



An  
Bord  
Pleanála

## Inspector's Report 19.PA0047

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<b>Development</b>	Cloncreen wind farm comprising up to 21 no. turbines and all associated works.
<b>Location</b>	Esker More, Clongarret, Cloncreen, Ballykilleen, Ballynakill, Ballinrath, Rathvilla or Rathclonbrackan, Ballina and Ballingar, County Offaly
<b>Planning Authority</b>	Offaly County Council
<b>Applicant</b>	Bord na Mona Powergen Ltd,
<b>Type of Application</b>	Section 37E, SID
<b>Observers</b>	Yes
<b>Dates of Site Inspections</b>	26/01/17, 24/02/17, 06/03/17 & 15/03/17
<b>Inspector</b>	Pauline Fitzpatrick

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## 1.0 Introduction

- 1.1. This is a direct application to the Board under Section 37(E) of the Planning and development Act, 2000, as amended by the Planning and Development (Strategic Infrastructure) Act, 2006. The application is being made by Bord na Mona Powergen Ltd. to erect 21 no. wind turbines with an overall tip height of 170 metres, a borrow pit, a permanent anemometry mast, access tracks, a substation, demolition of existing canteen building and removal of telecommunications mast and modifications to public roads.
- 1.2. As provided for under Section 37B of the Planning and Development Act 2000, as amended, the applicant entered into discussions with the Board which are detailed on file reference PC0209. The Board determined on the 20/07/16 that the development as proposed constitutes Strategic Infrastructure. The current application is made on foot of this decision.
- 1.3. The application is for a 10 year permission with a 30 year operational life. It is accompanied by an EIS and NIS.

## 2.0 Site Location and Description

- 2.1. The site, as delineated within the red boundary line and which has a stated area of 964.5 hectares, is located at Cloncreen Bog in eastern County Offaly. Clonbulloge is 2km to the southeast, Edenderry c. 4.5km to the north-east, Rhode c. 7km to the northwest and Daingean c. 10km to the west. The L1003 bounds the site to the west and south-west. The R402 connecting Daingean to Edenderry lies to the north with the R401 connecting Edenderry to Rathangan via Clonbulloge to the west. The M6 and M7 are approx. 16km to the north and south of the site respectively.
- 2.2. Cloncreen Bog is located within Bord na Mona's Derrygreenagh bog group. The land use/activities within the development site comprise a mix of active peat extraction, bare cutaway peat, revegetation of bare peat and a former gravel pit, part of which is under water. The southern section of the site is traversed by the existing 110kV Thornsberry/Cushaling transmission line and associated pylons emanating from the Cushaling 110kV substation located to the east of the site adjacent to the Edenderry Power Station. There are also a number of Bord na Mona

rail lines that pass through the bog facilitating transportation of materials, both milled peat and ash. The surface of the cutover bog is drained by a network of east/west orientated drains typically spaced every 15 to 20 metres. There is also a small canteen with associated compound and a telecommunications mast in the northern section of the site from which access to the peat production areas of the bog is available. What was previously known as Conlon Quarry, now largely under water, is located to the west of this compound area and is accessed from the local road to the north. Lough Ashling Angling and Lake facility is also located to the north of the site, accessed from the same local road

- 2.3. There is 2nd entrance into the eastern side of the site via the R401 in the townland of Ballykilleen.
- 2.4. As noted the Edenderry Power Station and Cushaling substation are located to the east of the site on the opposite side of the R401. The power station is connected to the site via a rail line.
- 2.5. The lands in the vicinity comprise a mix of agriculture, commercial forestry and further commercially operated peatlands. Sporadic one off housing is evident along the local roads in the vicinity.
- 2.6. The topography of the site is flat, and lies at an elevation of approximately 70 metres O.D. The surrounding landscape is of a similar topography, with the most significant feature being Croghan Hill, located c.10 km northwest of the site, at an elevation of 234 metres O.D.
- 2.7. The Mountlucas windfarm which consists of 28 no turbines and which has been in operation since 2014, is located c. 4 km to the west of the application site with the site of the permitted Yellow River wind farm, which will comprise of 29 turbines, is c.9 km to the north/north-west. Clonbulloge airfield is located c. 2.7 km to the south. The Grand Canal is located c. 3.5 km to the north at its closest point
- 2.8. The Kildare county boundary is located c, 3.6 km to the west with the Westmeath county boundary c.9.0 km to the north/north-west. The Laois county boundary is c.11.5 km to the south-west.

## 3.0 Proposed Development

3.1. The proposed development consists of the following elements:

- 21 no. wind turbines with an overall blade tip height of up to 170 metres. Within this size envelope various configurations of hub height, rotor diameter and ground to blade tip height may be used. The exact make and model has yet to be chosen. The turbines will typically have a rated electrical power output in the 3.0 to 3.3 megawatt range and potentially higher depending on further wind data analysis, power output modelling and turbine development. The proposed wind farm will have a minimum power output of approximately 63 megawatts (MW). The turbines will be white or off white in colour. A grid type layout, which is geometric and regular, is proposed.
- 1 no. borrow pit located in the northern section of the site.
- 1 no. 120 metre high permanent anemometry mast.
- 21.5 km of new site access tracks and associated drainage.
- 1 no. 110kV substation at one of two possible locations (one along the eastern site boundary in the townland of Ballykilleen (option A) and the other along the southern site boundary in the townland of Cloncreen (option B)). This is to allow the national grid operator, Eirgrid, flexibility when deciding on which is technically preferable from their perspective.
- Associated underground electrical and communications cabling connecting the turbines to the proposed substation at either Ballykilleen or Cloncreen. Works associated with the connection of the wind farm to the national grid will depend on the final location of the substation. It will either be by connection to the Cushaling substation to the east via underground cable c. 1.7km in length (option A) or to the existing Thornsberry/Cushaling 110kV line via an overhead line c. 100 metres in length to the south (option B).
- 2 no. temporary construction compounds. 1 is to be located along the western site boundary in the townland of Esker More and the 2<sup>nd</sup> at one of two locations in the immediate vicinity of the 2 possible locations for the substation as detailed above.

- Demolition of canteen building with a stated floor area of 66.4 sq.m., and removal of 40 metre high telecommunications mast and 100 metre high meteorological mast.
- New access junctions, improvements and temporary modifications of existing road infrastructure.

### 3.2. *Access Tracks and Haul Routes*

- 3.2.1. In general, 'excavate and replace' type roads will be used for the construction of the new roads. Straight sections will require a width of 6 metres with greater width required at corners and junctions.
- 3.2.2. Turbine delivery will be via the M6 before turning south onto the N52 at Kilbeggan. The route will follow the N52 south before turning east onto the R420 and then onto the R402 at Ballina Cross. One access to the site from local road L1003 via the R402 to the west of the application site is proposed. The junction of the R402 and the local road and the local road, itself, for a distance of approx. 430 metres, will require permanent upgrading. A temporary entrance is proposed from L1003 and is to be configured so as to facilitate both construction and large turbine components. Access during the operational phase will be via the existing accesses to the site.
- 3.2.3. Further temporary modifications to facilitate turbine delivery are required at the R420/R402 junction and on the R402 at Ballinagar.

### 3.3. *Drainage*

The existing system on site is to be integrated and enhanced. The existing drainage system and surface water discharges from the site is subject of EPA Licence Ref. P0501-01.

### 3.4. *Construction Phase*

- 3.4.1. Construction is estimated to take 18 to 24 months. A Construction and Environmental Management Plan has been prepared.
- 3.4.2. The construction grade granular fill will be sourced from both the on-site borrow pit, which is estimated to have 320,000m<sup>3</sup> hardcore material, and from local quarries. The higher quality, surfacing granular fill and sand will be sourced from local quarries. Total requirements for the proposal with calculations provided for the two substation options range between 579,129m<sup>3</sup> and 606,928m<sup>3</sup>.

3.4.3. In terms of quantity of peat and other subsoils requiring management on the site, the calculations provided for the two substation options range between 338,750m<sup>3</sup> and 362,879m<sup>3</sup>. A Peat Management Plan is provided. The applicant is stated to have considerable experience in the handling of peat. This experience has shown that the most environmentally sensitive and stable way of handling and moving of peat is its placement across the site and at locations as close as possible to the excavation areas.

## 4.0 Prescribed Bodies

Of the prescribed bodies notified of the application by the applicant (in correspondence dated 27/10/16 and 12/01/17) the following submissions have been received:

### 4.1. Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs

#### 4.1.1. *Nature Conservation*

- The deviation from the recommended 2km radius in the survey for winter roosts of the Hen Harrier needs to be clarified.
- Whilst the Hen Harrier may not breed nearby and thus there may be no collision risk, one cannot be certain a collision could not occur in the future.
- Greenland White-Fronted Geese were noted setting down briefly at Ballycon. Vantage point surveys carried out on the site did not record any of the species. This should not be taken to mean they will not occur there again the future and would not be at risk of collision. Geese fly in a north-westerly direction from Wexford and can land anywhere along the flight path.
- The effect of other windfarms as well as weather events may cause deviation in flight paths which needs to be considered.
- It is not clear how the significance of the risk for the population of a species has been arrived at.
- It is not clear what methods will be used to discourage bats from using the strips that cut across the bogs to ensure bats do not come in contact with the turbines.

- The EIS does not address the issue of carrion removal by scavengers in the proposed monitoring of fatalities, nor have any proposals been put forward on how to address the issue if significant fatalities were to be found. A controlled experiment is necessary to estimate the amount of this removal so that a factor can be applied to any fatalities recorded during monitoring.
- The Department's advice to seek the necessary licences with regard to Basil Thyme and sand martin nests prior to planning has not been heeded. The assumption that the proposed mitigation and reinstatement proposals put forward when the licence is sought will be acceptable and that a licence would be granted if planning permission is obtained should not be made.
- The exemption for vegetation removal under section 40 of the Wildlife Act does not apply to birds and their nests which are protected under section 22.
- The references at the end of relevant sections of volume 1 do not appear to have the ornithology references.
- There are errors in the figures given in Table 5.18a in terms of percentage of each habitat type that will be permanently lost.

#### 4.1.2. *Archaeology*

- Given the potential for the discovery of hitherto unrecorded archaeological remains a condition requiring the implementation of the mitigation measures detailed in Section 12.4 of the EIS should be attached and walkover/wading survey to inform any subsequent archaeological diver survey and/or excavation and/or monitoring.

*Note:* A copy of the Department's response to a scoping request dated 20/10/15 accompanies the submission.

#### 4.2. **Office of Public Works**

A map attached to the submission shows the drainage district channels maintained along with any benefitting land. Any changes to existing structures or drainage channels require Section 50 consent from the OPW.

#### 4.3. Inland Fisheries Ireland

The submission received is accompanied by the correspondence to the applicant's agent dated 18/09/15 in response to a scoping request. It can be summarised as follows:

- The main potential impacts pertain to the direct loss of habitat, adverse impact downstream due to suspended solids and sedimentation, contamination of water at, and downstream of water crossing locations with substances associated with the construction process, and interference with the free up and downstream movement of fish and other forms of aquatic life.
- The applicant appears to have taken due consideration of the issues of concern as detailed in the pre-application consultations stage. Subject to certain requirements the IFI has no objection and, subject to the development being undertaken in accordance with the details set out in the applicant, there is unlikely to be any serious short or long term adverse impact of the fisheries resource.
- The inland fisheries resource should not be adversely impacted as a consequence of the proposal.
- Works should be carried out in a manner so as to ensure compliance with sections 131, 171 and 173 of the Fisheries (Consolidation) Act 1959, the obligations of the Water Framework Directive and the standards set out in the European Communities Environmental Objectives (Surface Waters) Regulations 2009.
- Should the Board grant approval the following are requested:
  - IFI to receive advance notification of commencement of site works.
  - IFI to receive immediate notification should an incident occur which is likely to result in a discharge of deleterious or polluting matter to the Philipstown or Figile River systems including tributaries and watercourses linked to such tributaries.

#### **4.4. Kildare County Council**

The Council is of the view that the main impact of the proposal from a County Kildare perspective pertains to visual impact. In terms of landscape sensitivity, lands running from mid County Kildare southwards along the western boundary are considered low sensitivity. The Southern Lowlands landscapes are considered robust, tolerant of change and which have the ability to accommodate development pressure. The view of the development from certain points and scenic routes in County Kildare are noted. The Council considers that the visual impact of the proposal would be minimal on County Kildare.

#### **4.5. Transport Infrastructure Ireland**

The Authority has no objection in principle to the development. There are a number of operational issues that are required to be clarified/resolved to address concerns relating to network maintenance and road safety prior to a grant of approval.

