significant effects of the project, individually and in combination with other plans and projects on European sites.
- It is unclear if losses of individual birds or of the habitat of birds are predicted in the case of Cormorant, Golden Plover, or any other species. It is also unclear if the effects are predicted to result from the windfarm on its own or in combination with other plans and projects, notably other windfarms and areas. The European Commission's guidance on Wind Energy Development and Natura 2000, page 42 states that when screening the assessment of significance needs to be done on a case by case basis. The loss of a few individuals may be insignificant for some species but may have serious consequences for others, like some populations of eagles and vultures and other threatened species." The guidance goes on to explain that population size, distribution, range, reproductive strategy and life span will all influence the significance of the effects. The consequences of losses of individual birds for the populations of birds of relevance, and or the conservation objectives of SPAs, are not further analysed in the NIS.
- Emphasis within the revised NIS is on identifying and blocking pathways for impact using mitigation measures rather than on identifying and assessing potential impacts and likely significant effects on European sites in view of their conservation objectives. In the case of birds, the pathways

for impact are not identified, nor is it demonstrated how it can be blocked by mitigation measures. The focus is on the effects of the windfarm on its own however the NIS identifies the potential barrier effect arising from a cluster of windfarms though assessment is not provided. The scientific basis for the estimated habitat loss for birds of 172 hectares based on 100m avoidance distance is unclear.

- The appropriate assessment must include a definitive determination by the Council under Article 6(3) of the Habitats Directive as to whether the proposed development on its own and in combination with other plans and projects would adversely affect the integrity of a European site. Case law of the European Court of Justice (C-258/11) has established that the assessment under Article 6(3) cannot have lacunae and must contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of a project on a European Site.
- The site encompasses parts of the legally protected nature conservation sites Cragnashingaun Bog NHA (Site 'Code 002400) and Lough Acrow Bogs NHA (site code 002421). Borrow pit 1, its associated cut off interceptor drain and boundary fence and part of the windfarm access road to the north border Craghnsingaun Bog NHA.
- The route of the grid connection proposed is an underground cable along the public road to Booltiagh Substation will be adjacent to Lough Naminna Bog NHA (site code 002367) over a distance of approximately 170m. It has the potential to encroach or cause damage to Lough Naminna Bog NHA where it borders this nature conservation site, and or where directional drilling is proposed at watercourse crossing.
- Permission has already been granted for an overhead powerline through this NHA (planning ref 15/545) close to the current proposed underground cable and will have adverse effects on this site.
- The features of interest of the NHAs are peatlands. It is acknowledged that bird species which are characteristic of peatlands may be disturbed or displaced by the windfarm and its construction.
- In addition NHAs locally have been categorised as favoured areas for wind energy development at a strategic level in County Clare. The direct, indirect and cumulative effects on NHAs as a result of the proposed development should be given due consideration when carrying out the EIA for this proposed development.
- As regards effects on protected species, the site and surrounds are important for birds and for birds directive annex 1 species, Hen Harrier (breeding) and Golden Plover (wintering passage) in particular. Condition 8 of the original grant of permission for the windfarm required annual surveys of Hen Harrier to be carried out at the site. Golden Plover were recorded frequently at the site, including flocks of up to 120 birds in January to March 2014. No new bird surveys were undertaken in relation

- to the further information response to give a full year of bird survey data and to cover the early autumn migratory period.
- Bird Surveys carried out for the original EIS (2003) established that Curlew (five pairs) were breeding on /near the site at the time. Curlew is not recorded in the current EIS and associated bird surveys. The breeding population of curlew in Ireland has undergone a 98% decrease since the 1970s including as a result of habitat loss (NPWS Article 12 report 2014) whooper Swan (6 birds) were also recorded in nearby lakes in the original EIS but have not been recorded since. The indications are that bird populations and bird usage have been affected in recent times.
  - The Doonbeg River supports an important population of the globally threatened Annex II species, Freshwater Pearl Mussel (*Margaritifera margaritifera*). Much of the current application area is within this catchment and there are records of mussels occurring about 3km downstream of the proposed development. The direct indirect and cumulative effects on protected species and their habitats as a result of the proposed development should be given due consideration when carrying out an EIA for this proposed development.
  - The EIS addendum and revised NIS include the grid connection and road accommodation works along the haul route. The proposed connection to the national grid is via an underground cable to the existing ESB Booltiagh 110kV substation. About 170m of this cable runs in the road or margins beside the Lough Naminna Bog NHA. It also follows part of the same cable route along the public road as the Cahermurphy winfarm, - 14/551. There will be directional drilling at a series of watercourses along the route including potentially in the vicinity of the NHA.
  - It is assumed that the 4.2km long grid connection and associated works, including directional drilling at five locations in Glenmore, Boolnamweel and Booltiagh now forms part of the current proposed development or will require a separate application, as well as a road opening licence. While the cable will be laid mainly underground and would normally be exempted from planning requirements, the grid connection and associated works are an integral part of an overall proposed development that requires EIA as well as planning permission.
  - The impacts of compensatory afforestation (Rathaliska County Cork 14.63 hectares) are not included in the in combination effects of the current project. While technical approvals appear to be in place for this afforestation, the forest service's determinations in relation to screening for EIA or AA are not available as part of the current application.
  - Decommissioning and rehabilitation of the existing defunct infrastructure should be included among the considerations when carrying out EIA for this proposed development.

## **6.2 Internal Reports**

6.2.1 **Area Engineer's** report notes concerns regarding compliance with designated haulage routes. Special development contribution of €468,140 recommended for the remediation of roads which are currently detailed as haulage routes. The basis for calculation is outlined as follows:

Average Road width of local road network (L-2076, L-6192, L2048) is 4.5m and have an overall length of 9,292km. Also 4511m local road through Kilmihill/ Restoration rate currently sanctioned by the Department for annual road projects €17/ m<sup>2</sup>. Lesser figure €10/m<sup>2</sup> is allowed for. Therefore  $9,292 \times 45 \times 10 = €418,140$ . Additionally €50,000 allowed for carrying out of remedial works to the rest of the Regional and National Secondary Road Network giving a total of €468,140.

6.2.2 Executive Scientist Environment. Notes concern regarding significant volume of material to be excavated and the location of >70% of the development within the Doonbeg river catchment. The importance of a very high level of solids management where freshwater pearl mussel may be affected is well known. Further information is required in relation to the depths of borrow pits and anticipated water table height at borrow pit locations. An estimate of the maximum infiltration rates to assist in assessing the effectiveness of proposed control measures is required as well as information on location and capacity of the proposed stilling ponds. The impact of blasting, rock crushing and rock breaking on fauna in particular birds to be assessed. Applicant should also be requested to submit an Article 11 request to the EPA to establish whether a waste permit or certificate of registration are required for the filling of excavated borrow pits given that a minimum of 44,275m<sup>3</sup> of peat / overburden material will be moved to the three pits. Depth of peat to be clarified. Further information is required in relation to the stormwater management, sediment controls system given the sensitivity of the Doonbeg catchment and volume of material to be excavated.

6.2.3 **Fire Officer's** report indicated no objection.

6.2.4 **Planner's** initial report determines that further to screening, appropriate assessment of the proposed development is required. The report asserts that the details submitted in the EIS are sufficient to address concerns in terms of impact on public health, visual impact and road traffic safety. Further information is required as regards the impact of the development on the NHAs (bogs) in the vicinity and potential for negative impact on bird species, the impact of the development on the freshwater pearl mussel. Impact of clearfelling and proposed re-forestation also to be addressed and environmental impacts of grid connection to be detailed.

6.2.5 **A request for additional information** issued seeking details in relation to an assessment of the likely direct, indirect or cumulative effects including

past effects of the project as permitted by ref 02/2228 on protected sites and on their particular characteristics. Particular items were highlighted in relation to:

- Borrow Pit no 1 and its associated drainage system, or cut off drain which appear to encroach on Gragnashingaun Bog NHA and which may have had hydrological or other effects on habitats within the NHA.
- Likely effects of existing and future quarrying and extraction on the NHAs and the habitats for which they were designated i.e. peat land including as a result of dust emissions or altered hydrology.
- Additional detail an analysis as to the likely effects of the development on typical species of the habitats for which the NHAs were designated e.g. Golden Plover, Hen Harrier and Curlew.
- Robust assessment and analysis of the likely direct, indirect, and cumulative effects of the proposed development on the NHAs.
- Additional information as regards the potential direct indirect and cumulative effects on birds and their habitats.
- Further assessment of the likely direct, indirect and cumulative effects of the proposed development on the freshwater pearl mussel species.
- Details of volume of peat / waste material to be provided in each borrow pit.
- Details of location and capacity of stilling ponds for outflow from the proposed borrow pit as well as details as to the effectiveness of the proposed silt buster for use in developments similar to that proposed and in the absence of chemical dosing and taking into account the sensitivity of the freshwater pearl mussel to small diameter particles.
- Silt management of temporary soil storage areas.
- Decommissioning and rehabilitation of parts of existing infrastructure that is now defunct.
- Statement of the environmental impact of the proposed connection of the proposed windfarm to the substation at Booltiagh.
- Noting that the proposal involves clear felling an area and replanting a new area of 10.33ha with forestry, clarify replanting area and provide details of environmental impact.
- Clarification of proposed location of concrete surplus.
- Submit an Article 11 request to the EPA to establish whether a waste permit or certificate of registration under the waste permit regulations are required for the filling of the excavated borrow pits, given that a minimum of 44,275m<sup>3</sup> of peat/overburden material will be moved to the three pits.

6.2.6 Following submission of additional information **Executive Scientist Environment** asserts that the potential for significant sediment laden runoff from all activities associated with the construction process gives rise to a risk of significant threat to the freshwater pearl mussel. Precautionary principle should apply and therefore refusal is recommended. Residence times within stilling ponds will be too short to allow for any reduction in

settleable solids. Information from oral hearings in relation to peat related developments indicates that settlement based systems will not reduce the fines common to runoff from peat. These fines consist of small micron particles which experts state are toxic to FPM. The applicant's statement that silt busters are not effective for colloidal peat without chemical dosing confirms that settlement alone will not be adequate to effectively manage the runoff from these systems. Applicant acknowledges that chemical dosing is required to treat water with colloidal peat or clay particles. It is proposed that in the event chemical dosing is not considered acceptable and in the unlikely event that there is a requirement for this additional treatment system a number of silt busters will be commissioned and set up in parallel so that the throughput of each is lowered to 25m<sup>3</sup> /hour or less as an absolute last resort, tankers will be engaged to remove waters from the site to a licensed waste facility. The application fails to demonstrate that adequate control of the level of fines in construction site and borrow pit runoff to can be provided at a level that ensures no downstream impact on the Freshwater Pearl Mussel. NIS states that daily monitoring by a supervising project hydrologist/engineer who will have authority to stop excavation works and initiate a hydrogeological assessment which will direct appropriate additional management measures to ensure that downstream surface water receptors are not impacted in terms of volume or water quality. Note contradictions within the application as NIS states that all proposed borrow pits are located significantly away from the local streams however Pit 2 is immediately adjacent to a first order stream and T 12 is immediately adjacent to a first order stream.