- Any works to the M6/N52 roundabout junction on the proposed turbine haul route, which forms part of the motorway designation, may require approval under section 53 of the Roads Act 2007 prior to commencement of works.
- In terms of the N52 Kilbeggan to Tullamore, reference is made in Section 13.1.2.2 of the EIS that roundabouts will require minor temporary works to accommodate turbine delivery. The said works are not detailed. Any works shall comply with the standards outlined in the TII publications and shall be subject to Road Safety Audit as appropriate.
- The Authority is concerned that no technical load assessment of structures appears to have been undertaken in support of the application. An assessment review of all structures concerned is required to confirm they can accommodate the proposed loading associated with the delivery of turbine components where the weight of the delivery vehicle and load exceeds that permissible under the Road Traffic Regulations.
- It is important that a full assessment of all structures on the national road network along the haul route should be undertaken and relevant road

authorities along the haul routes should confirm their acceptance of proposals.

- A licence may be required from the road authority for any trenching or cabling proposal on the road network.

#### 4.6. **Waterways Ireland**

No comment.

#### 4.7. **Department of Defence**

In line with Air Corps policy on tall structures it requires that in all locations where windfarms are permitted it should be a condition that they meet specific lighting requirements.

#### 4.8. **Commission of Energy Regulation**

Acknowledges receipt of the application.

##### **Note:**

By way of Section 37(F)(1)(c) of the Planning and Development Act, 2000, as amended, the EPA was invited to make a submission on the application. No response was received.

### 5.0 **Local Authority Submission**

The submission received on the 23/01/17 comprises of the following:

- Chief Executive's Report
- Minutes of January Meeting of Offaly County Council

#### 5.1. **Chief Executive's Report**

The report comprises the executive input from the planning authority. It includes an overview of the application, planning history and policy guidance. It gives a

summary of the internal departmental reports, an appraisal of the EIS and a summary setting out the key issues and overall considered view. Suggested conditions are recommended by various sections and incorporate further information requests where relevant. The following sets out a summary of the issues addressed:

#### *5.1.1. EIS Document - Comment*

- The EIS fails to identify any of the alternative sites considered.
- Grants of permission for two dwellings have not been included in the assessment.
- The applicant is short in specific details of works proposed at and reinstatement of the amenity area in Ballinagar.
- A system for logging and addressing any complaints with regard to shadow flicker should be included in mitigation.
- There is no detailed assessment impact on property valuations within the locality. It would seem plausible that the proximity of a dwelling to wind turbines would be a determining factor in property value. Values likely to be impacted by the perception of noise is also related primarily to separation distance.
- The EIS does not provide for a replacement communications mast.
- It is considered that the proposal would have the potential to add to the tourism infrastructure within the vicinity and County Offaly, particularly having regard to the walking and cycling strategy for Offaly titled Connecting People-Connecting Places. If permission is granted this strategy could be incorporated into the Community Gain element.
- The proposed habitat mitigation and reinstatement measures should be included as a condition should permission be granted.

#### *5.1.2. Road Design Report*

The Section is satisfied, based on the information provided in the EIS, that an agreed traffic management plan can address any road network capacity issues. It would be important to confirm that the public road network can carry the HGV traffic and

that the road network is left in a good condition after construction. Details to be submitted prior to commencement of development are detailed.

#### 5.1.3. *Area Engineer's Report*

No objection subject to:

- Details on road widening and restoration works to be agreed prior to commencement.
- Maintenance of existing silt ponds and pumped outfalls so as to control the amount of silt being discharged to the Barrow system. Emission limits and monitoring programme to be agreed with Council.
- Construction and trench works requirements.

#### 5.1.4. *Water and Environmental Services Report*

- No objection subject to conditions pertaining to standard engineering and environmental requirements, including reiteration of the mitigation measures set out in the EIS addressing wastewater, environmental management, groundwater/surface water protection, storm water, flooding, noise, air quality and climate, shadow flicker, waste management, flora and fauna and ornithology.

#### 5.1.5. *Chief Fire Officer Report*

- No objection subject to developer obtaining a Fire Safety Certificate.

#### 5.1.6. *Planning Authority's Assessment and Views*

##### *Site Selection*

- In general, the development complies with the County Development Plan and its Wind Energy Strategy.
- In view of Bord na Mona's Strategic Framework for the Future Use of Peatlands and its document Sustainability 2030, and the extent of the lands in question identified as potential for alternative energy, it is considered important that an exercise in co-ordinated land use planning be undertaken for the future. The Midland Regional Planning Guidelines 2010 contain policy, objective and implementation measures in relation to a Holistic Management Plan for the future use of the industrial peatlands.

- There is the requirement for the EIS to outline the main alternative sites considered. The document fails to identify the sites considered and thus it is not possible to evaluate the site selection process.

### *Turbine Design*

- The Board should consider the ratio of rotor diameter to tower (hub) height. Heretofore in turbines considered and permitted in Co. Offaly the ratio has been in the order of 1:1 which has been considered acceptable. When the rotor diameter exceeds the hub height by a significant margin the entire structure can become excessively dominant and chunky in views. The proposed turbines would be more in the order of 1.3:1. The proposed maximum blade diameter is c.30% greater than those in Mountlucas. There is a concern in terms of visual order and legibility as the two windfarms are in close proximity.
- In terms of consistency of approach and taking into consideration the proximity of Mountlucas, it would appear that the rectangular or tubular design of the nacelle would be more appropriate.
- No livery etc. should be permitted in order to keep them as visually clean as possible.

### *Cumulative Visual Impact*

- Having considered the photomontages and the relevant chapter of the EIS there is considered to be an element of visual clutter relating to the eastern half of the proposal looking from VP16 – Curragh Hill, outside Geashill. The turbines sit behind the Mountlucas windfarm which, in the Council's opinion, is well designed in terms of medium term views. All options to reduce this potential clutter in the medium distance should be explored.
- In VP 20 the turbines are orientated towards the viewpoint which is a worst case visual impact and representing prevailing winds. It should be noted that in the photomontage, due to weather conditions, the Mountlucas windfarm appears to be facing east.

### *Property Values*

- It is considered that evidence of potential impact of wind farms within the Irish context should be provided in order to complete the assessment of impacts on material assets in the EIS.

### *Irish Parachute Club*

- A GIS analysis using a 2.7km buffer from the centreline of the runway indicates that there are no turbine structures or blades located within this exclusion zone.

### *Substation*

- There are two structures contained within the proposed substations titled 'Telecoms'. The purpose of these communications mast structures is not clear with no reference to same in the documentation.

### *Community Gain*

- A condition requiring community gain should be attached.
- The Board should examine the possibility of a broader community gain by linking the implementation of the applicable element of the Walking and Cycling Strategy for Offaly titled Connecting People – Connecting Places and the role the site can play in the implementation of the strategy.
- The application is devoid of proposals to establish and provide public access.

### *Monitoring Mast*

- The mast should be limited to the duration of any permission and the developer should be asked to share the information to minimise the need for such masts in the area.

### *Traffic and Transport*

- A Traffic Management Plan and condition survey of roads and bridges along the haul routes are required.

### *Grid Connection*

- Precise details should be given in relation to the exact route to be taken, particularly in relation to option A where it is unclear as to whether the connection is located on private lands or the public roadway.

### *Appropriate Assessment*

- The advice of the NPWS should be obtained in relation to potential impacts on European sites as part of the AA.

#### 5.1.7. Conclusion

- In order to safeguard the amenities of residents in the area, general landscape amenities and the implications on species protected under EU and National Legislation it is considered that the development be subject to a request for further information in relation to the various issues as set out. Such a request is required in order to facilitate a final recommendation.

#### 5.1.8. Conditions

A summary of issues where conditions would be required are detailed, including timescale regarding development of internal walkway/cycle way in the site and timescale regarding the walkway/cycleway linkage with Mountlucas wind farm. In addition:

- As per general contribution scheme €1,000 per MW of capacity to be levied.
- In light of the further information requested by the Roads Section it is unable to specify whether any special contribution will be necessary. It is the Council's preference for a very specific condition in the event of a grant requiring pre-surveying of affected roads, proposals for rendering the routes fit for purpose, ongoing monitoring and repair during the project, post construction survey and remedial works. A condition similar to condition 7 attached to the Mountlucas scheme is recommended.
- A bond in accordance with the relevant Wind Energy Guidelines is recommended.

## 5.2. Minutes of the meeting of Offaly County Council.

The meeting was held 16/01/17 at which the Chief Executive's report was considered. There were a number of motions and resolutions in respect of the proposed development as follows:

- The Board should have regard to the cumulative impact of the proposal with existing and permitted windfarms.
- Road improvement works are required both along the proposed haul route and in the general area, which would experience significant increase in traffic including works on the R402, L1003 and Ballykilleen Hill.
- The community gain schemes should be more transparent in how funds are administered. The current practice of €1000 per M/W per year should be increased to €1500 per M/W per year. The allocation of funds should also be reviewed. There should be a focus on the development of tourism opportunities.
- A bond should be required for the removal of the structures. The current practice of assuming the price of scrap metal will cover the cost of decommissioning is unsatisfactory.
- The development contribution scheme should be reviewed with regard to the fees payable in respect of renewable energy.
- Curtailment of turbine operation if exceedances occur should be required.
- Shadow flicker assessment should be carried out every quarter for the first 2 years and once a year thereafter.
- In the event that a land/homeowner wants to sell his/her property and the valuation has been negatively impacted upon due to proximity to the turbines in comparison with a similar property in the electoral area, a bond should be put in place to make up the shortfall.
- Issue of compliance with conditions in the event of the windfarm being transferred to another company.
- The separation between the proposal and Mountlucas is unacceptable. There should be a 25km separation between windfarm developments.

- The proximity and setback of dwellings to the turbines is a concern.
- The number of windfarms will damage the integrity of County Offaly.
- The 2006 Windfarm Guidelines are out of date.
- The Irish Parachute Club's submission is endorsed.
- Clarification required whether permission for houses have been granted in the vicinity of the site but not yet commenced.
- A report should be prepared with a survey of works that were required following construction of the Mountlucas windfarm, in addition to whether the development resulted in additional traffic on these roads. Bord na Mona should be requested to provide for the cost of re-surfacing the roads should this be the case.
- The tight timeframe did not allow members to examine the submissions received on the applicant.

## 6.0 Observations

Submissions have been received from 30 individuals and groups, all objecting to the proposed development. Each submission is summarised in Appendix 1 attached to this report. The following provides a synopsis of the issues raised:

### 6.1. Policy Context

- The proposal is inconsistent with, and does not meet the criteria set out in the Wind Energy Strategy for Offaly. The site is within an area of medium sensitivity and encroaches the 2km buffer around the area zoned as high sensitivity.
- The wind energy strategy should be reviewed as a substantial wind energy development has already been constructed at Mountlucas
- The proposal is contrary to the Development Plan's vision for quality of life and protection of natural and built assets.

- The 2006 Wind Energy Guidelines (WEGs) are out of date. The guidelines were not intended to be guidance for such sized windfarms. No decision should issue on this case until the revised guidelines come into effect.
- The cumulative effect of the development with Mountlucas and Yellow River is inconsistent with the guidelines which state that a 2<sup>nd</sup> development may be acceptable in peat areas, only at a distance, and is generally not acceptable in transitional marginal areas unless the visual impact of the 2<sup>nd</sup> wind farm is negligible.
- In view of the limited separation between Mountlucas and the proposal they would essentially be one windfarm with 49 turbines and should be assessed as such. The proposal is effectively project splitting
- Precedent has been set by the Board's refusal on file ref. PA0041 pertaining to the absence of any national wind energy strategy with a spatial dimension or wind energy strategies at local level. The Board must refuse the development for the same reason.
- The refusal of the Emlagh wind energy proposal under PA0038 is also relevant. The proposal would compete and detract from the features of interest which combine to create a sense of place and define the landscape character of this part of North Offaly.
- This is a keystone project on which others will depend on for case precedent. There are plans for c.2000 turbines on the boglands radiating out to affect 5 counties in the midlands.
- Windfarms should not be allowed to be constructed within 10km of each other.

## 6.2. Residential Amenity

- Under certain conditions the turbines will be audible. Negative impacts arise from infrasound and low frequency noise. The issues of ongoing measurement and the addressing of any breaches are pertinent.
- Construction traffic and noise arising will have an adverse impact on residential amenities.

- Properties will be affected by shadow flicker. The recommended setback is 10 times the diameter of the blade. This equates to approx. 1km. Some houses would be only 750 metres distant. The said recommended setback should be required which would require a reduction in the turbine size.
- It is claimed that 200 dwellings are within 2km from the centre of the shaft of the turbine. This does not take into account the rotary blade which is 60 metres long and spins in all directions. There would be 450 residents located within 880 metres of the turbines in terms of the tip of the blade.
- There are negative impacts on persons with certain medical conditions including epilepsy and autism.
- To date studies have been insufficient to categorically conclude that windfarms do not pose a threat to health. Many of the references in the EIS have been superseded by more up to date information. There are no proposals for independent monitoring of the impact on health.
- There are health concerns regarding the transmission of power underground between the turbines and substation.
- The proposal will devalue property.