**6.2.7 Planner's Final Report** notes that in accordance with the Environment Section report having regard to the significant presence of FPM population in the Doonbeg River a precautionary approach should apply. Notwithstanding the proposed mitigation measures to be utilised for silt management, the risk of fine silt particles finding their way to the Doonbeg river via the drainage network cannot be fully prevented. The use of chemicals is not acceptable as it could have negative consequences for the freshwater chemistry.

### **6.3 Decision**

6.3.1 By Order dated 30<sup>th</sup> July 2015, Clare County Council issued a Notification of decision to refuse permission for the following reason:

- 1. It is an objective of Clare County Council under objective CDP17.8 of the County Clare Development Plan 2011-2017 (as varied) to ensure the protection and conservation of areas, sites, species and ecological networks / corridors of local biodiversity throughout the county.*

*Having regard to the presence of the Habitats Directive Annex II species, Freshwater Pearl Mussel (Margaritifera margaritifera) in the Doonbeg River and the proximity of the subject site in relation to same which is linked through downstream connectivity, the Planning Authority is not satisfied on the basis of the information presented that the proposed development would not have a negative impact on the future survival of the freshwater pearl mussel in the Doonbeg River and on the potential implementation of restorative works to the catchment that would promote survival of this species. Accordingly, the proposed development would contravene the above objective and would therefore be contrary to the proper planning and sustainable development of the area.*

## **7.0 GROUNDS OF APPEAL**

7.1 The First party appeal is submitted by McCarthy Keville O Sullivan, Planning and Environmental Consultants on behalf of Clare Winds Ltd.

7.2 The grounds of appeal address the Council's specific reason for refusal as well as the wider issues in terms of the detailed proposal. The appeal is accompanied by a number of enclosures notably Appendix 2 Cable Route Drawings and Appendix 3, Report by Hydro Environmental Ltd. Grounds of appeal are summarised as follows:

- The Planning Authority reasons for refusal in relation to the perception that the proposal will affect the freshwater pearl mussel is not merited.
- The application documentation, including EIS further information response and associated comprehensive suite of mitigation measures incorporated within the design comprehensively address this matter.
- The drainage design philosophy, site specific design and individual mitigation proposals must be considered in combination. The proposed drainage system has been devised through a collaboration between senior ecologists and hydrologists based on their extensive experience working in hydrological catchments containing FWPM.
- The securing of grid connection at a significant financial investment demonstrates the applicant's commitment to the delivery of the project. While the preference is for the current proposal in the event of an unfavourable consideration the previously permitted scheme will be provided on the site.
- As regards landscape the visual impact visual assessment noted that the visual impacts range from imperceptible to moderate. Windfarms are now a feature of this local landscape character. The EIS concluded that the overall impact on landscape character is deemed to be a long term slight neutral impact.
- As regards noise impact predicted noise levels at all locations for all wind speeds do not exceed the noise criteria curves adopted for this



assessment with the exception of H09 and H10. The dominant sources of wind turbine noise is associated with the operational Booltaigh Phase 1 wind farm and the predicted levels at this location are in line with the relevant operational criteria applicable to this site.

- In relation to potential future wind farm guideline noise limit amendments of the 76 reviewed six were shown in the initial modelling to have the potential to experience exceedance of the proposed 40dB LA90 10min Limit. Of these six properties, two are contributing landowners, leaving four properties where a slight exceedance may be experienced. The predicted noise levels at these four locations contain contributions from a number of windfarm sites both built and proposed. However the initial modelling considered a worst case scenario where all assessment locations are considered to be downwind of all turbines simultaneously. Once wind directionality is considered only one property shows the potential to experience a slight exceedance of less than 1dB of the 40dB LA90 10min absolute limit. Should the consultation limit be required to be achieved it would require that the nearest proposed turbine be operated in noise reduced mode in north and north westerly wind conditions in excess of 8m/s. This can be programmed into the wind farm operating system.
- As regards shadow flicker some level is predicted to occur at 39 of the 76 properties modelled assuming worst case conditions. Four have the potential to experience an exceedance of the daily guidelines of 30minutes and two of these properties are contributing landowners. A shadow flicker mitigation strategy to control the level of daily shadow flicker experienced at the other two potentially affected houses (H12 and H13) is set out.
- Modelling against the permitted windfarm, the permitted 11 turbine scenario shows some level of shadow flicker at 47 houses and the daily guideline limit of 30minutes is predicted to be exceeded at 16 houses. In relation to the DoEHLG total annual guideline limit of 30 hours the 76 houses modelled the limit of 30 hours is not predicted to be exceeded at any house. (Exceedance of four dwellings in case of permitted 11 turbine windfarm)
- The cumulative assessment in relation to shadow flicker demonstrates that only one property H10 has the potential to exceed the daily 30minute daily guideline amount which is contributed to by the current proposal. A mitigation strategy is provided for in the EIS. The cumulative assessment of annual shadow flicker demonstrates that no property exceeds the guideline amount.
- The potential impacts on the flora and fauna within the site and immediate surroundings are qualitatively assessed in the EIS and further information. Surveys carried out on site give good temporal coverage.
- The EIS includes a comprehensive suite of mitigation measures to protect local surface water quality including buffer zones surrounding water features, discharge of ponded water onto vegetated ground, the use of temporary sumps, attenuation ponds, temporary storage lagoons

- ,sediment / silt traps settlement ponds and specialist treatment systems (e.g. siltbuster).
- The majority of trackways that will be required for the western half of the proposed development have already been constructed.
  - Forestry service's draft Forestry and Freshwater Pearl Mussel Requirements – Site Assessment and Mitigation Measures will apply to all felling operations.
  - The quantum of tree felling required is similar to seasonal felling operations but is dispersed over a much larger spatial territory. A number of additional best practice mitigation measures employed which will be effective in preventing any impacts on Freshwater Pearl Mussel.
  - Comprehensive Bird Survey work provides details in relation to the Hen Harrier, Golden Plover and Waterbirds. Mitigation of habitat impacts have been carried out in the design process by applying constraints on the advice of ecological surveyors to ensure that sensitive areas within the study area were avoided. Further mitigation is provided in the Construction and Environmental Management Plan (CEMP)
  - Fauna mitigation measures primarily relate to phasing construction to avoid felling within the general bird breeding season.
  - NIS concludes that no significant or indeterminate impacts are likely as a result of the project on the conservation objectives or overall integrity of any Natura 2000 site in the vicinity of the site of the proposed development.
  - The Council's reason for refusal does not give reasonable consideration to the full suite of mitigation proposals which have been compiled specifically with the presence of Freshwater Pearl Mussel in mind. Drainage design philosophy, site specific design and detailed mitigation proposals must be considered in combination as opposed to individually. Proposals are best practice and effective.
  - The Council raised concerns regarding a lack of information surrounding the presence or otherwise of large volumes of groundwater in the proposed borrow pits and the potential for the drainage design to be flawed on this basis. Subsequent to the Council's decision, two boreholes were drilled on site one at BP3 and one at BP1. Results of permeability testing and the hydrogeologist observations confirm that there are not significant volumes of groundwater at these locations.
  - The precautionary principle has been applied to the design of this project in the context of the extensive iterations to the windfarm layout, and careful siting of infrastructure and taking into account the extensive and best in class mitigation proposals.
  - Use of siltbuster as a mitigation measure was proposed in application P11/360 Coor Windfarm and this was approved by the Board PL03.239378. Drainage mitigation outlined for Coor windfarm are similar in nature to that proposed for Glenmore Wind Farm. Peat and soil samples from the Coor Windfarm have been tested by Siltbuster and it is

demonstrated that high levels of silt removal are achievable. (86/99% removal with the lower removal occurring at low influent concentrations.) PL70.241245 and EPA Licence Number P0403-3 Milk Processing Facility Mallow. Co Cork. Facility located on the banks of the River Blackwater (a Freshwater Pearl Mussel SAC)

- Proposed mitigation measures are best practice to ensure water quality protection in Freshwater Pearl Mussel Catchments.
- The Council's refusal is based on the perception of risk which is a disproportionate response to the actual risk. The actual risk when the entire project design is taken into account and notwithstanding the proximity of the FWPM (clusters of population approximately 9km from the site) is negligible.
- Site is within an area that has been designated as both strategic and acceptable in principle for the provision of wind turbines. The proposed windfarm is appropriate to the context of the site location, planning history, environmental designations and landscape.
- The EIS demonstrates that the proposed development can be provided at this location without adverse impacts and that it presents a more favourable outcome than the do nothing scenario which is the provision of the eleven turbine windfarm previously permitted.

The Report by Hydro Environmental Services Ltd. Appendix 3 of Appeal submission is summarised as follows:

- The drainage mitigation represents and improvement on current best practice for windfarm developments and as such is a significant advance on the drainage mitigation proposals outlined on P02/2228 which will be constructed in the event of refusal.
- Forestry within the application site extends to some 313ha. This will all be felled over time in the do nothing scenario. 14.23ha of this forestry proposed to be felled as part of the windfarm development. This accounts for 4.5% of the total forestry and this can be phased to occur prior to the main construction works to eliminate potential cumulative impacts.  
Only 7 individual Freshwater Pearl Mussels were recorded within 9km of the proposed windfarm site and the main population of freshwater pearl mussels are located some 9km downstream of the site.
- The development footprint of the windfarm is 0.6% of the catchment to the first individual Freshwater Pearl Mussel (3km) downstream of the site and 0.2% of the catchment to the main cluster of FWPMs (9km) downstream of the windfarm site. The total development area (windfarm footprint + forestry felling) is 1.29% of the catchment to the first individual freshwater pearl mussel (3km downstream of the site and 0.42% of the catchment to the main cluster of Freshwater Pearl Mussels 9km downstream of the windfarm site).

- Detailed drainage management proposals are best in class and in line with current best practice approaches for water quality protection on wind farm and forestry sites.
- Drainage management on site has several stages and uses avoidance controls, source controls, inline controls, water treatment controls and outfall controls.
- Siltbuster with chemical treatment is an industry standard in the UK and Ireland and one that is recommended by the EPA and planning authorities for all kinds of sites including sites with sensitive downstream watercourses.
- Dosing rates of chemical to initiate settlement is small and any perception of vast quantities of chemicals being used is incorrect. Use of biodegradable chemicals eliminates concerns regarding toxicity.
- The EIS acknowledges that some works have to occur within buffer zones such as stream and drain crossings. At these locations and where forestry felling encroaches into buffer zones, additional mitigation in the form of silt traps and silt fencing can be installed to ensure protection of local watercourses.
- As regards channelling of flow downstream the level spreaders are designed to distribute flow back into the environment in a diffuse manner. Experience shows that significant channelling of flows downstream of correctly installed level spreaders does not occur.
- As regards concern over potential for large areas of exposed ground the causing potential for silt laden run off, one of the main philosophies of the earthworks and drainage strategy is to expose as little ground as possible at any one time and to do this in line with weather forecasting to ensure the least possible exposure of bare ground is available when rainfall occurs at the site. The construction process is more or less a linear development and as such only small areas of ground can be exposed as the works advance along access tracks.
- Example of ongoing windfarm development Knockduff, Co Cork PL04.239775 demonstrates that such projects can be undertaken in sensitive catchments without impacting on the ecological value of the catchment. Drainage measures and downstream sensitivities at the Knockduff site are the same as at the Glenmore site. Monitoring data has demonstrated that water quality has not been impacted during the construction works.
- As regards cable route the proposed route is from the windfarm site to the Boooltiagh substation will be installed within the carriageway of the road as the existing verge along the cable route will not provide an adequate working area. Therefore the favourable strata of the existing road will provide for plant and equipment during installation will remove the risk of compaction. Where the cable will cross existing watercourse culverts a series of mitigation measures including triple silt fences are proposed between the road edge and the culvert being crossed. Nine watercourses

will be crossed on the cable route and detailed crossing methodology and specific mitigation measures set out.

## **8.0 Observer's Submissions**

8.1 Observations to the appeal were submitted by John McGuane, and others Glenmore, Kilmihill. I have summarised the points raised as follows:

- Reiterate objection to the development.
- Application of the precautionary principle is a critical element in the approach taken by the planning authority and the developer for the protection and restoration of the habitat and status of the freshwater pearl mussel (albeit from polar opposite directions).
- Serious concern arises that the impact of the proposed turbine development in the western side of the site closest to dwellings.
- The head waters of one branch of the Creagh River (Kiltumper Stream) lies within the site area on the western side of the site and no real consideration was given to the protection of this water body, either in the EIS, further information, planning report and grounds of appeal.
- Even if the current application is to be considered for a part grant of permission, the Board should attach conditions such as will close off the development as described in the permission 02/2228. The local community is in limbo trying to understand the potential outcome of the proposal to develop the Glenmore windfarm with the constant threat that if unsuccessful there will be the fall back position to the development described in P02/2228.
- The legitimacy of the extended permission for P02/22228 is highly questionable and has been referred to the Director of Planning Clare County Council and the European Commission. Applicant should be directed to apply for substitute consent.
- Permission is premature pending decision on Booltiagh substation upgrade P14/761 PL03. 235273
- Project splitting as evidenced by haphazard planning history.
- Significant threats to ecology in particular freshwater pearl mussel population and habitat in Doonbeg river.
- Contravention of Clare County Renewable Energy Strategy and County Development Plan Policies and Water Framework Directive.
- Proximity to residential dwellings gives rise to noise, shadow flicker, loss of amenity and loss of economic value.
- Cumulative impact in conjunction with existing and permitted development within 10km radius. The carrying capacity of the area for wind energy development is in question.
- Blasting of borrow pits not assessed in EIS or NIS.

- In relation to risk to freshwater pearl mussel, no evidence is presented in terms of monitoring of runoff or monitoring of receiving waters, No data is presented in terms of observation of siltation in gravel beds in sensitive streams.
- In terms of potential adverse impact on freshwater pearl mussel, its habitat and the salmonid species on which the mussel depends as a host during its lifecycle no detailed consideration is given. Note comprehensive evaluation provided in PL26WW0418 where Dr Evelyn Moorkens recommended that one should consider the other qualifying features (such as twaite shad) and also consider fish species that may be mowing upstream and may contribute to the life cycle of pearl mussels. The precautionary approach should be used to protect the host throughout the catchment,  
The cumulative effect of activities in the catchment and the requirement to evaluate potential impacts of the discharge on other species of co-dependence is necessary. In accordance with advice of Dr Aine O Connor NPWS the pragmatic approach is to consider the needs of the fish especially the qualifying species (shad, salmon, lamprey) and general water quality considerations.
- Note Inspectors Report PL26WW0418 which describes the nature of suspended solids and the impact on the welfare of the mussel population. To address the matter of scientific uncertainty the applicants submit that their water treatment approach will provide removal efficiency of 86-99% for solids. However the potential range of suspended solids loading is not addressed to get an actual result for the suspended solids in run off. Conservative figures for suspended solids in road run off during rain events indicate a mean of 200mg/litre. Using the 86-99% treatment efficient quoted, a proposed treatment system would provide a final treated run off in the range 2-28 mg litre. The potential solids content of the run off arising from the peat / gluey soil catchment of the development is likely to be much higher (no data on untreated run off is provided from historic monitoring in typical catchments with this application), and well above the acceptable level for the pearl mussel and salmonid habitat adjacent to the proposed development. Then the proposed timing of construction is taken into account (August – March to avoid impact on bird life) there is an additional requirement to avoid discharges in the February – March, July- August salmonid spawning period. This narrows the construction window to September – January, the wettest months in the western weather year with the highest risk of high volume, solids laden run off. The question then arises whether the performance quoted for the silt removal technology is achievable on a permanent ongoing basis particularly with high flows. There is a seriously high risk that the high performance quoted cannot be achieved on an ongoing basis.
- Application of precautionary principle by Clare County Council is a well justified approach in the context of the limited data presented in the application and the sensitivity of the catchment.

- Dairygold facility at Mallow PL.241245 with a floor area of 2ha is well established in a monitoring regime with an existing IPPC licence and is subject ongoing inspections for licence compliance and under the Environmental Liability Regulations (2004/35/EC) There is no rational correlation to be drawn from the granting of this application and the current application for development of a 26.85ha site with extensive clear felling, trenching, borrow pit development road construction etc.
- The cessation of work during heavy rain is unlikely to abate the suspended solids content of run off as the extent of works on site (movement of 55,320m<sup>3</sup> peat and clay) mean that there is an unavoidable generation of extremely high levels of ground disturbance associated with the project which will mobilise high levels of solids with rainfall events. Buffer zones are within the riparian zone of surface waters.
- Concerns arise regarding the strategic development of wind farms in the area without proper consideration of the cumulative impact. The cumulative effect on the hydrology of the peat lands and the cumulative loss of foraging habitat for the important range of Annex bird species in the area (Golden Plover, Hen Harrier, Breeding Red Grouse) together with Teal, Common sandpiper, redshank, raven and curlew does not appear to have been considered either strategically at SEA level.
- Reiterate strongest objection to the development and urge that the decision of the Planning Authority be upheld. Request that the Board seriously consider the contrast between pre development and post development picture both from a landscape and dwellinghouse perspective and the impact of this change on the general and mental well being of the local community in the deliberations.

## **RESPONSE SUBMISSIONS**

### **8.6.1 Planning Authority.**

8.6.1.1 The Planning Authority response to the appeal asserts that due regard was had to all information presented in the planning application and the planning authority's decision was informed having regard to all submissions received from the prescribed bodies, internal reports from the relevant departments within Clare County Council and to the report received from the Environment Section of Clare County Council and also having liaised with the Environmental Assessment Officer Clare County Council. The planning authority does not have any further observations to make in this regard and requests the Board to uphold the decision of the planning authority.

### **8.6.2 Prescribed Bodies.**

8.6.2.1 The application was by referred by the Board to the Department of the Arts Heritage and the Gaeltacht. The submission is summarised as follows:

The submissions made to Clare County Council in relation to the original application and at further information stage set out key issues of concern from a nature conservation perspective in relation to the likely significant effects of the project on ecology and the environment, and the adequacy of the data and information available in the EIS, EIS addendum, further information response etc.

Particular emphasis was placed on the following:

1. The implications of project including the grid connection for statutory NHAs that occur in and adjacent to the project application area, including Cragnashingaun Bog NHA (site code 002400), Lough Acrow Bogs NHA (site code 002421) and Lough Naminna Bog NHA (site code 002367)
2. The likely cumulative ecological effects of the grid connection, compensatory afforestation (in this case 14.63ha at Rathaliska Co Cork) powerline developments and upgrades locally, forestry management, nearby operational, permitted and proposed windfarms and of the Clare Wind / Renewable Energy Strategy which categorises two of the NHAs as acceptable in principle for wind energy development.
3. The implications of the project for protected species that occur in or which use the application area or which have potential to be impacted by the project, notably the Board's Directive Annex I species, Hen Harrier (breeding) and Golden Plover (wintering spring/autumn migration) and the habitats directive Annex II and globally threatened species, Freshwater Pearl Mussel (*Margaritifera margaritifera*) in the Doonbeg River. About 73% of the study area is within the Doonbeg River catchment, a mapped "*margaritifera* sensitive area". Concerns regarding two other bird species, curlew (breeding) and whooper swan (wintering Annex I species) were also raised as these appear to have disappeared from the area since the time the EIS was prepared for the original windfarm.
4. The extent to which there was compliance with the original planning conditions relating to nature conservation and the safeguarding of protected species, notably the Annex I species, Hen Harrier.

The Department has no further observations on the current appeal at this time.

### **8.6.3 First Party Response to Observer's submissions**

- The EIS, further information response and grounds of appeal fully address the issues of drainage and potential impacts on hydrology, ecology and freshwater pearl mussel in particular.
- The head water of the Creagh River and Kiltumper Stream are identified in Sections 7.3.3., 7.3.4 and 7.3.6 of the EIS and all mitigation related to water quality protection are relevant to these waters.