### 6.3. Visual Impact

- The proposal is inconsistent with the WEGs in terms of siting and design as it does not envisage the construction of such extensive, large scale turbines in an area primarily characterised as a hilly and flat farmland landscape in such proximity to a high concentration of dwellings. The site may be peatland but the surrounding areas are hilly with flat farmland.
- The hills appear as much more substantial landforms in the low lying landscape. Many areas provide for open and long vistas with uninterrupted views. These views are considered to be of material importance. It would destroy views of Ballykilleen Hill and Drumcooley Hill to the north.
- The height and scale of the turbines will dominate the area, would have an adverse visual impact and are completely out of proportion to the locality.

- The cumulative impact with Mountlucas windfarm would also have a negative visual impact. There will be visual clutter.
- The character of the area will be changed from rural to industrial. The area already accommodates a wind farm, power station and ash repository.
- The view that there would be little or no effect on local residents in terms of visual impact is totally untrue. The EIS has not considered the perspective for individual properties. The impact would be considerable.
- The photomontages do not present a valid representation of what the proposal would look like.
- A reduced number of turbines may assist in reducing the impact.

#### **6.4. Aviation**

- The proposal would have an adverse impact on Clonbulloge Airfield and the Irish Parachute Club. The turbines would cause a serious hazard to flying and parachuting operations.
- It would eliminate the club's ability to develop. It is acknowledged as being vitally important for tourism in the North Offaly area.
- There are no guidelines available as to the proximity of wind turbines to training centres.
- Should the proposal proceed the aeronautical environment would be impacted with 'choke points' and 'canalisation' of air traffic.

#### **6.5. Cultural Heritage**

- The site is within a settled landscape with a high, visible presence of heritage features.
- The area is of historical importance with ancient burial grounds at Cloncreen and Ballinakill with Ballykilleen Ring Fort c. 750 metres from the nearest turbine. It has tourism potential. The proposal will have a negative impact on the setting of these sites.

## 6.6. Hydrology and Hydrogeology

- The surface water monitoring programme to be put in place during the construction phase requires EIA which is not possible as the information is not supplied.
- The displacement of peat to absorb water will give rise to flooding.
- The proposal would impact on the watertable.
- Any drainage or dewatering during construction could impact on shallow well water supplies serving dwellings.
- Water quality during both construction and operational phases may be affected.

## 6.7. Roads and Traffic

- The proposal would result in increased traffic and road deterioration. The roads are incapable of accommodating the traffic without significant upgrading.
- The location of the proposed car park is considered unsuitable.

## 6.8. Ecology

- There is no information on the created wetland detailed in the AER for the bog.
- There would be an adverse impact on wildlife.
- Large flocks of plover use the surrounding bog and farmland during the winter.
- The site is under one of the most important flyways for Annex 1 protected bird species.
- A risk assessment needs to be undertaken in terms of landing and take-off of migrating birds in such close proximity to the turbines and risk of collision should have been considered.
- Cumulative impact and barrier effect of the proposal with Mountlucas and Yellow River windfarms will increase the risk to the species. The EIS fails to address this issue.

## 6.9. Appropriate Assessment

- The screening for AA is flawed. The screening report is not in accordance with the requirements set out in Kelly v An BP 2-13/802.
- The EIS is not consistent in terms of hydrology and hydrogeology. Therefore, there is scientific doubt as to the effects on the River Barrow SAC.
- The assessment of effects on Whooper Swans and other protected species is inadequate.
- The proposal would adversely effect the integrity of the Wexford Harbour and Slobs, Raven, Tacumshin and Lady's Island SPAs as the site is under the flyway of the Greenland White Fronted Goose and Whooper Swan. The flyway used by the birds to and from their wintering grounds are completely interdependent with the SPA's. It is illogical to protect and monitor the birds in Wexford whilst ignoring possible risks as they cross Ireland on their annual spring and autumn migrations.

## 6.10. Project Justification

- No cost benefit analysis has been provided to demonstrate justification on economic grounds.
- The issue of carbon balance is not fully assessed including consideration of the manufacturing and construction phases.
- Only projects in Gate 1, 2 and 3 will contribute to the 40% target for renewal energy. The project will not be a contributor.
- It is queried whether there should be such reliance on industrial wind turbines especially in view of wind being unpredictable, intermittent, and dependent on the backup of conventional fossil fuelled power stations.
- The proposal would interfere with existing sources of local revenue including revenue from housing, bloodstock and tourism industries.
- There would be no local benefit deriving from the proposal. There will be little employment benefit locally. Providing funding to a local club does not compensate those who live in close proximity to the turbines. A near neighbour scheme should be introduced.

### 6.11. Miscellaneous Issues

- Peat slide may be an issue
- Map references are inaccurate re. housing distances. Mountlucas windfarm is not shown on maps.
- There is no provision for decommissioning. This does not comply with the EPA's guidance document on preparation of EIS.
- Insufficient consideration has been given to the impact of the proposal on the adjoining ash repository, including air turbulence and air emissions, the potential for impact of excavations on the integrity of the site and potential for leakage of hazardous waste.
- The preferred route of the transmission pipe for the Eastern and Midlands Region water supply would be within 130 metres of turbines 17, 20 and 21. The bogs and surrounding lands would not be capable of accommodating major construction from two projects. The said pipeline must be considered in the assessment in terms of cumulative effects.
- Measures to protect telecommunications systems will be required.
- There is the potential of ice throw which could cause local damage to property and livestock.
- There is no plan should a fire occur in a wind turbine.
- There is no risk management assessment.
- The public consultation to date has been a box ticking exercise.

### 6.12. Procedural and Legal Issues

- The standing of the applicant to lodge the application is queried both in terms of the site, itself, and the road along which the underground cable is to be routed in substation option A.
- The application is invalid. The documentation should be accessible from a location other than the applicant's website.
- There has been no SEA or AA of what is referred to as 'suitable' in the wind energy strategy of the Offaly County Development Plan.

- The proposal is a modification of a plan and programme as defined in Article 2 of the SEA Directive. Therefore, there was also a requirement to carry out SEA.
- The Board is precluded from granting approval as the National Renewal Energy Action Plan has not been subject to SEA nor has it satisfied the criteria set out in the Aarhus Convention
- As there are two options for the grid connection there is no permitted grid connection. The O’Grianna judgement is of relevance.
- The ash repository and proposed windfarm are fully connected with the latter an extension to the former. The repository was never subject to EIS. The windfarm and repository must be subject to EIA otherwise project splitting arises.
- An EIS has not been submitted for the entirety of the development on the applicant’s lands including peat extraction. Therefore, EIA cannot be carried out.
- The application is seeking permission for development on an unauthorised development. Works undertaken since 01/04/99 including draining and stripping of lands, required permission, EIA and AA.
- Before any grant of consent the Board must state the reasons if a point made in a submission is found not to be relevant. Any decision must be in accordance with the findings in Connolly v An BP [2016] IEHC 322 and Connolly v An BP [2016] IEHC 624.
- The proposal is in conflict with the Memorandum of Understanding and the Undertakings of Ireland from the 1990’s in which Bord na Mona would implement a development plan for the bogs supplying the new peat fired power station after the peat is extracted, dividing areas between coniferous and deciduous forestry, grasslands and wetlands by end 1999. The application is a fundamental breach of the Memorandum and a grant of permission is ultra vires the powers of the Board.

- Peat in its natural state is 95% water and all the water necessary for the Navigations is vested by Charter in the Navigations and their Authority, Waterways Ireland.

## **7.0 Applicant's Response to Submissions and Observations**

### **7.1. Policy Context**

- The current WEGs remain in force and the assessment of wind farm applications must have regard to same.
- The proposal benefits from a number of planning policy supports set out in the County Development Plan which represents the relevant spatial plan for the area. This is demonstrated by the adherence to the Wind Energy Strategy for the county by reason of its location within an area considered suitable for wind energy development.
- The amenity potential of the site will assist in delivering a number of the strategic objectives of the document titled Connecting People, Connecting Places - A Strategy for Walking and Cycling in Offaly.
- It is envisioned that the National Planning Framework will be supported, implemented and translated through the planning hierarchy by the local development plans and regional strategies and that it may not have a spatial dimension in relation to all matters/sectors.

### **7.2. Landscape and Visual**

- The overall value and sensitivity of the landscape resource on the site was assessed as Medium. This is consistent with the sensitivity designation contained in the County Development Plan.
- The site and the wider area is not considered to be Transitional Marginal. The site and surrounding area is best described as Flat Peatland. While the landscape has some hills it is generally flat and is not the undulating type described in Hilly and Flat Farmland.
- Figure 9 of the Wind Energy Strategy does not show buffers and delineates the site and surrounding lands to the east and northeast as suitable for wind

energy. Development Plan policies EP-03, EP-04 and objective EO-01 do not mention a 2 km buffer with regard to areas of High Landscape sensitivity or Areas of High Amenity.

- The difference of 20 metres between the height of the proposed turbines and those at Mountlucas will not be perceptible from many viewpoints as both wind farms will not be seen side by side. Where both wind farms are visible these will be viewed from a distance. None of the photomontages show a scenario where the difference in height between the two would be apparent.
- The maximum hub height under consideration was used to give the worst case scenario (hub height of 107 metres and a rotor diameter of 126 metres). A photomontage has been prepared to illustrate the comparison between the proposed turbines using the dimensions as stated and turbines with proportions of the ratio 1:1 as described by the Council. The overall visual effect is not changed. There is 4.1km between the nearest proposed Cloncreen turbine and the nearest operating Mountlucas turbine. This intervening distance will diminish any slight difference in proportions and they will not be seen side by side.
- The design of the nacelle is not regarded as a key element in the overall appearance of the turbines.
- Of the 23 photomontages 21 show the proposed development with Mountlucas and/or permitted Yellow River. Cumulative impact is fully addressed.
- Of the 23 photomontages only one (viewpoint 16) has been mentioned with regard to visual clutter. The view is taken from a point on the R420 which is representative of only a relatively short section of road. It is not a viewpoint along a walking or cycling route or a designated viewpoint which is a key concern of the WEGs on cumulative effect. While some overlapping occurs, the closest Cloncreen turbine to the viewpoint is at a distance of c. 14.5km and, while visible, can be described as in the background. It will be difficult to distinguish in certain weather conditions.
- The proposed layout is similar to Mountlucas with both having a regular layout, and both having a compact spatial extent with depth. The issue of

visual clutter is not apparent when viewed from other viewpoints. The turbine layout is set out to minimise instances of visual clutter.

- Viewpoint 20 was taken in the best possible conditions. The direction of the Mountlucas turbines relates to the prevailing wind at the time. The wireframe shows both Mountlucas and Cloncreen turbines facing the viewer.
- In viewpoint 21 from Croghan Hill all 21 turbines are visible. The photomontage was produced using a recognised methodology.
- Maps accompanying the application show the Mountlucas windfarm.

### 7.3. Ecology

- Given a total of 429 ½ hours of dedicated vantage watch across all seasons the level of activity of Hen harrier is extremely low and does not indicate the presence of a communal Hen Harrier roost that could be affected. Following the Scottish Natural Heritage (SNH) 2014 guidelines there was no requirement to complete winter roost surveys given the low level of activity recorded.
- Baseline study of wintering birds associated with Derrygreenagh and Ballydermot Bog Groups, which included Cloncreen Bog, was carried out between November 2012 and March 2013. The survey incorporated a focused survey for Hen Harrier roosts for a distance of 1-2km outside each of the sites and over 2km from Cloncreen Bog. No roost sites were recorded. The information from these surveys further demonstrated that there was no requirement to complete additional surveys to a distance of 2km from the site.
- The design and intensity of the surveys undertaken are considered adequate to reach the conclusion that Hen Harrier is not at a significant risk of collision. On the six occasions the species was recorded it was not at a height where it would have been susceptible to risk of collision.
- Greenland White Fronted Goose (GWFG) was identified as a target species during the surveys and was acknowledged as being recorded in the area in 2015. In the two years of surveys GWFG was not recorded at the site either wintering or on passage. A specific vantage point survey was undertaken on a monthly basis for the migratory and wintering period 2015/2016 at a

neighbouring site where the species was recorded previously. The species was not recorded during any of the surveys undertaken.