- EIS as supplemented is comprehensive in terms of identifying the potentially adverse effects of the proposed development.
- Baseline water quality monitoring data is provided in Section 7.3.6 of the EIS. A Stage 1 and 2 Freshwater Pearl Mussel Survey was completed and discussed in Section 5.5.62. Potential adverse effects described in Section 5.6.2 and 7.4.1.9 of the EIS.
- The proposed development will not result in any significant effects on Freshwater Pearl Mussel during construction phase for the following reasons:
  - No direct emissions to watercourses with 50m buffer between any discharge point and watercourse.
  - Measures described in EIS and HES report attached to appeal demonstrate how potential pathways for impact on this species have been identified and either discounted or blocked through appropriate design and water treatment processes.
  - The level of water monitoring is designed to minimise potential for failure of any silt control measures and to be able to respond in the highly unlikely event of a failure of the proposed control measures. The proposed diffuse discharge from the site not only avoids any direct discharge to watercourses but contributes to the reversion of drainage at the site back to a pre forestry greenfield drainage regime through the blocking of forestry drainage pathways (which will be done when there is no flow). The proposal will therefore result in a slightly lower rate of discharge from these areas than the existing forestry regime.
  - The development has been designed to prevent emissions from the site that would prevent the receiving waters from allowing the Freshwater Pearl Mussel population downstream to achieve favourable conservation status in the future. This includes for the protection for fish species.
  - The drainage system has been designed to block the pathway between construction activity and the potential receptors in this case watercourses.
- In terms of construction phasing, the construction phase will take approximately 12 months from starting on site to the commissioning of the electrical system. In the interest of breeding birds construction will not commence during the breeding bird season from April to July inclusive. All mitigation measures will be employed during the salmon spawning period.
- Note the Dairygold Mallow application refers to complete redevelopment of the existing site and therefore precedent is relevant. Correlation between the applications is evidenced from location within sensitive catchments.
- The proposed 50m buffer is far greater than the required to protect the riparian zones on the site. There is no risk to the riparian zone associated with the proposed development. Where water crossings are required

existing infrastructure (roads, bridges culvert crossings) are in place and will be used to facilitate works. There is only one new river crossing proposed Section 3.4.8 of the EIS) A clear span bridge will be used to leave the natural bed and banks undisturbed.

- In relation to allegation that planning history is confusing and haphazard, the planning authority has considered all relevant aspects relating to the planning history on site and there remains in place a valid (until 2017) and fully considered permission on the site to complete the 11 turbine wind farm development granted under PL Ref 02/2228.
- Comprehensive condition compliance details have been submitted to and agreed with the Planning Authority under the provisions of PL Ref 02.2228 to facilitate the commencement of development. Compliance details address condition 3 and confirm that grid connection has been granted by the CER under the gate 3 process.
- Current application is a stand alone application which can be assessed on its merits.
- Booltiagh substation currently on appeal to the Board PL03.245273<sup>1</sup> issue of prematurity does not arise.
- Cumulative impact assessed within the EIS. Provision of wind turbines at this location has been subject to significant strategic consideration.
- Issue of grid connection addressed in full in EIS addendum. As a complete EIA can be carried out in relation to the windfarm proposal (inclusive of the means of grid connection) the issue of project splitting does not arise.
- In relation to concerns regarding shadow flicker, noise, loss of amenity and economic value of properties these issues dealt with. The proposed development is in accordance with the Wind Energy Guidelines.
- Council's stated reason for refusal is disproportionate response to the actual risk. The interpretation of the precautionary principle in the Council's decision implies that no development requiring any construction works (eg Housing agriculture) can go ahead in any freshwater pearl mussel catchment nationally. This is clearly unsustainable and not in keeping with the proper and sustainable development of this area of County Clare or other sensitive areas.
- Request that the Board Grant permission.

## **9.0 ASSESSMENT AND RECOMMENDATION**

- 9.1 Whilst the proposed development is presented as the replacement of a previously permitted wind farm 02/2226, given that it includes additional lands, increases the permitted number of turbines from 11 no to 12 with an

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<sup>1</sup> PL03.245273 Permission for alteration and extension of existing Booltiagh 110kv station including excavation of soil and removal off site to permitted facility granted by the Board 9/12/2015 subject to conditions following third party appeal.

increase in the tip height from 115 metres to a maximum blade tip height of up to 136.5m, turbine bases, access roads, borrow pits, substation / control building, all ancillary equipment, road improvements and all associated site works, I consider that it is appropriate that the development be determined on its merit in the context of current standards and guidelines. I note that a number of third party observers and submissions questioned the decisions and procedures adopted by the local authority in respect of its evaluation and decision on previous applications on the appeal site namely P/02/2228 as extended under P/09/438 and P/14/309. The observers assert, inter alia, that having regard to the absence of consideration of grid connection in the environmental impact assessment of the original permission P02/2228, the applicant should be advised to apply for substitute consent. It is further asserted that the associated extension of duration applications are flawed given the lack of screening for Environmental Impact Assessment and Appropriate Assessment. It is further contended on the basis of alleged non-compliance with the terms of the original permission 02/2228, a remedial NIS and NIS are warranted. I note that these issues are beyond the remit of the Board in terms of consideration of the current appeal. Furthermore I note that the issue of compliance with conditions of the previous permission and issues of enforcement are matters for the local authority.

9.2 Having examined the file, considered the prevailing local and national policies inspected the site and assessed the proposal, the appeal and all submissions, I consider the key issues to be considered in the Board's de novo assessment can be considered under the following broad headings:

- Policy Compliance – Principle of Development
- Landscape and Visual Impact
- Archaeology, Architectural and Cultural Heritage
- Impact on the amenities of the area - Shadow Flicker, Noise & Vibration, Electromagnetic Radiation and Telecommunications Interference.
- Roads & Traffic Impact
- Impacts on drainage, hydrology and hydrogeology
- Ecological Impact
- Habitat's Directive Natura 2000 Sites, Appropriate Assessment Screening and Appropriate Assessment
- Environmental Impact Assessment.

### **9.3 Policy Compliance – Principle of Development.**

9.3.1 The proposed development is in accordance with regional, national and EU policies which seek to promote the reduction of greenhouse gases and the

advancement of renewable energy resources. Within the Clare County Development Plan 2011-2017, Objective 10-2 Renewable Energy is an objective to encourage and to favorably consider proposals for renewable energy developments and ancillary facilities in order to meet national, regional and county renewable energy targets, and to facilitate a reduction in CO2 emissions and the promotion of a low carbon economy. Objective 10.3 Wind Energy Development and Residential Amenity is the general objective to promote and facilitate wind energy production in the county.

9.3.2 Clare County Development Plan policy in respect of wind energy is based on the Renewable Energy Strategy 2014-2020 and the Wind Energy Strategy 2011-2017. The wind energy strategy has an overall stated target of 550MW electricity to be generated from wind energy by 2017. The wind energy strategy focuses on four classifications Strategic Areas, Acceptable in Principle, Areas Open to Consideration, Not normally permissible. The western extent of the site is located predominantly within an area that is "Acceptable in Principle" whilst the eastern extent is located within a Strategic Area (WES8) which are eminently suitable for wind farm development noting their good / excellent wind resource, access to grid, distance from properties and location outside designated sites. A target of 400MW from these areas is identified. As outlined above there is an extant permission 02/2228 Permission for an eleven turbine wind farm development max height 115metres on the western part of the appeal site. (In broad terms the permitted 11 turbine windfarm occupies the area in the vicinity of turbines 1,2,3,4,5 and 6 of the current proposal) This was extended by PL09-438 and PL14-309 (expires July 2017). The proposed development seeks to redesign and optimise the previously approved wind farm development by increasing the turbine tip height from 115 metres to a maximum of 136.5 metres, and expanding to include lands additional lands which are currently under commercial forestry. On the basis of the planning history on the site and the provisions of the Clare County Development Plan 2011-2017, National and EU considerations, I consider that there is no policy objection to the principle of the development.

#### **9.4.1 Landscape and Visual Impact.**

9.4.1 Landscape and Visual Impact is addressed within chapter 10 of the submitted EIS. It is noted that the proposed development lies within the Slieve Callan Upland Landscape Character Area (LCA) as identified by the Landscape Character Assessment within the Clare County Development Plan 2011-2017. The site is towards the southwestern extent of this LCA, which extends over a large area and generally comprises the moorland hills of Slievecallan and Ben Dash, which are located to the north and east of the proposed site. The Slievecallan Upland LCA is described as an upland area composed of hills with

extensive plateau in parts. The highest peak in the area is that of Slievecallan at 391m OD whilst Ben Dash peaks at 283m OD. Long views are available southwards from Ben Dash towards the Shannon estuary. Within this context the case is made that the appeal site is relatively isolated in a visual sense and it lacks any discernable visual reference.

- 9.4.2 The area covered by the ZTV maps has a radius of 20km and shows the visibility of the proposed wind farm using the hub and half blade of the wind turbines as points of reference. A total of five ZTV maps are provided also showing the visibility of the proposed wind farm and cumulative visibility having regard to the other existing and permitted wind farms in the area. It is noted that there are a total of 81 existing permitted and proposed turbines located within a 20 kilometre radius of the site. The majority of these and the larger developments are immediately to the north and east of the appeal site, while a number of smaller development sites are to the south.
- 9.4.3 The ZTV maps show that there are no major differences in theoretical visibility between ZTV maps at hub height and half blade. The overall pattern of visibility indicated within the ZTV shows that within the 20km radius, where there is any visibility (the degree of visibility is extensive), the ten to twelve turbines will be visible from most locations. Within the immediate environs of 5km most areas will have visibility of the majority of turbines. Beyond 5km ten to twelve turbines will be theoretically visible in the majority of areas to the west and south. To the north of the site, visibility of the proposed windfarm decreases due to hillier topography.
- 9.4.4 As regards Cumulative visibility the greatest cumulative impact is generally localised to the immediate north and west of the site and is not deemed to be significant.
- 9.4.5 Thirteen locations were selected within 15km radius of the study area as viewpoint locations. Descriptions of the view presented are provided and the overall visual impact assessment is provided in tabular format taking account of the quantitative assessment and qualitative assessment. Mitigating factors are taken into account in terms of the impact classification. In the visual impact assessment tables for each photomontage the impacts varied from imperceptible to moderate. The overall impact of the development is deemed to be slight. It is asserted that the scale of the landscape is considered suitable to accommodate turbines of this height and the spatial extent of the windfarm is limited to suit the landscape character type in accordance with the DoEHLG guidelines. In addition the development involves the replacement of the permitted development and a simpler less cluttered layout. Overall the quality of the impact is deemed to be neutral, although it is acknowledged

that this may vary depending on viewer preferences. As wind turbines are a recognisable element of the landscape and the proposed development is replacing a current permitted wind energy development, the proposal is not introducing a completely new element in terms of visibility or land use into the area. Visual impact is predicted as long term slight neutral. Overall impact on landscape character is deemed to be long term slight neutral.

9.4.6 The detail and appraisal of the visual impact of the proposed development provided in the EIS is in my view reasonable, though I note a significant emphasis and reliance on the permitted Glenmore Wind Farm (02/2228 09/438, 14/309) development and designation of part of the site as a strategic area for wind energy in terms of the assessment of significance of impact and cumulative impact. Notwithstanding this, I consider that having regard to the scale and layout of the proposed development and the character of the landscape, areas of visibility (which are extensive) are clearly set out. Having considered the EIS and visited the site and surrounds, I would conclude that having regard to the robust nature of the wider landscape and to the topography and character of the area the proposed wind turbines will not be an unduly dominant feature in the landscape rather a component in the landscape. I note that the proposed turbines will be a significant feature in the immediate locality and will alter the character of the local area for a number of residential properties particularly within the western part of the site. I consider that the issue of visual impact on established residential amenity is poorly presented within the EIS. I note significant local objection to the proposal and consider that it is apparent that mistrust and suspicion has arisen as a result of a poor communication strategy and shortcomings in terms of informing and engaging with the local community. Notwithstanding these misgivings, I consider that a windfarm can be visually accommodated within the landscape and this issue of visual and landscape impact is not an impediment to the proposed development.

## **9.5 Archaeology Architectural and Cultural Heritage.**

9.5.1 Archaeology and Cultural Heritage is addressed in chapter 11 of the EIS. The assessment completed by Dominic Delaney and Associates is based on a desktop review and programme of field walking. Archaeological fieldwork on the site of the proposed development in advance of the road and substation construction was undertaken by John Purcell, Archaeological Consultancy. The archaeological monitoring report stated that no archaeological finds, features or artefacts were uncovered during monitoring.

9.5.2 There are no recorded monuments on the appeal site, however the development is located in an area of rich archaeological heritage with 19

recorded monuments identified within 2km of the EIS study area boundary, one of which is a redundant record. In terms of significance most notably a megalithic structure site approximately 1.5km to the north of the appeal site which is probably an early bronze age wedge tomb. Later settlement is also evidenced by ringforts from the early medieval period in Furroor, Greygrove and Kiltumper. Nearby Kilmihill was reputed to have an early Christian church and there are remains of a medieval parish church. The only building on the record of protected structures in the vicinity of the proposal is St Michael's Church Kilmihil (RPS No 140) which is 5km to the south of the site. As regards architectural heritage in the vicinity it is characterised by vernacular buildings using local stone in distinctive narrow flat courses. Remnants of such structures from the 18<sup>th</sup> and 19<sup>th</sup> century survive and are in use as outbuildings while others are picturesque ruins. There are two such ruins on the site of the proposal. Some fine road bridges using cut stone including one with a double arch and cutwater are in use on the roads surrounding the proposal.

- 9.5.3 The EIS provides an assessment of visual impacts on recorded archaeological resources within 2km of the development. As regards the recorded Monument CL039-035 Megalithic tomb (unclassified), it is noted that there is already a turbine in a field next to this monument and the nearest turbine is 1.6km away with intervening plantation trees. Mitigation measures include provision for archaeological monitoring of topsoil stripping and peat removal. The Archaeological assessment concludes that the residual impacts are likely to be low or negligible if the recommended mitigation measures are implemented.
- 9.5.4 The grid connection route is assessed in terms of the archaeological impact within the addendum to the EIS. It is asserted that there will be no construction phase impacts associated with the proposed grid connection or junction accommodation works as there are no archaeological features along either route. Junction accommodation works at location 5 in the vicinity of Clonigulane School, bridge and former smithy will not impact on their cultural or architectural heritage on basis of the distance from same. Mitigation measures propose that construction stay entirely within the confines of the existing road corridor for the laying of the grid connection to ensure that there will be no impacts on any features outside the road corridor. Archaeological monitoring of cable routing and junction accommodation works is proposed.
- 9.5.5 I note the submissions from the Department of Arts Heritage and the Gaeltacht in relation to archaeology which recommend that monitoring of development works should be required as a condition of permission. Having reviewed the submitted assessment I consider that the proposal is appropriately mitigated in terms of the impact on archaeological and cultural heritage.

## **9.6 Impact on the amenities of the area - Shadow Flicker and Noise, Vibration, Electromagnetic Radiation and Telecommunications Interference.**

- 9.6.1 As regards shadow flicker, the Wind Energy Development Guidelines (2006) note that the effect known as shadow flicker occurs where the blades of a wind turbine cast a shadow over a window in a nearby house and the rotation of the blades causes the shadow to flick on and off. This effect lasts only for a short period and happens only in certain specific combined circumstances. It is recommended that shadow flicker at neighbouring dwellings within 500m should not exceed 30 hours per year or 30 minutes per day.
- 9.6.2 At distances greater than 10 rotor diameters from a turbine, the potential for shadow flicker is very low. For the purposes of the assessment a turbine diameter of 103m was modelled, such that ten rotor diameters would equate to a maximum distance of 1,030m. Details provided within the EIS demonstrate that there are 22 houses within the 1030m zone of the proposed wind farm the closest identified as houses 32 and 76 being 400m and 430m respectively from T1. Both of these properties belong to landowners participating in the project. Of the 76 houses modelled, some level of shadow flicker is predicted to potentially occur at 39 properties. Of these, four may experience shadow flicker in excess of the DoEHLG guideline threshold of 30 minutes per day. Two of the four (H32 and H76) belong to participating landowners. H12 and H13 which recorded potential exceedences of 30 m / day threshold for 43 and 36 days arising from T3, T4, T5, T6, T7 and T8. As regards annual shadow flicker the DoEHLG total annual limit of 30 hours is not predicted to be exceeded at any house. Mitigation measures are set out including screening and site specific measures or intervention by way of the SCADA control system to address the issue.
- 9.6.3 It is noted that the guideline limit applies to dwellings or offices within 500m of turbines. At distances of greater than 500m the potential shadow flicker will be less intense and less distinct. It is asserted that on the basis of the overly conservative nature of the assessment model and distance from the turbines, the guidelines will in fact be met at these locations. Mitigation measures are set out in the event that they are required including provision for screening and turbine control.
- 9.6.4 As regards noise levels, the wind energy guidelines state that generally noise at receptors should not exceed 45dBA or represent a maximum increase of 5dBA above the background noise level. The closest occupied dwellings to a turbine include H32 (400m), H76 (430m), H12 (660m) H13 (660m) and H64 (610m). Within the EIS predicted noise levels are



compared against the 40dB<sub>LA90 10min</sub> absolute criterion that has been put forward as part of the Environment community and Local Government (DECLG) document – Proposed Revisions to Wind Energy Guidelines 2006 – Targeted Review in Relation to Noise, Proximity and Shadow Flicker (December 11<sup>th</sup> 2013). Six dwellings are predicted to exceed the consultation absolute noise limit, namely H09, H10, H11, H32, H65 and H76. As noted above H32 and H76 are in the ownership of contributing landowners. In the case of H9, H10, H11 and H65 the exceedences in worst case 45DB<sub>LA90</sub>. The noise emanates from a number of sites built and proposed in the area and for the scenario where assessment locations are downwind of all turbines simultaneously. When consideration is given to wind directivity it is demonstrated that other developed and permitted sites are dominant.

- 9.6.5 I note reservations of the Council's environment officer and as raised in third party submissions in respect of the deficiency in terms of assessment of vibration effects from blasting or rock breaking, crushing and loading materials however on the basis of the short term duration of construction impacts and subject to implementation of mitigation measures, I consider that noise levels can achieve compliance with relevant noise criteria. Ongoing operational noise monitoring of the windfarm is proposed and mitigation in order to achieve the absolute consultation criterion. On the basis of the information provided in the EIS, I consider that the proposed development is appropriately mitigated in terms of noise impact.
- 9.6.6 As regards electromagnetic radiation and telecommunications interference potential, appropriate mitigation measures are outlined. No negative impact on aviation is predicted subject to compliance with the lighting and notification requirements of the IAA. As regards potential interference with TV reception, I note third party submissions highlighting existing issues arising from the established Booltiagh windfarm. I note that obligations to correct any potential deterioration in television and radio reception caused by the proposed windfarm can be addressed by condition.
- 9.6.7 On the basis of the information provided within the EIS, I consider that it has been demonstrated that the development is acceptable in terms of impacts on the amenities of the area relating to noise, shadow flicker, and telecommunications. As noted above in relation to landscape and visual impact I have some concerns in respect the level of consultation with the local community. I consider that the level of vehement objection and mistrust is observed within the third party submissions in relation to the proposed development.
- 9.6.8 I note that the developer proposes a community benefit scheme termed a community gain fund proposed to support local environmental improvements and recreational social or community amenities and

initiatives in the locality. The proposal involves the investment of in excess of €1million in the local community over the life of the project. An initial contribution of €6,250 per mW upon commissioning and further payments of €1,250 per mW annually over the estimated 25 year operational period. Funding will be allocated via a Community Fund Liaison Committee.

## **9.7 Roads and Traffic**

9.7.1 Material assets are addressed in Chapter 12 of the EIS. The main traffic impact arising from the development will arise during the construction phase and mitigation measures related to road junctions are outlined. The proposed development will not have a significant long term impact on traffic movement in the surrounding area and the proposed development would not give rise to traffic hazard or endanger the safety of other road users. I consider that given the impacts are short term and subject to provision for remedial measures the impact on roads and traffic is appropriately mitigated. On this basis I consider that traffic and roads issues are not an impediment to the proposed development.

## **9.8 Geology, Hydrology, Hydrogeology and Peat Stability**

9.8.1 Chapter 7 of the EIS deals with water. It is noted that the majority of the development landholding (10 proposed turbines) lies within the Doonbeg River Regional catchment. The far western section of the site, (two proposed turbines), lies within the Annageeragh – Annagh-Creegh Coastal regional catchment. Both catchments are within Hydrometric Area 28 of the Shannon River Basin District. The section of the site within the Doonbeg River Regional catchment initially drains to the Greygrove River. The Doonbeg River is approximately 8km downstream of the site. The section of the site within the Annageeragh – Annagh-Creegh Coastal catchment initially drains to the Kiltumper Stream and then Lough Cahermurphy prior to entering the Creegh River – 5km downstream of the site. Based on site topography and the primary drainage routes the site is divided into six main subcatchments.

9.8.2 As regards groundwater vulnerability, the aquifer underlying the site is classified as predominantly extreme by GSO ([www.gsi.ie](http://www.gsi.ie)). It is asserted that due to the low permeability nature of the bedrock aquifer underlying the site, groundwater flowpaths are likely to be short with recharge emerging close by at seeps and surface streams. Within the grounds of appeal the report of hydro environmental Ltd outlines that additional boreholes drilled on site (at borrow pits 1 and 2) confirm low permeability

of the bedrock below the site. This means there is a low potential for groundwater dispersion and movement within the aquifer. Thus surface water bodies such as drains and streams more vulnerable than groundwater at the site.