- There is no evidence of a defined flyway for GWFG and Whopper Swan (WS). A wide section of the midlands is traversed by the species on migration. There are no topographical features such as river valleys or mountain passes that make the area around Cloncreen Bog any more attractive than other areas within the midlands.
- It is noted that any survey will inevitably miss records of birds during periods when no observer is on the site. However, the SNH (2014) guidelines are specifically designed to provide enough surveyor presence so that bird usage of the site can be adequately assessed and any potential issues will be identified.
- Whilst WS was recorded on the site during the wintering period no birds were recorded migrating through the site.
- WS is not a qualifying interest of the SAC's most proximal to the site or the nearest SPAs which are over 20km distant. In addition, no records of this species on migration was recorded during the surveys. This information is provided in Table 3.1 of the AA Screening report.
- On the basis of the surveys undertaken there is no evidence that the proposed windfarm will represent a barrier to migratory geese and swans when considered in its own right. Where no evidence of a risk to migrating species is identified there is no evidence to suggest that it will contribute to a cumulative impact when considered with other windfarm projects.
- As no significant effects on these species were recorded either while wintering or migrating, no potential for significant effects on any European Site that is designated for their protection is predicted. The proposal will not adversely affect the integrity of any European site.
- As no GWFG were recorded collision risk modelling and assessment could not be undertaken as it relies on data from surveys. A collision risk assessment for WS is detailed in section 6.6.2.1 and Tables 6.20 and 6.21 of

the EIS. Following the precautionary principle there is considered to be a negligible negative impact.

- Avoidance factors for species including WS are provided in the recognised document 'Use of Avoidance Rates in the Scottish Natural Heritage Collision Risk Model' which was used when completing the assessment.
- Golden Plover was selected as a target species. Large flocks in the surrounding area were noted but lower numbers were recorded in the site itself. It was not found to be dependent on the site for breeding, roosting or commuting purposes. No significant impacts on the species is predicted.
- In terms of bats there will be no vegetated banks and strips of scrub within 50 metres of the tip of any turbine blade as advised in the relevant Natural England Guidelines (Bats and Onshore Wind Turbines Interim Guidance).
- Post construction monitoring is proposed. It will be site specific and tailored to the requirements of the site itself.
- There is a commitment that if there is a significant impact on bird and bats species, a plan of action to prevent any further significant impacts will be agreed with the NPWS.
- A methodology for an experiment for carcass removal by scavengers comparable to that being following at an operational windfarm is detailed.
- An application for a section 21 Flora Licence, submitted to the NPWS regarding Basil Thyme, has been granted. An application for a Section 22(9)(d) License for sand martin is under consideration by the NPWS.
- The references quoted in Volume 1 of the EIS, by omission, did not include the final list of references listed in the ornithology chapter. This is now provided.

#### 7.4. Hydrology

- The permeability of the clay/marl material underlying the ash repository is in the range of  $1 \times 10^{-9}$  and is greater than 1m in thickness. A composite liner is in use underlying both the active and capped landfill cells and the leachate holding lagoon.

- On-going monitoring of groundwater at the repository is undertaken in accordance with the waste licence. In addition, a Tier 3 Hydrological Assessment was carried out to determine the impact on groundwater. The said monitoring indicates only minor issues arising and these are being monitored and reported to the EPA as part of the licence requirements.
- The installation of the turbine bases will not cause an alteration to the operation of the repository.
- The extensive network of field drains on the site will be integrated and enhanced as required within the development drainage system, the key element being the upgrading and improvements to water treatment systems such as in-line controls and treatment systems, including silt traps and settlement ponds. The net effect will be a reduction in the overall runoff from the site which will improve water quality leaving the site.
- The proposed Eastern and Midlands Region Water Supply Project will be subject to EIA. Standard best practice mitigation along the pipeline route would adequately control any potential minor impacts on local water quality. The potential for cumulative impacts on water quality from the potential preferred pipeline route and the wind farm is negligible.
- As outlined in Section 8.4.2.1 of the EIS the proposed water monitoring plan will be the same as required under IPC licence P0503-01.

## 7.5. Noise

- Post-commissioning noise monitoring will be carried out, will be submitted to the planning authority for review and will be available for public review. Continuous on-going noise monitoring is not proposed. If specific issues are raised investigations, including monitoring, will be undertaken.
- If post commissioning noise monitoring were to identify exceedances of the conditioned noise limit, curtailment of turbines will be applied to ensure compliance.
- The Irish guidelines are broadly based on ETSU-R-97. Guidance is provided in 'A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Noise from Wind Turbines' (Institute of Acoustics)

to which due consideration was had. It is a useful reference in relation to best practice approaches to predictions and assessment of existing receiving environments in the absence of such detail in the Irish guidance. The relevant guidance is that set out in the WEGs. Suggested wording for a condition with reference to same is detailed (pg.38).

- Considering the distances between proposed piling operations and sensitive properties vibration levels associated with piling activities would be expected to be imperceptible.
- Having regard to Department for Environment, Food and Rural Affairs document, A Review of Published Research on Low Frequency Noise and its Effects Report for Defra, in the unlikely event that infrasound is considered an issue at a noise sensitive location a review of G-weighted levels, measured during a suitable operational period, will be used to assess infrasound levels, considering that sound level below 85dB (G) are normally not significant for human perception.
- Noise modelling was carried out for the site on which there is an extant permission for a dwelling under ref. PL2/14/3 (overlooked in the EIS). The predicted noise levels at this location for the various wind speeds do not exceed the noise criteria curves adopted for the assessment.

#### 7.6. Shadow Flicker

- The mitigation measures include a SCADA automated turbine control system which will be used to ensure shadow flicker guidelines will be met.
- Shadow flicker modelling was carried out for the site overlooked on which there is an extant permission for a dwelling under ref. PL2/14/3. As the maximum daily shadow flicker of 30 min per day will be exceeded for 36 days of the year the mitigation strategy, as detailed in the EIS, will apply to this property.

#### 7.7. Property Values

- Since the application was lodged a new study was issued titled *Impact of Wind Turbines on House Prices in Scotland* published by Climate Exchange.

The key findings are that there is no evidence of a consistent negative effect on house prices and that results vary across areas.

#### 7.8. Clonbulloge Airfield

- The growth of a parachute club generally depends on the number of parachute jumps, not on the size of the landing zone(dropzone)/airfield. This might be an issue were the landing zone to be enlarged or displaced towards the proposed windfarm.
- Landing out 2.7km from the intended dropzone in an airfield is significantly beyond usual safety parachuting operation. From extensive experience, 500 to 1000m is the extent of parachutists missing the drop zone.
- The fact that the great majority of parachute clubs are not located near windfarms is not really relevant. The Safety Report was prepared due to the location.
- A premature opening on exit is a major safety issue and all safety analysis on where the landing will take place would then be moot.
- The lower the opening of the parachute means the less time there is to land far from the dropzone.
- Wingsuiters are experienced parachutists. Being accustomed to the local surroundings would result in a negligible chance of becoming disoriented. Flying with a wingsuit gives more flying time to get back to the dropzone in case of a wrong exit point.
- Disorientation can happen without view to the ground due to clouds but parachutists are not allowed to jump under such circumstances.
- Sudden wind increases happen usually with a change of weather. In such instances jumps should not occur.
- Where a windfarm is built and falls within IAA regulations it is up to the pilot in command to do proper flight planning, taking into account any obstacles regardless of size and nature.

## 7.9. Soils and Geology

- In terms of pile vibrations and ground conditions it is concluded that there will be no adverse effect on the ground within the site or beyond the site. The vibration and associated settlement would be localised to the area around the pile(s) ie. within a few metres during construction and would have minimal effect on the surrounding ground.

## 7.10. Archaeology and Cultural Heritage

- Both Drumcooley Hill and Ballykilleen Hill are assessed in the EIS. Neither are National Monuments. The monument at Ballykilleen Hill is a trivallate ringfort dating to sometime between the 5<sup>th</sup> and 10<sup>th</sup> century. The setting of the monument was fully assessed.
- By the time the decommissioning phase occurs there will be no sub-surface archaeology to resolve or deal with and in this regard no impacts will occur.

## 7.11. Traffic

- The applicant has consulted with the design team of M6/N52 with regard to junctions and roundabouts. The design team has confirmed their 3<sup>rd</sup> party protocol for dealing with applications for works on the network.
- The works proposed on the N52 Kilbeggan to Tullamore section will be temporary in nature and will be fully reinstated to TII requirements.
- The proposed route is the same as that previously used for Mountlucas and, accordingly, the nature and extent of the temporary junction facilitating works for the current proposal will be similarly provided and reinstated to the relevant required standards.
- Abnormal loads are abnormal in the context of their size and shape. The delivery vehicles for these components are specifically designed to ensure that the axle loadings of the vehicles will not exceed those permissible under the Road Traffic Regs.
- Should Option A grid connection be implemented the cabling along the local/regional road network will be subject to a Road Opening Licence consent process.

- The items specified in the Council’s submission for agreement are considered reasonable and acceptable. The applicant has no objection to appropriate conditions in relation to these points being applied.
- Prior to the commencement of construction the delivery routes would be subject to a condition survey and the developer will carry out any maintenance works required.
- It would be inappropriate to carry out any route surveys in advance of the decision, due to the nature of the planning application and the relevant timeframes involved. The application is seeking a 10 year permission. Any survey of road conditions carried out at this stage could prove premature.
- It is standard practice that a bond would be required as a condition of a grant of permission.

#### **7.12. Air and Climate**

- It is considered that fly ash will not be transmitted as a result of turbine operations. The repository is subject of an Industrial Emissions Licence. The conditions of the licence will not be changed as a result of the proposed development.
- The repository was included in the cumulative impact assessment which did not identify any cumulative air quality impacts.
- The carbon balance model used calculated the total carbon emissions associated with the proposal including manufacturing of the turbine technology, transport and construction, and the carbon losses due to peatland disturbance. The CO<sub>2</sub> emissions associated with the development represent only a fraction (approx. 9.6%) of the emissions that will be offset by the project.

#### **7.13. Community/Economic Benefit**

- The benefit to the local community of amenity access to the Mountlucas windfarm has been proven and the Cloncreen windfarm has similar potential.
- A Near Neighbour Scheme structure has been presented to the Community Engagement Forum.

- The scheme, if approved, would be subject to development contributions and annual rates.

#### **7.14. Health and Safety**

- The EIS referred to epilepsy.
- There is no evidence that wind farms adversely impact on livestock.
- Underground heat that is dissipated from the internal collector network will be localised to the immediate vicinity of the cable. It is considered that any heat arising will not have a measureable impact on surface water, groundwater, flora or fauna. It will not impact on people living in the vicinity
- The EIS dealt with ice throw. The proposal has incorporated design features to account for same.
- Lightning protection conduits will be integral to the turbine construction.
- A site specific Emergency Response Plan (ERP) will be developed.

#### **7.15. Miscellaneous Issues**

- In terms of alternatives a review of the Offer Process Application Information available on the Eirgrid website indicates a total of 20 Bord na Mona sites that are in the application process for grid connection (see Table 15.1 pg.75). These sites were brought forward for assessment using the criteria as outlined in Section 2.4.2 of the EIS. The remaining 5 sites indicated in Section 2.4.1 were not assessed using the stipulated criteria as those sites did not have a grid connection application in progress. Arising from the application of the said criteria Cloncreen emerged as the optimum location for the proposed development.
- Chapter 13 of the EIS provides a descriptive context of the identified material assets and includes cultural assets, economic assets of natural heritage and economic assets of human origin.
- The issue of project splitting does not arise. The potential for cumulative impacts has been carried out.
- The application provides full details of two options for grid connection to enable EIA.

- Full consideration has been given to telecommunications.
- Information gathered by the anemometry monitoring mast is commercially sensitive.
- The function of the masts identified as 'Telecoms' in the substation drawing is for Bord na Mona/ESB/Eirgrid communications with regard to operational monitoring of both the wind farm and the substation.
- Chapter 3 of the EIS addresses decommissioning. In line with IWEA's Best Practice Guidelines Bord na Mona will continue to engage with the key stakeholders prior to finalisation of the reinstatement plan for the site to take account of any matters which may arise through the operational phase.
- Bord na Mona's Strategic Framework for the Future use of Peatland outlines that the future of its lands lies in a wide mix of uses. It also recognises that cutaway bogs present a range of complex options that need to be considered on a bog by bog basis.
- The proposal is not subject to the requirements of the SEA Directive.
- The Wind Energy Strategy for County Offaly is a feature of the County Development Plan and, as such, has been subject to SEA and Habitats Directive Assessment (HAD) prior to the adoption of the County Development Plan.
- The National Renewable Energy Action Plan is a policy document and cannot be considered to be a 'plan or programme' for the purpose of the SEA Directive as it is not required by legislative, regulatory or administrative provisions. It does not set 'the framework for future development consents' unlike a County Development Plan or LAP and accordingly does not require an SEA in accordance with the SEA Directive.
- A project specific website was activated as required for a SID project.