- 9.8.3 A total of 14.23 hectares of existing plantation forestry will be felled to allow for the development of the windfarm infrastructure. Of this a total of 9.93 hectares will be permanently felled to make way for the development footprint and 4.3ha will be felled for the purposes of turbulence felling. All felling occurs within the Doonbeg River catchment. Mitigation measures to reduce the risk of entrainment of suspended solids and nutrient release in surface watercourses are set out in the context of earthworks including removal of vegetation cover, excavations of peat and mineral subsoil and stock piling resulting in suspended solids entrainment in surface waters. These activities can result in the release of suspended solids to surface watercourses and could result in an increase in the suspended sediment load, resulting in increased turbidity which in turn could affect the water quality and fish stocks of downstream water bodies.
- 9.8.4 Key mitigation measures include avoidance of sensitive aquatic areas by way of 50m wide watercourse buffer, focus on maintaining the existing hydrology of the site, mitigation by design (source controls, inline controls, treatment systems and outfall controls). The proposal includes the use of siltbuster and chemical treatment to address fine colloidal sediment arising from peat. No direct discharge is proposed to any natural watercourse and proposals for regular inspection maintenance and monitoring measures are outlined. It is asserted that the suite of drainage measures for this site are best in class and are proposed and designed with protection of downstream watercourses in mind.
- 9.8.5 Due to the elevated nature of the site there is no risk of flooding at the proposed development areas. A key mitigation of the proposed development provides that all surface water runoff is treated and attenuated prior to discharge. Runoff control and drainage management are key elements in terms of mitigation against surface water bodies.
- 9.8.6 Chapter 6 of the EIS details the appraisal in terms of soils and geology. The geology of the site predominantly comprises peat overlying subsoil which in turn is overlain by shale bedrock. Peat thickness recorded during peat probing investigation ranged from 0 to 4, with an average of 1.8m. Peat depths along existing access roads are typically less than 1.0m while along new proposed access roads peat depths are typically less than 2.5m across the site. Peat depths at proposed turbine locations were between 0 and 2.8m with an average of 2.5m. Peat depths are generally slightly deeper on the eastern section of the landholding than those along the western section of the landholding. The peat stability assessment

undertaken at the site shows that the site has a low risk of slope failure or mass movements. Peat removed during excavation works will be deposited in the one site borrow pits. This will reduce the requirement for stock piling and potential slope failure and erosion. Drainage and erosion prevention measures will be put in place at the peat disposal site.

- 9.8.7 On the basis of the information provided within the EIS, I consider that the potential impacts on geology, hydrology, and hydrogeology and peat stability can be assessed. In relation to the scale of the development and the significant potential for siltation to watercourses and the cumulative impact of existing and permitted development in the area and notwithstanding the mitigation measures outlined, having regard to the assessment of the site and surrounding area I share concerns expressed by the local authority regarding the potential for siltation to watercourses and these issues are addressed below.

## **9.9 Ecology**

- 9.9.1 Chapter 5 of the EIS deals with flora and fauna. Habitats present on the site were classified according to the guidelines set out in “A guide to Habitats in Ireland” (Fossit 2000). Within the study area, which covers 698.9 hectares, 14 habitats are present. It is outlined that peat extraction and forestry has significantly altered large areas of the site, which was probably uncut blanket bog in the past. Despite these activities some good examples of bog and heath are still to be found within the study area. Approximately 55% of the study area is taken up by conifer plantation, 19.7% by wet grassland, 11.4% cutover bog and 9.4% by upland blanket bog / wet heath and pasture grassland which are known to support a poor diversity of species. More than 11% of the study area is cutover bog. Three annex I habitats: Atlantic Wet Heath with Erica Tetralix [4010], Active Blanket Bog [7130 priority] and depressions of peat substrates of rhynchosporon [7150]. On the basis of ecological constraints mapping the proposed development provides that all turbines and other components avoid these Annex I habitats. A discrete block of upland blanket bog/wet heath mosaic will be traversed by a proposed new roadway.
- 9.9.2 In terms of designated sites the Cragnashingaun Bogs NHA, which is partially located within the study area, consists of three separate blocks of land. One of these land blocks lies within the Glenmore windfarm study area in the north-eastern part of the study area while another block (41 hectares) adjoins the western border of the study area and the largest block (120 hectares) lies 1.3km to the north and north west. Craghnashingaun Bog NHA is of considerable conservation value as it is a good example of both upland and lowland blanket bog in an area of the country where bog habitat is scarce. Lough Acrow Bog NHA, 9510

hectares lies to the east of the proposed development site with approximately 13 hectares of the NHA falling within the study area boundary. Lough Naminna Bog NHA contains similar blanket bog habitats and is adjacent to the northern boundary of the study area at one point. The 60 hectares of designated NHA within the study area has been completely excluded from the construction footprint of the development as part of the constraints process.

- 9.9.3 In terms of likely significant impact it is outlined that the proposal will involve the permanent loss of 18.79 hectares of conifer plantation, wet grassland, cutover bog, gorse, scrub, broadleaved woodland, active quarries and mines, upland blanket bog / wet heath mosaic and hedgerow. Mitigation by design and CEMP are outlined.
- 9.9.4 In terms of impacts on fauna, short term negative impact of construction disturbance on birds and mammals is assessed. Mitigation by phasing measures are outlined. Short term potentially significant negative impact of suspended solids and mobilised nutrients on aquatic habitats, aquatic fauna, surface and groundwater quality during construction is addressed. The potential for release of pollutants into surface waters and potential for negative impact on aquatic fauna in the Doonbeg and Freegh rivers, particularly Atlantic Salmon and Freshwater Pearl Mussel is considered. Proposed mitigation measures include buffer zones surrounding water features, discharge of ponded water onto vegetation ground a minimum of 50metres from watercourses, the use of temporary sumps, attenuation ponds, temporary storage lagoons, sediment / silt traps / settlement ponds and specialist treatment systems (e.g. Siltbuster). The forestry Services draft Forestry and Freshwater Pearl Mussel Requirements - Site Assessment and Mitigation Measures will apply to all felling operations. The cumulative impact assessment takes account of other wind energy developments permitted and operational in West Clare. Currently one wind farm is operational in the area while permission has been granted for a further five wind farm developments and a further three are proposed for the area.
- 9.9.5 Addendum to the EIS submitted in response to the request for additional information provides an assessment of the identified cable connection route to the National Grid at Booltiagh and additional junction accommodation works. It is asserted that the cable for grid connection will occur exclusively within the road carriageway / corridor of the local road / paved access track network described as the habitat "Buildings and Artificial Surfaces" Potential for pollutants to run off from works areas are considered and mitigation measures outlined. As regards fauna the cable route traverses 9 watercourses including one stream and 8 minor land drains. No in-stream works are proposed.

- 9.9.6 Bird survey work recorded 52 bird species within the site in 2012, 2013 and 2014. Bird Species of conservation significance present within the site and local area included Annex I species Hen Harrier and Golden Plover. Other birds present were Golden Plover, Woodcock and Meadow Pipit which are listed in the 2013 BoCCI Red List. Hen Harrier breeds in the wider area while Golden Plover is a wintering species. Hen harrier are known to use the western part of the study area for hunting. Hinterland surveys for breeding hen harrier in 2012 found two nest sites within 2.5km and the other 2.9 kilometres from the site, and observations from the western half of the Glenmore study area in 2012 showed that hen harrier occasionally used the study area for hunting in that year. It is noted that hen harrier will forage up to five kilometres from their nest site. Collision risk modelling predicted that there may be approximately one hen harrier collision during the nominal 25 year windfarm lifespan. Collision risk for golden plover estimated potential for one collision every 1.28 years or 19.6 collisions during the nominal 25 year lifespan of the windfarm.
- 9.9.7 I note that on the basis of the 2.5km distance to the nearest hen harrier nest site from the nearest turbine, no direct mitigation is suggested. It is asserted that monitoring of the operating windfarm should indicate if significant numbers of any bird species are affected and mitigation can then be considered. I note that the proposed development does not include provision for a hen harrier management plan or any specific proposals to enhance the current ecological interest of the site through the operational phase of the development. I would note some concern in relation to the issues of cumulative impact of windfarm development having regard to the extensive area favoured for wind energy development within the West Clare area. This issue was raised as a significant concern in the submissions by the Department of Arts Heritage and the Gaeltacht. The Department further expressed concerns in relation to the indications that bird populations and bird usage of this area has been affected in recent times. Notably Curlew (breeding) and Whooper Swan (wintering Annex I species) which were recorded in the area at the time of preparation of the EIS for the original windfarm (2003) were not recorded in the surveys carried out for the current appeal and therefore are now considered absent.
- 9.9.8 A bat detector survey was the principal field method to assess bat activity. Four species of bats were identified during surveys Common Pipistrelle (*Pipistrellus pipistrellus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Leisler's Bat (*Nyctalus leisler* and Brown Long Eared Bat (*Plecotus aritus*). Based on bat survey work carried out in 2012 and 2014, the site of the windfarm does not appear to support high quality roosting habitats with no trees of high potential to support roosting bats.

- 9.9.8 Freshwater pearl Mussel Surveys revealed the nearest mussel, a solitary individual, recorded approximately 3km downstream of the proposed windfarm site. Seven individual mussels were recorded within nine kilometres of the site. Further downstream a further 1,844 live mussels were found between nine kilometres downstream of the study area and the point approximately 14-15 kilometres downstream of the study area from where peal mussels had been recorded prior to 2013 (and which was until recently the presumed upstream limit of the mussel population in the river. The number of mussels recorded significantly increases the known size of the Doonbeg population. The Doonbeg River is not covered by a European Site Designation however is known to supports a substantial Annex II population of freshwater pearl mussel. The species has a very long life cycle and requires clean, fresh flowing well oxygenated water with a high ecological status to sustain population growth. All stages of the pearl mussel life cycle are vulnerable to the adverse effects of water pollution and it is particularly at risk of suffocation or asphyxiation from small silt particles entering watercourses from disturbed land.
- 9.9.9 The Council's refusal was on grounds of potential negative impact on the future survival of the freshwater pearl mussel in the Doonbeg River. In adopting a precautionary approach the reports of the Environment and Planning Sections noted the First Party's assertion that chemical dosing is required to manage colloidal run off from peat and other surface water management proposals including provision for siltbusters and possible tankering of contaminated storm water off site to deal with extreme sediment laden runoff. The Council's technical reports on file concluded that the use of chemical dosing would require a high standard of control and management which would be difficult to maintain in practice. Reference was also made to the opposition of ecological experts to the use of dosing chemicals within freshwater pearl mussel catchment.
- 9.9.10 The First Party in response notes that the total development area (windfarm footprint + required forestry felling) is 1.29% of the catchment to the first individual FWPM (3km) downstream of the site and 0.42% of the Catchment to the main grouped FWPMs (9km) downstream of the windfarm site. It is suggested that the Board could condition that the felling of the trees to be completed in the year prior to the main construction which would separate these activities and remove any overlap or potential for combination impacts. It is asserted that the refusal is disproportionate to the risks involved that the risk to water quality and FWPMs has been thoroughly mitigated and will be managed in line with best practice construction and forestry guidelines and therefore will result in no significant impact to water quality and associated aquatic species. It is asserted that there is no scientific rational for objection to use of chemical dosing, that Siltbuster with chemical treatment is an industry standard in the UK and Ireland and one that is recommended by the EPA and

planning authorities for all kinds of sites including sites with sensitive downstream watercourses.