## 8.0 Responses to Applicant's Submission

The applicant's response, as summarised above, was circulated to the relevant parties for comment.

### 8.1. Observers

Responses have been received from a number of observers. In addition to reiterating a number of issues made in the first submissions as summarised in section 6 above, the following gives a synopsis of further points made. The said responses are summarised in Appendix 1 attached.

#### 8.1.1. Policy Context

- Windfarms are not an appropriate use for cutaway bogs.
- The WEGs 2006 were designed to protect people and the landscape at a time when the tip height was an average of 50 metres.

#### 8.1.2. Residential Amenity

- The noise generated by modern turbines are of great concern worldwide with serious health problems reported regarding sleep deprivation caused by infrasound.
- The Scottish study on house prices cannot be used to predict Irish house prices. A study from the London School of Economics concludes that there is a correlation between proximity of turbines and devaluation.
- In the UK local residents can claim reduction in their property tax if they live within 2km of a windfarm.
- Recent High Court cases in Ireland have proved that there is an impact on noise and property values with a number of families in Cork forced from their homes due to noise.

#### 8.1.3. Aviation

- Landings 2.7km from the intended drop zone, whilst unusual, do occur. They are never planned or recommended save in an emergency situation. A

number have occurred since the Irish Parachute Club located to the address in 1990.

- The safety parameters available to aircraft will be significantly compromised. Aircraft using runway 27 executing a right turn, and runway 09 for left turn will have significantly less outlanding choices in the event of emergencies.
- No academic data, risk/safety assessments exist to objectively measure or quantify the potential risks of locating windfarms close to active parachuting clubs.
- IAA has no statutory or regulatory authority of parachuting in Ireland
- No research has been undertaken to measure or assess the effect of turbulence due to the wake of wind turbines on fabric wings such as parachutes.
- As the proposal is an operating commercial business, approval of the application will contravene the Planning and Development Regulations 2008, SI No. 235. IAA has not consented to the application to locate wind turbines within 5 km of the aerodrome.
- A second opinion from a person with knowledge of Irish aviation should be made available.

#### *8.1.4. Visual Impact*

- The description of the area as flat peatland is not accurate. Only the site is flat peatland. The area is better described as transitional marginal.
- Whilst the site is categorised as medium landscape sensitivity the erection of 170 metre tall turbines will heavily impact on an area of high sensitivity less than 2km away and will encroach into the buffer zone of the landscape of high sensitivity.
- Only 6 of the 23 viewpoints are less than 2km from the turbines with 15 more than 10km away. Obviously the overall impact would be slight when the vast majority of the viewpoints are more than 2km away.

- No photomontages have been provided at a distance of 750 metres correlating with the nearest dwellings. The distance and angle of shots do not reflect a true view.
- In terms of the WEGs houses should qualify as key viewpoints and turbines should not dominate views from same. The development will have a significant adverse impact on visual sensitive receptors.
- As noted by the applicant visual impact is subjective. The applicant, who will benefit from the development, is less qualified than those who live within 2km of the turbines to make a judgement.

#### 8.1.5. Ecology

- There is sufficient proof given in the original submissions that there will be an effect on both ecology and hydrology.
- There is whooper swan and hen harrier activity in the area.
- Sufficient surveying was not done at optimum migration times and when it became clear that a significant migration event had occurred in Spring 2015. Autumn 2015 and Spring 2016 migration times were monitored but only as part of longer wintering monitoring, rather than specifically in association with migration. This was inadequate. The applicant should have liaised with the NPWS through the Wexford Wildfowl Reserve. Migration times are predictable due to monitoring.
- The EIS made no connection between the April 4<sup>th</sup> 2015 migration event and the SPA which the geese had left. On the basis that the geese did not overfly the site but were within 2km of it, a decision was made that the barrier and cumulative effects did not require assessment. In a migration journey of 3000km a deviation of 2km from a site is miniscule and cannot be accepted as the most significant or credible factor in arriving at a decision that assessment of risk is not needed.
- The view that a connection within an SPA in Wexford need not be made as it is beyond 15km from the site and that no risk assessment is necessary as the migrating flocks seen were close to, but not over the development, is contrary

to the applicant's own Biodiversity Action Plan, NPWS advice and the best interest of protecting the Annex 1 species.

- Proposed wind farm developments at Garryhinch, Ballybeg, and Moanvane were not mentioned in the EIS. All planned developments need to be considered and the cumulative effects assessed. This has not been done. Possible barrier and cumulative effects from such large scale developments, with more at planning stage, must be adequately assessed.
- The commitment to carry out post construction monitoring should there be a significant impact does not compensate for the lack of surveying at optimum migration times.
- The statement that the flyway follows a variety of routes through the midlands is misleading. Eleven of the twelve tracks taken by Greenland White Fronted Geese in the 1997-1999 tracking study cross a line roughly from Tullamore to Edenderry – a distance of around 36km. The area used by migrating birds may be narrowing with each wind farm development. Mountlucas, Yellow River and the application site will have an east west axis of around 14km.
- Whilst a collision risk assessment was done for Whooper Swan there is no evidence of any specific surveying to determine migration.
- Guidelines need to be appropriate to Irish conditions. In terms of the SNH guidelines the density and height of turbines is different in Ireland. The recorded overland journey is much longer than that taken by birds in Scotland where wintering grounds are within a short flight of the open ocean.
- An international plan for the Greenland White Fronted Goose received formal approval from Parties to the African-Eurasian Waterbird Agreement in 2012. Ireland is a party to this agreement.

#### 8.1.6. *Community Gain*

- The reported community benefit has been overestimated.
- The Near Neighbour proposals have not been agreed with Community Engagement Forum members.

### 8.1.7. *Procedural and Legal Issues*

- The time allowed for a response to the applicant's submission was insufficient.

## 8.2. **Planning Authority**

The submission reiterates the views pertaining to the community gain programme having regard to the Walking and Cycling Strategy for Offaly and absence of proposals to establish and provide public access in addition to the suggested walkway/cycleway link through Ballycon Bog to Mountlucas. It also reiterates its comments on the ratio of turbine hub to rotor blade diameter and nacelle design. It is stated that turbines are uncommon structures being very prominent for up to 5km. Therefore a sense of order and consistency is considered important. The proposal and Mountlucas are in close proximity and will be read together in views.

## 8.3. **Prescribed Bodies**

The submission from Transport Infrastructure Ireland reiterates a number of points made in its original submission.

## 9.0 **Planning History**

The following gives a brief synopsis of the major applications in the vicinity of the proposed wind farm.

**PL2/98/482** – permission granted for a peat ash repository.

**PL19.216998 (PL2/05/1267)** – permission granted on appeal for deposition of peat ash, meat and bone meal and biomass ash at the repository. The application was accompanied by a EIS.

**PL19.245295 (PL2/15/129)** – permission granted on appeal for extension of the continued use and operation of the peat and biomass co-fired power plant for 7 years commencing on 21/12/16. An EIS and NIS accompanied the application.

**QV0104 - Section 261A Quarry review case.** A notice under subsection (4)(a) was issued by the planning authority. On review the Board confirmed the decision of the planning authority that the development carried out would have required EIA but that

such an assessment was not carried out or made. The quarry did not commence prior to 1<sup>st</sup> October 1964 and the owner failed to register the quarry under Section 261 of the Planning and Development Act, 2000, as amended. Consequent to a section 154 notice (enforcement notice) a rehabilitation plan has been implemented in accordance with agreed details.

**09/453 (PL19.237263):** Mountlucas windfarm granted on appeal comprising of 30 turbines of up to 100 metre hub height and up to 112 metre rotor diameter with a total height not exceeding 156 metres. The windfarm is operational with 28 turbines. It is located c. 4km to the west of the application site.

**PA0032:** Yellow River windfarm granted in 2014 comprising of 29 turbines of up to 110m hub height and up to 113m rotor diameter with a total height not exceeding 166m. This site is c. 9 km to the north/north-west of the application site. Work has not yet commenced.

## 10.0 Policy Context

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

### 10.1. National Renewable Energy Action Plan

Directive 2009/28/EC on the promotion of the use of energy from renewable sources establishes the basis for the achievement of the EU's 20% renewable energy target by 2020. Under the terms of the Directive, each Member State is set an individually binding renewable energy target, which will contribute to the achievement of the overall EU goal.

The National Renewable Energy Action Plan sets out the Government's strategic approach and measures to deliver on Ireland's overall target to achieve 16% of energy from renewable sources by 2020. The Government has set a target of 40% electricity consumption from renewable sources by 2020.

### 10.2. Strategy for Renewable Energy 2012-2020

It is a strategic goal of the strategy to seek progressively more renewable electricity from onshore and offshore wind power for the domestic and export markets.

Key actions include the supporting of the delivery of the 40% target for renewable electricity through the existing GATE processes. A further targeted Gate may be

developed, if necessary, following a review of the take-up of Gate 3 offers, while developing a next phase plan led approach for additional onshore capacity in future.

### **10.3. Government Policy Statement on the Strategic Importance of Transmission and Other Energy Infrastructure, 2012**

Ireland needs to deliver a world class electricity transmission system in all the regions which meets the needs of Ireland in the 21<sup>st</sup> century which will, inter alia, enable Ireland to meet its renewable energy targets and reducing the country's dependence on imported gas and oil and reduce CO2 emissions.

### **10.4. Adapting to Climate Change and Low Carbon Act 2015**

This Act sets a statutory framework for the adoption of plans to ensure compliance with Ireland's commitments to European and international agreements on climate change.

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

The aim of this document is to set out strategies for the state to adapt to a low carbon future and to provide for Ireland meeting its international and E.U. commitments on greenhouse gas reductions.

It is stated that a radical transformation of Ireland's energy sector is required to meet climate policy objectives. A low carbon future will involve, inter alia, greater use of electricity from renewable sources of which the country has a plentiful supply and greater use of electricity for heating and as a fuel for transport. The White paper repeats the target of generating 40% of the country's electricity from renewable sources by 2020.

It envisages on-shore wind driven plants continuing to be the main contributor to renewable electricity. It is stated in Chapter 4 that to achieve the target in relation to renewable energy the average rate of build of on-shore wind generation will need to increase up to 260MW per year from the current rate of about 170MW. A total of 3500-4000MW of on-shore renewable electricity generation is required in comparison to the December 2015 figure of 2500MW.

## 10.6. **Draft Renewable Electricity Policy and Development Framework**

A key objective of the Energy White Paper is to publish a 'Renewable Electricity Policy and Development Framework' (REPDF) to underpin planning and development of larger scale renewable electricity generation development on land. It is envisioned that the REPDF will contribute towards meeting Ireland's future energy needs, particularly up to 2030 and beyond, as informed by national and European policy. It will set out policy in respect of environmental considerations, community engagement and will seek to broadly identify suitable areas where large scale projects (over 50MW) can be developed. It is stated that these can subsequently be incorporated into a revised NSS, RPG's and development plans. It would also supplement the guidance contained in the Wind Energy Guidelines. The Draft SEA scoping report for the framework was published for consultation. The said consultation process has closed and submissions are under review.

## 10.7. **Planning Policy Statement 2015**

This non-statutory planning policy statement sets out key principles that planning authorities and other public bodies are expected to observe and sets out high level priorities for the continued enhancement of the planning system in Ireland.

The policy statement contains 10 key principles which include that planning must be plan led and evidence based, pro-actively drive and support sustainable development in creating communities and further developing existing communities in a sustainable manner.

Principle No. 4 is that planning must support the transition to a low carbon future and adapt to a changing climate.

Principle No. 9 is that planning will support the protection and enhancement of environmental quality in a manner consistent with the requirements of relevant national and European standards by guiding development towards optimum locations with the prospect of ensuring high standards of water and air quality, biodiversity and the minimisation of pollution risk.

In discussing the quality of planning outcomes in Part 4 it is stated that the planning process plays a very significant role in promoting patterns of development which help Ireland to meet international obligations by tackling sources of climate change by reducing Ireland's carbon footprint, facilitating the generation of energy from low carbon sources and adapting to the effects of climate change.

#### **10.8. National Spatial Strategy 2002-2020**

The site is situated in the *“Consolidating” area which radiates outwards from Dublin in Maps 1 and 2*. The NSS acknowledges the importance of the environment as a resource base that supports a wide range of activities which includes energy use. It is stated that for such activities, the resources should be used in sustainable ways that put as much emphasis as possible on their renewability. It acknowledges the importance of the development of key electricity infrastructure in facilitating national, regional and local economic progress, and in this regard, the need to identify locations where additional new loads and electricity generation can be accommodated.

The NSS notes that the Midlands has a number of unspoilt landscapes and inland waterway networks that have the advantage of proximity to urban areas such as Dublin. There is therefore considerable future potential to complement the agricultural sector in the Midlands with additional tourism and recreational activity. In addition many worked out bogs in the Midlands are highly suited to wind energy development at a significant enough scale to support ancillary manufacturing, servicing and development activities, helping to position Ireland as an innovator in wind farm technology.

#### **10.9. National Planning Framework**

A National Planning Framework is currently being drawn up and will replace the NSS providing a strategic high level plan to 2040.

#### **10.10. Wind Energy Development Guidelines for Planning Authorities 2006**

The guidelines provide advice on wind energy development in terms of the Development Plan and development management processes. Guidance is given on matters such as noise, shadow flicker, natural heritage, archaeology, architectural heritage, ground conditions, aircraft safety and windtake. Whilst a setback distance

is not established, it is stated that noise is unlikely to be a significant problem where the distance to the residential property is more than 500m. In respect of noise, the recommended standard is a lower fixed limit of 45dBA or a maximum increase of 5dBA above background noise and nearby noise sensitive locations, apart from very quiet areas where the daytime level is limited to 35-40dB(A). A night time limit of 43 dB(A) is recommended.

In terms of shadow flicker, the recommended standard is a maximum of 30 hours per year or 30 minutes per day for dwellings and offices within 500m. It is further stated that at distances of greater than 10 rotor diameters, the potential for shadow flicker is very low.

Chapter 6 provides guidance on siting and design of wind energy development in the landscape. This includes advice on siting, spatial extent and scale, cumulative effect, spacing of turbines, layout of turbines and height of turbines. Advice is also given regarding landscape character types as a basis for the application of the guidance on siting and design.

Appendix 4 details best practice for wind energy development in peatlands. It states that development of most peatland sites (including upland and lowland bog types, fens and heaths) will generally lead to impacts on natural heritage. Notable exceptions to this would be areas of exploited peatland such as within the extensive milled peat bogs, mainly in Ireland's midlands.

#### **10.11. Revised Wind Energy Guidelines Proposed revisions to the Wind Energy Development Guidelines**

These are a targeted review in relation to noise, proximity and shadow flicker. A consultation period was allowed up to the 21st February 2014. The proposed revisions involve:-

- Although the use of a defined setback of turbines from noise sensitive properties is not considered appropriate due to a lack of correlation between separation distance and wind turbine sound levels, it is stated that there should be a minimum separation distance of 500m between wind turbines and the curtilage of the nearest dwelling, for reasons of amenity, e.g. visual obtrusion.

- A revised absolute outdoor noise limit (daytime and night time) of 40 dB(A) to be applied within the curtilage of noise sensitive properties. These are defined as including dwelling houses, (including those for which planning permission has been granted but not yet built), nursing homes, hospitals, school, and places of worship.
- The potential for shadow flicker is extremely low for dwellings located at distances of greater than 10 rotor diameters (RD) of a wind turbine. However, if shadow flicker is likely to occur, the developer would be required to mitigate this by, for example, shutting down the operation of the particular turbine for the period necessary to eliminate the shadow flicker. The 10 RD should inform the study area.

#### 10.12. Regional Planning Guidelines for the Midland Region 2010 – 2022

Chapter 3 of the RPGs outlining the regional Economic Development Strategy recognises an opportunity for the region to harness the potential for renewable energy development arising from the presence of cutaway bogs. Section 3.3.4.6 acknowledges that renewable energy in all its forms offers significant potential for the development of the rural economy including, inter alia, wind energy potential within the broader objective of reducing carbon emissions and developing alternative renewable energy sources. Worked out peatlands offer potential for renewal energy installation including wind energy.

Section 3.4.6.1 'Renewable Energy' supports the development of wind energy generation throughout the region, subject to appropriate siting considerations as set out in the Wind Energy Development Guidelines, Local Authority Wind Strategies and compliance with environmental and landscape designations. Section 5.8 which addresses energy provision states that the region has substantial renewable energy potential to accommodate large scale energy production in the form of wind farms and bio-energy fuel sources. The RPGs acknowledge that the development of the renewable energy sector in the Midland Region will significantly contribute to the national target of generating 40% electricity from renewable sources by 2020.

In relation to Energy Infrastructure, the relevant policies include:

TIP33: Support the sustainable development of the infrastructure required to assist the Midland Region in the delivery of renewable energy particularly in the context of

the existing energy infrastructure in the region and the need to make a transition from peat to renewable energy.

#### 10.13. Offaly County Development Plan 2014 – 2020

Section 3.5 addresses Wind Energy

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

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

Appropriate buffers should be provided, which shall be a minimum of 2km from town and village cores, European sites and NHA's. The EIA associated with any development should also assess the flight paths of any Annex 1 bird species present in order to minimise the potential for bird strikes.

*Map 3.2* delineates two wind energy development areas in the county. The site is within the eastern designated area.

The following policies pertain:

*EP-01:* Support national and international initiatives for limiting emissions of greenhouse gases and to encourage the development of renewable energy sources.

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

*EP-03:* Encourage the development of wind energy in suitable locations, on cutaway bogs within the wind energy development areas open for consideration identified in

Map 3.2, in an environmentally sustainable manner and in accordance with Government policy, having particular regard to the Wind Energy Strategy for the County and Section 3.5.1, which states that appropriate buffers should be provided, which shall be a minimum of 2km from Town and Village Cores, European designated sites, including Special Areas of Conservation (SAC) and Special Protection Areas (SPA), and national designations, Natural Heritage Areas (NHA). Wind Energy developments on cutaway bogs should generally be developed from the centre out.

*EP-04:* Cumulative effects of wind farm development can arise as the combined consequences of proposals for more than one wind energy development within an area or proposal(s) for new wind energy development(s) in an area with one or more existing or permitted developments. Offaly County Council will monitor cumulative impact assessments of wind energy proposals over the lifetime of the plan and cumulative impacts will be a material consideration in the assessment of any planning application for wind energy development.

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

The following objectives are noted:

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

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

*EO-02* : Facilitate the promotion and construction of energy efficient developments throughout the county .

*EO-05*: Assist the Midland Energy Agency in delivering energy efficiency solutions, stimulating the increased uptake of renewable energy sources and the promotion of clean and sustainable transport.

Section 8.23 sets out Development Management Standards for wind energy. All planning applications for wind energy turbines or windfarms shall be assessed against the DEHLG's publication Wind Energy Development Guidelines, 2006, (and any subsequent guidelines) and the Offaly County Council's Wind Strategy.

Chapter 7 deals with heritage and landscape. The site is located within a 'moderate sensitivity' landscape. These are areas which are generally 'open' in character with intrinsic quality and moderate capacity to absorb new development. Some form of development subject to appropriateness/conditions is considered possible.

Table 7.11.3 sets out the landscape characteristics and sensitivities as applicable to moderate sensitivity areas and notes that some cutaway bog landscapes are more robust and may be considered for other uses and may be appropriate for other sensitively designed and located developments including renewable energy (wind farms, biomass crops) and/or industrial use. The Council recognises the need for a land use plan for the future development of large areas of cutaway bog within Offaly.

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

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

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

Figure 8 delineates areas of wind energy development potential. The site is within Area 2 Clonygowan to Clonbullogue. As per Table 1, having regard to the very low

levels of existing dwellings, large land holdings, reasonable access to grid, reasonable road access and existing cut-over bogs this area is suitable for large scale windfarm development. The decision is that core areas of cutover bog are suitable for windfarms with scope for more dispersed clusters of smaller developments over the remainder of the area.

Following on from this analysis section 5 sets out the wind energy strategy for the county. Figure 9 indicates the areas that are deemed suitable for all scales of wind energy development on account of a combination of factors:.

- Available access to suitable grid connections (within 10 kilometres);
- The absence of compelling environmental constraints; and
- Low densities of adjacent residential development.

Applications for wind turbines in these areas are acceptable in principle, subject to conformance with all other requirements of the County Development Plan, including objectives relating to landscape protection and the protection of residential amenity.

The rationale behind this policy is to minimise the impacts of large-scale developments on the environment of Co. Offaly as a whole, while maximising the potential for optimal and efficient grid connection. The strategy anticipates that all wind farm sites within the Suitable Area for Wind Energy Development will be intensified in future by:

- Taller turbines with larger swept areas;
- Higher densities (closer spacing of turbines);
- More advanced technology with higher efficiencies of energy capture.

## 11.0 Assessment

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

1. Principle of Development and Policy Context
2. Environmental Impact Assessment
3. Appropriate Assessment
4. Procedural, Legal and Miscellaneous Considerations

### 11.1. Principle of Development and Policy Context

- 11.1.1. The case for providing renewable energy infrastructure to address the reliance on fossil fuels is well documented with European and National energy policies and legislation supporting the change to a low carbon economy and to greater use of renewable energy resources. The NREAP (National Renewable Energy Action Plan) on foot of Directive 2009/28/EC sets the national targets for the share of energy from renewable sources to be consumed by 2020 and within these overall targets it is a Government objective to generate 40% of Ireland's electricity needs from renewable energy. This is reiterated in the White Paper – Transition to a Low Carbon Energy Future for Ireland 2015-2030, which envisages on-shore wind driven plants continuing to be the main contributor to renewable electricity.
- 11.1.2. Although the proposed development which would generate a minimum of 63 megawatts of renewable electricity, by reason of the timescale involved for its realisation, may not feed into the national target set for 2020, it is clear that wind energy plays, and will continue to play, an integral role in the national energy policy into the future to realise the change to a low carbon economy. The proposal is, therefore, in accordance with national policy.
- 11.1.3. From a land use perspective the Wind Energy Guidelines for Planning Authorities (WEGs) issued in 2006 continue to be applicable and are the subject of a targeted review with respect to proximity, noise and shadow flicker. As yet no anticipated date for revised guidelines following the said review is known. Thus, notwithstanding observers' views that the guidelines are out of date and were not intended to provide guidance for large scale turbines as proposed in this instance,

they continue to represent current guidance and I submit that the absence of any final outcome of the targeted review should not prevent the consideration of individual applications for wind energy development. Notwithstanding, I note that the applicant in the assessment of the application, has due regard to the proposed amendments set out in the targeted review and are referenced in the respective sections of the EIS.

- 11.1.4. The central tenet of the WEGs is the need for a plan-led approach and identification of areas considered suitable for wind energy development. They provide guidance in terms of development plan provisions and development management with Section 6.9 addressing landscape character types providing a basis for practical application of siting and design, which can be incorporated into the plan-led approach, advocated. Whilst a number of observers consider the area to be reflective of both the *Hilly and Flat Farmland* and *Transitional Marginal* character types, in my opinion these do not provide an accurate description of the receiving environment. I will address this matter in further detail in section 11.2.6 below but at this juncture would state, in view of the extensive open areas of commercial peatland in the vicinity and within a 20km radius of the site which is generally flat with few hills, that the application site and vicinity would more appropriately fall within the *Flat Peatland* character type. The guidelines consider such areas as having significant potential for wind energy development.
- 11.1.5. The suitability of peatland areas for wind energy is reiterated in the Midland Regional Planning Guidelines (RPG's) which, in outlining the regional economic development strategy, recognises an opportunity for the region to harness the potential for renewable energy development with worked out peatlands offering potential for renewable energy including wind energy.
- 11.1.6. The said RPG's inform the current Offaly County Development Plan 2014 of which the *Wind Energy Strategy for County Offaly - Methodology Statement 2014* forms part. In same the site is within one of two areas designated in the County in which wind energy is open for consideration, subject to appropriate buffers being maintained to settlement and designated sites (see Figure 9 of Strategy and Figure 2.1 of EIS). These designations are informed by the results of the field analysis of potential sites as set out in Table 1. Whilst observers consider the map given in Figure 8 to be unclear I consider that it provides sufficient detail and submit that the

site is within Area 2 - Clonygowan to Clonbullogue, which is identified as being suitable for large scale windfarm development. In reaching this conclusion consideration was had to the very low levels of existing dwellings, large land holdings, reasonable access to the electricity grid, reasonable road access and existing cut-over bogs.

11.1.7. The strategy states that applications for wind turbines in the two designated areas are acceptable in principle, subject to conformance with all other requirements of the County Development Plan, including objectives relating to landscape protection and the protection of residential amenity. The rationale behind this policy is to minimise the impacts of large-scale developments on the environment of Co. Offaly as a whole, while maximising the potential for optimal and efficient grid connection.