9.9.11 I note the concerns raised in the Council's technical reports. A number of specific concerns are highlighted relating to contradictions regarding proposed 50m buffer zones within the site, reliance on chemical dosing and potential tankering off site. Given the scale and nature of the development and the potential for unusual rainfall events and required maintenance over an extensive area I would consider that the risk of pollution is significant. Based on the detail provided within the application and appeal I am not satisfied that it has been demonstrated that the proposed mitigation will eliminate the potential pollution risk to the sensitive pearl mussel habitat within the Doonbeg River catchment. On this basis I concur with the Council's reason for refusal having regard to the precautionary principle.

## 9.10 Appropriate Assessment

9.10.1 The obligation to undertake appropriate assessment derives from Article 6(3) and 6(4) of the Habitats Directive. Essentially it involves a case by case examination for Natura 2000 site and its conservation objectives. Appropriate Assessment involves consideration of whether the plan or project alone or in combination with other projects or plans will adversely affect the integrity of a European site in view of the site's conservation objectives and includes consideration of any mitigation measures to avoid reduce or offset negative effects. This determination must be carried out before a decision is made or consent given for the proposed plan or project. Consent can only be given after having determined that the proposed development would not adversely affect the integrity of a European Site in view of its conservation objectives.

9.10.2 The Natura Impact Statement, dated 21<sup>st</sup> May 2015 (revised in response to request for additional information to include grid connection) is prepared by McCarthy Keville O Sullivan. The report notes that there are no designated nature conservations sites within the EIS study area however there are 8 Natura 2000 sites within 15km of the study area, 6 Special Areas of Conservation (SAC) and 2 Special Protection Areas (SPA).

9.10.3 In terms of step 1 of **Stage 1 Screening**, the European Sites which could potentially be affected using the Source-Pathway-Receptor model are identified as the eight Natura 2000 sites within a 15km radius of the proposed windfarm site and the associated grid connection route, namely:

Site Name	Site Code	Distance
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		<b>from site</b>
Lower River Shannon SAC	Site Code 002165	5.5km
Knockanira House SAC	Site Code 002318	10.2.km
River Shannon and River Fergus Estuaries SPA	Site Code 004077	11.4km
Mid Clare Coast SPA	Site Code 004182	12.4.km
Carrowmore Point to Spanish Point and Islands SAC	Site Code 001021	12.4km
Carrowmore Dunes SAC	Site Code 002250	13.1km
Poouladatig Cave SAC	Site Code 000037	13.1km
Newhall and Edenval Complex SAC	Site Code 002091	13.2km

#### 9.10.4 Step 2: Identify the Conservation Objectives for these sites.

9.10.4.1 The Qualifying Interests for the Lower River Shannon SAC are as follows:

- Sandbanks which are slightly covered by sea water all the time [1110]
- Estuaries [1130]
- Mudflats and sandflats not covered by seawater at low tide [1140]
- Coastal lagoons [1150]
- Large shallow inlets and bays [1160]
- Reefs [1170]
- Perennial vegetation of stony banks [1220]
- Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]
- Salicornia and other annuals colonising mud and sand [1310]
- Atlantic salt meadows (*Glauco-Puccinellietalia maritima*) [1330]
- Mediterranean salt meadows (*Juncetalia maritimi*) [1410]
- Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitriche-Batrachion* vegetation [3260]
- Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) [6410]
- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) [91E0]
- *Margaritifera margaritifera* (Freshwater Pearl Mussel) [1029]
- *Petromyzon marinus* (Sea Lamprey) [1095]
- *Lampetra planeri* (Brook Lamprey) [1096]
- *Lampetra fluviatilis* (River Lamprey) [1099]
- *Salmo salar* (Salmon) [1106]
- *Tursiops truncatus* (Common Bottlenose Dolphin) [1349]

- *Lutra* (Otter) [1355]  
Site specific conservation objectives for the SAC have been published, dated 7 August 2012 and provide specific conservation objectives for each qualifying interest.

9.10.4.2 The qualifying interest for **Knockanira House SAC**. The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive

- [1303] Lesser Horseshoe Bat (*Rhinolophus hipposideros*)

The generic conservation objective to maintain or restore favourable conservation condition of the Annex 1 habitat and or Annex II species for which the SAC has been selected applies to the site.

9.10.4.3 The qualifying interests for the **River Shannon and River Fergus Estuaries SPA**

- Cormorant (*Phalacrocorax carbo*) [A017]
- Whooper Swan (*Cygnus cygnus*) [A038]
- Light-bellied Brent Goose (*Branta bernicla hrota*) [A046]
- Shelduck (*Tadorna tadorna*) [A048]
- Wigeon (*Anas penelope*) [A050]
- Teal (*Anas crecca*) [A052]
- Pintail (*Anas acuta*) [A054]
- Shoveler (*Anas clypeata*) [A056]
- Scaup (*Aythya marila*) [A062]
- Ringed Plover (*Charadrius hiaticula*) [A137]
- Golden Plover (*Pluvialis apricaria*) [A140]
- Grey Plover (*Pluvialis squatarola*) [A141]
- Lapwing (*Vanellus vanellus*) [A142]
- Knot (*Calidris canutus*) [A143]
- Dunlin (*Calidris alpina*) [A149]
- Black-tailed Godwit (*Limosa limosa*) [A156]
- Bar-tailed Godwit (*Limosa lapponica*) [A157]
- Curlew (*Numenius arquata*) [A160]
- Redshank (*Tringa totanus*) [A162]
- Greenshank (*Tringa nebularia*) [A164]
- Black-headed Gull (*Chroicocephalus ridibundus*) [A179]
- Wetland and Waterbirds [A999]

Detailed Conservation objectives have been published for this site. 17<sup>th</sup> September 2012.

9.10.4.4 The qualifying interests for the **Mid Clare Coast SPA** are

- Cormorant (*Phalacrocorax carbo*) [A017]
- Barnacle Goose (*Branta leucopsis*) [A045]
- Ringed Plover (*Charadrius hiaticula*) [A137]
- Sanderling (*Calidris alba*) [A144]
- Purple Sandpiper (*Calidris maritima*) [A148]
- Dunlin (*Calidris alpina*) [A149]
- Turnstone (*Arenaria interpres*) [A169]
- Wetland and Waterbirds [A999]

Detailed Conservation Objectives for this SPA have been published, 8 September 2014.

9.10.4.5 The qualifying interest for the **Carrowmore Point to Spanish Point and Islands SAC** are:

- Coastal lagoons [1150]
- Reefs [1170]
- Perennial vegetation of stony banks [1220]
- Petrifying springs with tufa formation (*Cratoneurion*) [7220]

Detailed conservation objectives have been published. April 2014.

9.10.4.6 The qualifying interest for the **Carrowmore Dunes SAC** are:

- Reefs [1170]
- Embryonic shifting dunes [2110]
- Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120]
- Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]
- *Vertigo angustior* (Narrow-mouthed Whorl Snail) [1014]

9.10.4.7 The qualifying interest for **Pouladatig Cave SAC**

- *Rhinolophus hipposideros* (lesser Horeshoe Bat) [1303]
- *Caves not open to the public* [8130]

The generic conservation objective to maintain or restore favourable conservation condition of the Annex 1 habitat and or Annex II species for which the SAC has been selected applies to the site.

9.10.4.8 The qualifying interest for **Newhall and Edenvale Complex SAC** are

- *Rhinolophus hipposideros* (lesser Horeshoe Bat) [1303]
- *Caves not open to the public* [8130]

The generic conservation objective to maintain or restore favourable conservation condition of the Annex 1 habitat and or Annex II species for which the SAC has been selected applies to the site.

**9.10.5 Step 3. Identify the potential a) likely and b) Significant effects (direct or indirect) of the project along on the European sites solely within the contexts of the sites conservation objectives**

9.10.5.1 The potential impacts with reference to the Natura 2000 sites' conservation objectives at various stages of the process include:  
Emissions to surface and ground water, run off, silt laden run off, hydrocarbon and other pollutants fuels. Construction materials to watercourses, loss of habitat for fauna, Disturbance, avoidance, barrier effect.

9.10.5.2 In terms of significance I note that the European Sites River Shannon and River Fergus Estuaries SPA two of the species listed as SCIs (Cormorant and Golden Plover) have been recorded within the study area. In relation to the Mid Clare Coast SPA one of the species listed for the SPA was observed at the site of the proposed development (Cormorant). Both catchments within this the proposed development is located drain ultimately (12.4km downstream) to the Mid Clare Coast SPA.

**9.10.6 Step 4. Identify the potential a) likely and b) Significant effects (direct or indirect) of the project in combination with other plans or projects on the European sites solely within the contexts of the sites conservation objectives**

9.10.6.1 The NIS asserts that there is no potential for additional impacts on any of the European Sites for which pathways for impact were identified resulting from the cumulative effects of developments in the area.

**9.10.7 Step 5. Evaluate Potential Effects identified above using the source pathway receptor model.**

9.10.7.1 No direct impacts on European sites are predicted. Indirect impacts however cannot be excluded. The identified pathways for potential impact on European Sites are associated with the potential for surface water pollution via the surface water network as potential impacts on a number of European Sites cannot be excluded, However the development has been designed to ensure that the identified pathways have been blocked through the design of robust drainage design and surface water treatment and good construction site management.

**9.10.8 Step 6 Determine whether or not likely significant effects, either individually or in combination with other plans or projects on the European Sites can be reasonably ruled out on the basis of objective scientific information.**

9.10.8.1 On the basis of the identified pathways for potential impacts in respect of River Shannon and River Fergus Estuaries SPA and Mid Clare Coast SPA these sites were screened in for appropriate assessment.

I note that in respect of the following sites were screened out.

- Lower River Shannon SAC  
On basis of qualifying interests and due to distance 5.5km and absence of complete impact source pathway receptor chain. SAC is within a different catchment.
- Knockanira House SAC. No pathway to impact on sole qualifying interest (lesser horseshoe bat) due to distance c10.2km. Study area outside the favourable range for this species.
- Carrowmore Point to Spanish Point and Islands SAC. On basis of qualifying interests and due to distance 12.4km and absence of complete impact source pathway receptor chain. No hydrological connection.
- Carrowmore Dunes SAC. No impact due to distance 13.1km. Coastal distribution of qualifying interest and lack of hydrological connection.
- Pooladattig Cave SAC No pathway to impact on qualifying interest (lesser horseshoe bat) due to distance c13.1km. No potential for impact on other qualifying interest.
- Newhall and Edenvale Complex SAC. On basis of distance from SAC 13.2km no pathway to impact on qualifying interest (lesser horseshoe bat). No potential for impact on other qualifying interest.