11.1.8. It has been asserted by a number of observers that in view of the existing and permitted windfarm developments in the area that a decision in this case should not pre-empt a review of the Wind Energy Strategy areas as provided for in section 5.3.1 of the methodology statement. Such a review would arise once substantial wind energy development has occurred within the identified areas. I note that the strategy is silent as to what constitutes 'substantial'. In this regard I note that Mountlucas, which consists of 28 turbines and is c. 4 km to the west of the site, has been operational since 2014, whilst Yellow River which has permission under ref. PA0032 for 29 turbines is c.9km to the north/north-west. The Board granted permission for the latter proposal in June 2014. The location of the developments relative to each other are shown on a number of drawings in the EIS including Figure 11.11 and Appendix 11-1 (Zone Theoretical Visibility Map). I note that the strategy which forms part of the County Development Plan came into force in October 2014. It is therefore reasonable to surmise that the strategy would have been drawn up in the knowledge of these developments. As such, it is questionable whether these developments equate to what is considered 'substantial' wind energy development which would trigger the requirement. I note that the Local Authority in its submission to the Board did not express concerns in this regard. I therefore would not subscribe to the view that a review is required at this time.

11.1.9. In terms of the contention that there is a conflict between the provisions of the development plan and the wind energy strategy in terms of maintenance of buffer zones I note that the strategy, in seeking to identify suitable areas, incorporated a

2km setback from visually sensitive features for analytical purposes. Following on from same the areas deemed suitable for wind energy development were drawn up as presented in Figure 9. The said strategy is subject to the compliance with policies EP-03 and EP-04 and objective EO-01 of which the only reference is the requirement to maintain a 2km separation from town and village cores, European sites and NHA's. This is complied with in this instance with a 2.3km separation to be maintained between Clonbulloge village and the nearest turbine.

- 11.1.10. It is also argued that there are inconsistencies between the identification of the site as being suitable in principle for wind energy development and the development plan 'moderate sensitivity' landscape designation for the area. I would bring to the Board's attention Table 7.11.3 of the plan which states that some of the cutaway bogs in such designated areas may be appropriate for sensitively designed and located development including windfarms.
- 11.1.11. In a general context I submit that whilst it could be argued that the development would be in conflict with a policy or objective of the development plan if the said policy or objective is considered in isolation ie. LAO-01 seeking to preserve and enhance the character of the county's landscape, that the development plan in its entirety needs to be considered to arrive at a balanced view of the various policies and objectives.
- 11.1.12. In conclusion I consider that the proposal accords with European and national policy with both the regional and local policy framework documents, including the Wind Energy Strategy Statement for Co. Offaly referenced above, providing a spatial dimension for the assessment of the proposal. Thus, whilst the outcome of the targeted review of the Wind Energy Guidelines is awaited, it is my opinion that no policy vacuum exists. On this basis, therefore, I do not consider that the proposal is comparable to the Maighne wind farm development subject of a refusal by the Board under reference PA0041 referenced by a number of observers as setting a precedent for a refusal in this instance.

## 11.2. Environmental Impact Assessment

### Overview

As the competent authority the Board is required to carry out an environmental impact assessment of the application in accordance with Articles 4 to 11 of the EIA Directive, on the following:

- human beings, flora and fauna,
- soil, water, air, climatic factors and the landscape,
- material assets, including the architectural and archaeological heritage, and cultural heritage
- the inter-relationship between the above factors.

This assessment also requires consideration to be given to, where relevant, the indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the proposal, including those which arise during the construction phase.

The following assessment draws on the EIS, the submissions made by observers, prescribed bodies and the local authority, the applicant's response to same, and my site visits and analysis. It has regard to the receiving environment, the characteristics of the proposed development, likely significant impact of the proposal on the environment both direct and indirect, and mitigation measures proposed in order to eliminate, reduce or control effects on the environment.

Cumulative impacts with existing, permitted and planned development are referenced and assessed throughout. Whilst reference is made to the future use of other peatlands in the vicinity, including windfarms, none have yet progressed to planning application stage and as such details are not available on same.

Therefore, I submit that their inclusion at this juncture is not a reasonable requirement. I also note that should any of the projects be further advanced they would, in their own right, be required to address cumulative impacts with existing and permitted development including the current proposal should it secure permission.

I submit that the EIS document, which is prepared in the grouped format, is generally consistent with the requirements of Article 94 of the Planning and Development

Regulations, 2001-2015 (contents of an EIS). A non-technical summary is also included. I am satisfied that the EIS, taken in conjunction with the other details available, including the local authority's report and observations received, is adequate to enable the Board to carry out an environmental impact assessment and to make an adjudication on this application.

### Alternatives

In terms of the requirement to provide an outline of the main alternatives studied, section 2.8 of the EIS pertains, with reference made to Section 2.4 dealing with site selection. Whilst reference is made in section 2.82. to 25 sites reviewed in the applicant's landbank no details are provided for same save that they were assessed with regard to the matters detailed in section 2.4. The applicant in its response to the Local Authority's report expands further naming 20 of the sites which are in the application process for grid connection. The remaining 5 were not assessed as they did not have such an application in progress (see Table 15 of the response). The sites were brought forward for assessment using the criteria as outlined in Section 2.4.2 of the EIS. Arising from the application of the said criteria the application site emerged as the optimum location for the proposed development.

It is apparent from the EIS that the applicant considered alternative land uses including the 'do-nothing' option, short rotation forestry, afforestation, horticulture, cereal growing, biodiversity and ecosystems and alternative renewable energy projects including solar farms. An outline is also given of consideration given to alternative site layouts including road layouts, ancillary structures and construction compounds.

The legislative requirements pertaining to this matter stipulate '*an outline of the main alternatives studied by the developer and an indication of the main reasons for his or her choice, taking into account the effects on the environment*'. Whilst there is no explicit requirement to provide details of alternative sites studied the applicant has provided some information in this regard.

Therefore I am satisfied that the applicant has discharged its requirements in terms of alternatives.

### 11.2.1. Human Beings

11.2.1.1. Chapter 4 of the EIS is titled Human Beings although other issues such as noise, traffic and visual impact which impact on people are dealt with in other chapters of the EIS. I propose to address these matters under separate headings below. The issues addressed in chapter 4 pertain to land use, employment, property values, shadow flicker and health and safety. It also deals with tourism which I propose to address under the heading material assets in section 10.2.8 below. I also propose to address the issue of community gain at this juncture.

#### Land Use

11.2.1.2. The site of the application has been in use for commercial peat production for a considerable period of time with its expected cessation in 2018. If the proposed development were not to proceed the existing uses on the site, namely commercial peat harvesting, would continue until the peat is exhausted and then a rehabilitation plan implemented. The proposal will also require the removal of an existing staff support building and compound in addition to a telecommunications mast.

#### Employment

11.2.1.3. It is stated that the project will create up to 120 jobs during the construction phase which is expected to last 18 to 24 months. In the long term up to 6 jobs are envisaged during the operational phases. Having regard to the relatively short nature of the construction phase and the long term employment projections I submit that the proposal would not have any significant long term direct effect on the population levels in the area although the short term benefits to the local economy and to local service providers in the area are acknowledged.

#### Property Devaluation

11.2.1.4. The area in question is relatively lightly populated with extensive commercial peat production predominating in addition to the Edenderry power plant and associated land uses including an ash repository. As such the industrial and commercial interventions in the landscape are noted and form the backdrop for development in

this area and have done so for a period of time. The nearest dwelling to a turbine would be c.750 metres, located to the north-west of the site.

11.2.1.5. A number of the observers attest that the proposal would result in the devaluation of property with a number of parties making reference to guidance received that the loss could be in the region of 25-50%. Section 4.6 of the EIS addresses this matter and notes that there have been no empirical studies carried out in Ireland. With reference to a number of American and British studies it is asserted that it is a reasonable assumption that the provision would not impact on property values. A number of the observers to the application do not concur and present alternative studies to support their view. The applicant's response to the said observations includes a further study from Scotland that postdates the lodgement of the application which supports its assertion. In reply observers contend that the findings of the study are not applicable to an Irish context and cannot be used to predict impact on property prices with a study from the London School of Economics supporting the assertion of a correlation between turbine location and property devaluation.

11.2.1.6. I submit that whilst the prospect of the proposed development may become a factor in the short term and that the potential for impact on value the closer the dwelling is to turbines is plausible, the submissions made both by the applicant and observers are not conclusive in relation to the impact and, in particular, the long term impact on property values. I note that the WEGs do not refer to impact on property values but sets standards in terms of setback between properties and turbines, noise and shadow flicker. Therefore I submit that if property values are not to be adversely affected it is necessary to ensure that these standards are achieved and that noise and shadow flicker levels are controlled in order to protect residential amenities.

#### Shadow Flicker

11.2.1.7. The WEGs recommend that shadow flicker at dwellings within 500 metres of a proposed turbine location should not exceed a total of 30 hours per year or 30 minutes per day. The guidelines consider that the risk of shadow flicker to be very low at distances greater than 10 rotor diameters from the turbine. As the distance implied by such a measurement is, more often than not materially greater than the

500 metre threshold, there appears to be somewhat of a lacuna in this regard in terms of impact in the intervening distance. As yet the review of the guidelines has not been issued although I note that this matter is subject of the targeted review.

11.2.1.8. In order to present a worst case scenario an assessment was undertaken for all occupied properties located within 10 rotor diameters. As a maximum potential rotor diameter will measure 131m, the distance applied is 1.31km of the proposed turbine locations. Taking into consideration the site on which there is an extant permission for a dwelling to the north-east of the site, omitted in the original study, but subsequently addressed in the applicant's response to the observations received (property ref.363 - see Figure 7.1 of response), a total of 96 no. properties have been identified within the 1.31km radius. The nearest occupied dwellings are the properties to the north-east of the site with property IDs 1, 18 and 19 at 780, 780 and 750 metres respectively. The Board is advised that the property numbering as given in Figure 4.6 of the EIS and Figure 7.1 of the applicant's response is not in a logical progression.

11.2.1.9. To assess the potential for shadow flicker the software package Windfarm Version 4.1.2.3 was used. In addition, the following worst case conditions are assumed:

- 100% sunlight during all daylight hours
- Absence of any screening
- The sun is behind the turbine blades
- The turbine blades are facing the property
- Wind is always assumed to be within the operating range of the turbines so that the rotor is turning at all times.
- Windows of the property face directly towards the windfarm.

11.2.1.10. Of the said 96 properties the modelling predicts that 57 may experience some shadow flicker and that 30 (2 of which are in use as farm buildings) may experience daily flicker in excess of the WEG threshold of 30 minutes per day. Table 4.12 of the EIS supplemented by Table 7.2 of the applicant's response detail the properties that may be affected, the turbines in question and, save for property ref.363

referenced in the said response, the days of the year when mitigation may be required.

11.2.1.11. In terms of the annual shadow flicker 14 no. properties (2 which are in use as farm buildings) may experience in excess of 30 hours per annum. Following the application of a regional 29.2% average sunshine during daylight hours through the year (figure taken from Met Eireann data recorded at Mullingar over 30 year period) no property records an exceedance of the threshold.

11.2.1.12. In terms of mitigation I would suggest in the first instance that it would be preferable to consider same by avoidance through the omission of those turbines which contribute to the excessive levels of shadow flicker, however, it would seem that no consideration was given to this option by the applicant. Section 4.9.3.9 of the EIS sets out the mitigation measures to be employed which entail established practices including screening assessment, screening measures and/or wind turbine control measures to limit the incidences of duration of shadow flicker at the affected property. As noted above Table 4.12 of the EIS and Table 7.2 of the applicant's response lists the turbines that could be programmed to switch off and (save for property re. 363) the days per year in question, to reduce daily shadow flicker to a maximum of 30 minutes. The tables works on the assumption that the sun would be shining on the affected days.

11.2.1.13. The potential for cumulative shadow flicker with the Mountlucas and Yellow River windfarms is assessed and is reasonably discounted in view of the relative separation between the schemes.

11.2.1.14. Taking into consideration the application of the worst case scenario assumptions as set out above and the application of guideline thresholds referenced for properties within 500 metres of a turbine to all properties within the 10 rotor diameters, in addition to the measures to be employed should the relevant parameters be exceeded, I consider that the assessment is robust and that the potential impact arising from shadow flicker on properties in the vicinity would not be significant. I consider that the issue can be adequately addressed by way of condition comparable to that employed in other applications for wind farm development. In

addition, provision should be included for the implementation of a wind farm shadow flicker monitoring programme, details of which to be agreed with the planning authority.