### 9.10.9 Appropriate Assessment.

9.10.9.1 The stage 2 NIS considers special conservation interests and potential pathways for impacts.

9.10.9.2 Steps 1-4 above from Stage 1 Screening are detailed above. The screening assessment identifies potential pathways for impact through collision and disturbance and potential emissions to surface water on the following Natura 2000 sites:

- River Shannon and River Fergus Estuaries SPA [004077]
- Mid Clare Coast SPA [004182]

9.10.9.3 Step 3 is an evaluation of the potential effects of the project on the conservation objectives of the sites taking account of mitigation. In relation to the **River Shannon and River Fergus Estuaries SPA [Site Code 004077]** the qualifying interest for which pathways for potential effects were identified within the NIS included Cormorant (*Palacrocorax cabo*)[A107] [Breeding and Wintering] and Golden Plover (*Pluvialis*

*apricaria*) [A140]. On the basis of low usage of the appeal site by Cormorant, absence of breeding site or suitable breeding habitat within the study area or environs and absence the potential for collision impact is assessed as low. The appeal site is 11.4km from the SPA and the species commonly occurs close to the coast. The nearest coastline is approximately 12km from the study area therefore significant impact relating to breeding population abundance, productivity rate, and distribution, availability of prey biomass, connectivity and disturbance of breeding sites are not likely. On the basis of the foregoing it is concluded that significant impact on this qualifying interest are not likely. As regards Golden Plover the significance of potential collision impacts is assessed as very low. On the basis of large areas of similar habitats in the wider area, the significance of construction disturbance is assessed as of low significance. The significance of potential secondary habitat loss is assessed as of low significance as Golden Plover were not found to breed in the study area. On the basis of the foregoing it is concluded that significant impact on this qualifying interest are not likely.

On the basis of the detailed mitigation measures it is concluded that significant impact on the relevant qualifying interests within the River Shannon and River Fergus Estuaries SPA are not likely. On the basis of this conclusion it is considered that the project would not affect the integrity of the European Site either individually or in combination with other plans or projects.

9.10.9.4 In relation to the **Mid Clare Coast SPA** [Site Code 004182] potential pathways identified for assessment relate to Cormorant [breeding] (*Palacrocorax cabo*) [A107] and Wetlands [A9999]. The study area is located 12.4km from the SPA. On the basis of low usage of the appeal site by Cormorant, absence of breeding site or suitable breeding habitat within the study area or environs and absence the potential for collision impact is assessed as low. The nearest coastline is approximately 12km from the study area therefore significant impact relating to breeding population abundance, productivity rate, and distribution, availability of prey biomass, connectivity and disturbance of breeding sites are not likely. On the basis of the foregoing it is concluded that significant impact on this qualifying interest are not likely. As regards wetlands on the basis of the detailed mitigation measures (construction site management proposals and drainage design) it is concluded that significant impact on this qualifying interest are not likely. On the basis of this conclusion it is considered that the project would not affect the integrity of the European Site Mid Clare Coast SPA either individually or in combination with other plans or projects

9.10.9.5 Having considered the submitted report, I am satisfied that the methodology used in the NIS report is clearly explained and information

sources are clearly set out. I consider that the level of information provided allows the Board as the competent authority to assess the impact of the proposed development on the integrity of the adjacent Natura 2000 sites. Having regard to the mitigation measures proposed I consider that the conclusion that the proposed development will not adversely impact on the **River Shannon and river Fergus Estuaries SPA and Mid Clare Coast SPA** is reasonably supported.

9.10.9.6 On the basis of the details provided I accept the assertion of the first party that it has been demonstrated that the cumulative impact of the development will not have adverse effect on the adjacent Natura 2000 sites in the light of their conservation objectives.

## **9.11 Environmental Impact Assessment**

9.11.1 On the matter of the Environmental Impact Assessment, I note that that the proposal involves the erection of 12 turbines, each with a rated capacity of approximately 2-3 megawatts MW. The relevant threshold in terms of the prescribed development for the purposes of part 10 provides that EIA is required for “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”, as set out in Category 3(i) of Part 2 Schedule 5 – Development for the purposes of Part 10 (Environmental Impact Assessment) of The Planning and Development Regulations 2001, as amended. An EIS is therefore mandatory for the proposed development. The Environmental Impact Statement submitted is dated September 2014 is in the grouped format structure. The EIS was supplemented by the Addendum to EIS dated 19/05/2015 which extends the scope of the original EIS to consider the identified cable route connection to the National Grid and additional road junction accommodation works. I consider that the EIS as supplemented provides a significant level of detail and scientific evidence.

### **9.11.2 Compliance with Requirements of Articles 94 & 111 of the Planning and Development Regulations 2001 (as amended)**

I consider that the proposed development, in overall terms, is in compliance with Articles 94 and 111 of the Planning and Development Regulations, 2001, as amended. To this extent I would observe that- The EIS contains the information specified in paragraph 1 of Schedule 6 of the Regulations. The EIS-

- Describes the proposal, including the site and the development’s design and size;

- Describes the measures envisaged to avoid, reduce and, if possible, remedy significant adverse effects;
- Provides the data necessary to identify and assess the main effects the project is likely to have on the environment;
- Outlines the main alternatives studied and the main reasons for the choice of site and development, taking into account the effects on the environment.
- The EIS contains the relevant information specified in paragraph 2 of Schedule 6 of the Regulations. This includes-
  - A description of the physical characteristics of the project and its land use requirements;
  - The main characteristics of the wind energy process to be pursued;
  - The emissions arising;
  - A description of the aspects of the environment likely to be significantly affected by the proposal;
  - A description of the likely significant effects on the environment resulting from the development's existence, the development's use of natural resources, the emission of pollutants and creation of nuisances, and
  - a description of the forecasting methods used; and
  - There is an adequate summary of the EIS in non-technical language.

I note however that the EIS does not provide a clear summary indication of any difficulties (technical deficiencies or lack of know-how) encountered by the developer in compiling the required information.

9.11.3 The **main likely effects** can be identified under the range of headings as follows:

Human Beings

- Employment and economic impact at the construction stage and operational phase
- Health and Safety impacts during construction.
- Shadow flicker.
- Visual impact
- Traffic

Noise and Vibration

- Noise & other disturbance to residents.

Ecology - Flora & Fauna

- Effects on SPA, SAC pNHA
- Impacts on on-site habitats.
- Species impact.
- Avifauna disturbance.

Aquatic Ecology

- Undermining water quality in streams during construction phase.
- Affecting important habitats downstream of the site.
- Fisheries.



#### Soils, Geology and Hydrogeology

- Removal of soil
- Peat stability.
- Impact on natural drainage patterns
- Hydrology and Water Quality.
- Sediment release
- Surface water runoff
- Water quality

#### Landscape and Visual Impact

- Scale, height and extent of visibility.
- Impact on landscape character.
- Impact on important views.
- Cumulative impact with other permitted wind farms.

#### Cultural Heritage

- Effects on archaeology.
- Impact on structures of heritage significance.

#### Air Quality and Climate,

- Dust
- Climate Change.

#### Material Assets

- Tourism and amenity.
- Impact on local road network.
- Electromagnetic radiation
- Shadow cast shadow flicker
- Interference with telecommunications.
- Impact on land use

#### 9.11.4 **Interactions** Chapter 13.

- Humans beings air and climate, Hydrology and Hydrogeology, Material Assets and Landscape
- Flora and fauna and soils and geology, Hydrology and hydrogeology Air and climate and landscape
- Soils and geology, hydrology and hydrogeology, air and climate and landscape.

.Direct indirect and cumulative impacts.

The effects of the interactions between the various environmental receptors are implicit in the range of preceding issues listed.

9.11.5 As regards **alternatives**, consideration is given to alternative sites noting the appeal site's strategic site selection on the basis of criteria including consistent wind speeds, low population density, reasonable access to grid, location outside designated ecological sites and within areas considered appropriate from a planning perspective it is argued that the proposed site was deemed to be optimal. Strategic suitability of the site also demonstrated by planning history on the site. As regards alternative layouts it is asserted that the proposed layout seeks to maximise the use

of the available resource. Some consideration is given to alternative Land use and alternative transport routes and site access.

#### **9.11.6 Assessment of the Likely Significant Effects Identified having Regard to the Mitigation Measures Proposed**

9.11.6.1 The assessment preceding this section of the report under the relevant headings fully considers the range of relevant likely significant effects with due regard given to the mitigation measures proposed to be applied if the to address the range of potential significant impacts arising from the proposed development.

#### **9.11.7 Conclusions Regarding the Acceptability or Otherwise of the Likely Residual Effects Identified**

9.11.7.1 The conclusions regarding the acceptability of the likely main residual effects of this proposal are clearly addressed under the various headings of the main assessment. The principal areas of concern focus on cumulative visual and landscape impact, and impact on ecology.

9.11.7.2 I consider that the EIS is adequate and of an acceptable standard that the document is generally in compliance with the provisions of Article 94 and Schedule 6 of the Planning and Development Regulations 2001.

### **10.0 CONCLUSION & RECOMMENDATION**

10.1 The site is within an area which in the context of the development plan is is desinated as a Strategic Area for Wind Energy Development and an area classified as acceptable in principle for wind energy development subject to normal planning criteria. Having considered the contents of the application, the decision of the planning authority, the provisions of the development plan, national policy as set out in the Windfarm Development Guidelines issued by the Department of Environment Heritage and Local Government, the grounds of appeal and third party submissions, my site visit and assessment of the planning issues, I conclude that it has not been demonstrated that the proposed development in conjunction with existing and permitted development in the vicinity would not constitute a serious risk of impairment to the aquatic habitat of the sensitive freshwater pearl mussel Annex II species. Accordingly I recommend refusal.

#### **REASON**

Having regard to the location of the proposed development on a site where there is a significant extent of peat material, the presence of a direct aquatic

connection between turbine locations and the Doonbeg River, and to the identification of the Doonbeg River as a habitat with a significant concentration of species listed under Annex II of the Habitats Directive, that is, freshwater pearl mussel (*Margaritifera margaritifera*), the Board is not satisfied that the proposed development in conjunction with existing and permitted development in the vicinity would not constitute a serious risk of impairment to the aquatic habitat of this sensitive species. The proposed development would therefore be contrary to the proper planning and sustainable development of the area.

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Bríd Maxwell,  
Inspectorate.  
9<sup>th</sup> March 2016