11.2.1.15. In relation to the concerns raised as regards the potential health impact of shadow flicker on persons who are sensitive to changes in light, including sufferers of photosensitive epilepsy, I note that the WEGs do not specifically address such matters. I also note that the introduction to the Targeted Review document expressly states that such matters are beyond the remit of the guidelines and that possible health impacts in respect of wind energy infrastructures are more appropriately dealt with by health professionals. In that context, therefore, whilst I acknowledge the concerns of the observers I do not consider that this application process is the appropriate forum for an analysis of the debate as regards the alleged impact of wind turbines on human health. Accordingly, I do not propose to comment further on the matter.

#### Health and Safety

11.2.1.16. In addition to the issues arising from noise and shadow flicker specific concerns have been raised regarding ice throw. The WEGs in section 5.7 state that there are no specific safety considerations in relation to the operation of wind turbines and that people and animals can safely walk up to the base of turbines. The possibility of ice throw is considered to be remote although the development has incorporated design features to account for same. Turbines are to fitted with anti-vibration sensors which detect any imbalance caused by the icing of the blades and that the sensors cause the turbine to wait until the blades have been de-iced prior to beginning operation. I also note that the setback maintained between the turbines and the nearest dwelling is effectively twice the identified ice throw buffer of 354 metres.

11.2.1.17. The issue of fire hazard was also raised and, again, I note the setback to be maintained between the turbines and substations and the nearest dwellings to ameliorate concerns in this regard. I note that Offaly County Council's Chief Fire Officer has no objection to the proposal and that a site specific Emergency Response Plan is to be developed. I also submit that the health and safety of

workers during both the construction and operational phases is a matter for the relevant contractor and site operator and is not a planning consideration.

### Community Gain

11.2.1.18. As per section 3.4.2 of the EIS a community gain scheme is proposed by the applicant and is to operate in a comparable manner to that linked to the Mountlucas wind farm also developed by the applicant. At €1000 per megawatt per annum index linked, this would be in the region of €1.88 million over the life of the project and is in line with that applied in other developments. I note that the Board in recent decisions on wind energy assessed as Strategic Infrastructure Development did not attach conditions addressing community gain (PA0029 and PA0031 in County Mayo and PA0032 in County Offaly). In its direction on the latter case (Yellow River windfarm) the Board considered it unnecessary to attach a condition in the light of a stated commitment to provide for such a fund. As such a commitment is stated in the EIS the Board may consider it appropriate to take a comparable approach should it be disposed to a favourable decision.

11.2.1.19. A number of observers consider that such a scheme, while beneficial to local groups and clubs, does not provide any comfort to those in closest proximity to the turbines and that the establishment of a near neighbour scheme could provide a redress in this regard. As per the details provided in the applicant's response to the observations received this matter is under consideration with engagement with the Cloncreen Community Engagement Forum.

11.2.1.20. In terms of amenity provisions the applicant is committed to applying a similar approach to that development on Mountlucas entailing a number of walking/running/cycling trails although no specific details are provided of same. It is stated that the commitment is dependent on the application securing permission, the scheme becoming operational and that it is operated within the appropriate Health and Safety guidelines. The Planning Authority considers that such detail should be provided at this stage. I note that amenity parking is to be developed off the R401 to the east of the site and is shown on drawing no. 0504-30. Such amenity provisions would add to the recreational and tourism infrastructure in the area in accordance with the Walking and Cycling Strategy for County Offaly as set out in the

publication titled *Connecting People-Connecting Places*. I consider that details of the public access arrangements could be sought by way of condition to be agreed with the planning authority within a specified period following the commissioning of the windfarm. Its incorporation into the Community Gain scheme as mooted by the Local Authority is a matter for the relevant stakeholders. I also note that whilst the potential for the connection of the proposed development and Mountlucas via the rail line and Ballycon Bog is identified, it does not form part of the application.

## 11.2.2. Flora and Fauna

11.2.2.1. Chapters 5 and 6 of the EIS deal with flora and fauna. The Board is advised that the application is accompanied by a Natura Impact Statement. Whilst there may be a degree of overlap, the NIS is dealt with in detail in section 11.3 below.

### Flora

11.2.2.2. The site is dominated by cutover raised bog bordered by woodland habitats, both broadleaved and conifer. Small scale turbarry is practiced on bog remnants to the east, south and west. An ecological survey dating back to 2011 provided in Appendix 5.1 of the EIS noted that at that time the majority of the site had less than 2.5 m of peat left while a significant area had already come out of production. Save for the drainage channels supporting the peat milling production there are no rivers or watercourses within the site.

11.2.2.3. The habitat types on the site are generally of limited ecological importance and are widespread throughout the locality, although I note that two nationally rare plant species, Basil Thyme and Blue Fleabane were recorded on the site. The former is listed on the Flora Protection Order 2015. Both are listed in the Irish Red Data Book. These species are not likely to have been present on the site prior to the development of the cutaway as they are not typical of bog habitat. They have been identified in the borrow pit and along the railway tracks and hardstanding areas constructed from material sourced from eskers or gravel pits. The design of the development avoids the largest populations of the species on the site with Figure 5.5b showing the overlap of the proposed development with the identified locations. To compensate for this habitat loss, it is proposed to reinstate suitable calcareous

habitat within the development site. It is noted that construction on site has the potential to enhance the conservation status of both species, as it will mean that more gravel and sub-soil is exposed and disturbed, providing new habitat for these plant species. The applicant in its response to the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs' submission has confirmed that it has secured a licence under Section 21 of the Wildlife Act to undertake works which may impact on Basil Thyme.

### Fauna

- 11.2.2.4. Sand martins were identified in the area of the borrow pit and its use will result in a temporary loss of its habitat. This is to be mitigated by provision of alternative breeding habitat. As confirmed in the applicant's response to the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs' submission, a licence has been sought under Section 22(9)(d) of the Wildlife Act.
- 11.2.2.5. Bat surveys were conducted in 2013, 2015 and 2016 and entailed a mix of roost surveys, manual transects and fixed point surveys. Common pipistrelle, Soprano pipistrelle, Pipistrelle sp. and Leisler bats were recorded. Overall, bat activity levels were shown to be very low and were largely concentrated around the fringes of the wind farm site with some foraging and commuting recorded along the vegetated linear banks that cut through the site. No bat roosts were identified within the site with the trees therein considered unsuitable to support roosting bats. 5 roost sites are identified within a 10km radius with 4 being within 6km of the site. Surveys at height recorded a single Leisler's bat contact across 55 nights. It is considered that bats will only occasionally cross the open bog habitats where turbines will be sited and when they do they tend not to fly at heights that place them at risk of collision. In accordance with the recommendations of the Natural England Guidelines '*Bats and Onshore Wind Turbines Interim Guidance*' a setback of at least 50 metres is to be maintained between the tip of any blade and the said vegetated linear banks and strips.
- 11.2.2.6. On the basis of the detail provided I accept the assessment that the loss of cutaway bog will have negligible impacts on local bat populations while the loss of scrub and treeline habitats will only marginally reduce foraging and commuting opportunities

and that potential for collision is low. Standard mitigation measures with post construction monitoring and fatality searches are proposed.

11.2.2.7. In terms of avifauna I note at the outset that the site is not within an area where birds are likely to be sensitive to wind energy developments as per the Bird Sensitivity Mapping Tool for Wind Energy Development developed by Birdwatch Ireland. The nearest is at Bracknagh to the south which is classified as being 'low' sensitivity for bird species. The tool is based on the collation of existing distributional data.

11.2.2.8. The dedicated Bird Surveys conducted at the application site and surrounding area were carried out during two breeding and winter seasons since 2013. In addition, a single vantage point survey was undertaken on a monthly basis at a neighbouring Bórd na Mona site at Ballycon (between 600-900 metres to the west of the main study area) between September 2015 and May 2016. Supplementary data encompassing the winter seasons 2012/13 and 2014/15 and breeding seasons 2013 & 2014 was also consulted, in addition to literature sources such as breeding and wintering bird data pertinent to Bord na Mona sites in the wider surroundings (Ballydermot & Derrygreenagh Bog groups). Reference is also made to recordings to irishbirding.com. The survey work accords with best practice guidelines set out in the Scottish Natural Heritage Guidelines (SNH, 2014) and I submit that the results allow for a proper assessment.

11.2.2.9. Tables 6.14 & 6.15 as supported by the data provided in Appendix 6-2, sets out the bird species recorded during the winter and breeding seasons surveyed and include Annex 1 Birds Directive species Hen Harrier, Peregrine Falcon, Golden Plover and Whooper Swan.

11.2.2.10. Hen Harrier was recorded in very low numbers, specifically 6 times over the 429 ½ hours survey work undertaken, on which it is concluded that it is not dependent on the habitats of the study area. Flight activity was very low with flight lines recorded below predicted collision risk height. There are no records of Hen Harrier breeding within and up to 2km radius of the site during the breeding season 2016. In response to the submission from the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs the applicant clarified that following the SNH 2014 guidelines,

there was no requirement to complete winter roost surveys to a 2km radius of the site given the low level of activity. Reference was also made to the baseline study of wintering birds associated with Derrygreenagh and Ballydermot Bog Groups (which includes Cloncreen Bog) carried out between 2012 and 2013 and which included a focused survey for Hen Harrier roosts over suitable habitat for a distance of 1-2km outside each of these sites. No roost sites were recorded during these surveys. I consider that the applicants response to be based on a reasonable approach and accords with the accepted guidance. The Department did not make a further submission following this response.

11.2.2.11. Peregrine Falcon was observed utilising the habitats of the study area during wintering and breeding seasons with a local pair identified breeding at Edenderry Power Station to the east of the subject site and which were occasionally observed perched on peat piles, bog stumps and the two masts on the site. A fully fledged juvenile was observed on the subject site in July and August 2016. Flight activity accounted for 0.14% of total watch time effort across all seasons from which it is concluded that the pair are not dependent on the habitats. Given the open nature of the habitats onsite and dominance of bare peat, the majority of the study area is deemed to be unsuitable as key foraging grounds to the species. There is a wide availability of prey items (i.e. small mammals) associated with optimal hunting grounds in the wider surroundings (peatland habitats to the north located in the townland of Ballykilleen and Shean and to the east at Kilcumber and Cloncant).

11.2.2.12. Golden Plover was recorded on the site and was observed commuting, feeding and resting within the habitats of the study area during the winter months but in lower numbers than recorded in the surrounding area. The number of birds ranged from 1 to 250 individuals and are well below nationally important thresholds (1,200 birds equates to 1% of national importance). Its flight activity accounting for 0.15% of total watch time effort with the majority of flight lines recorded below predicted collision risk height. Flocks observed are not dependent on the habitats of the study area based on occasional site usage, low level of flight activity recorded, low numbers of flock sizes and availability of alternative foraging and roost habitat in the wider surroundings.

11.2.2.13. Whooper Swan was recorded during the wintering period on the site in low numbers (maximum flock of 83 with average flock size being 27) with no recordings of the species migrating through the site. The presence corresponded with periods of high levels of rainfall and standing water on the site. This finding is supported by the survey undertaken during 2012/13 and 2013/14 where Whooper Swans were absent from the study area. Previous records from other Bord na Mona sites note that Whooper Swans were regularly recorded in relatively high numbers at Cavemount (nationally important flocks) and Derryarkin location approx. 4km and 7km to the north-west of the subject site. Flight activity at the site accounted for less than 0.1% of total watch time effort and the majority of flight lines were recorded below predicted collision risk height.

11.2.2.14. Observers queried the adequacy of the assessment of the impact of the development on migrating Greenland White Fronted Goose (GWFG) and Whooper Swan. Both are Annex 1 species of the Birds Directive but are not qualifying interests of the nearest SPA sites of Lough Ennell 23.4km to the north-west and Slieve Bloom Mountains SPA 23.7km to the south-west. Specific concerns pertaining to the site being situated under a flyway used by the species between a number of SPAs in Wexford and Iceland and Greenland are raised. Reference is made to a sighting made of Greenland White Fronted Goose at Ballycon in 2015 flying in a north-northwest direction over the general area as recorded on [irishbirding.com](http://irishbirding.com). Observers note that ex-situ impacts may arise as a result of the proposed development which could have an adverse impact on the integrity of the said SPAs in that the qualifying interest, namely the identified species are at risk from collision.

11.2.2.15. In response, the applicant refers to the two years of bird survey works and the vantage point survey at Ballycon undertaken to establish whether this neighbouring site was regularly used by this species during the winter season 2015/16 and spring (2016) and autumn (2015) migration periods. The species was not recorded at the site either wintering or on passage. The applicant states that the site is within an area which is reflective of a large portion of the midlands and does not have any distinguishing features such as river valleys and mountain passes that would make the area more attractive to migrating birds than other areas. It is contended that the

site forms part of a wide section of the midlands across which migrating birds traverse and, itself, is not a defined flyway.

- 11.2.2.16. Observers counter the above view by stating that the eleven of twelve tracks taken by Greenland White Fronted Geese in the 1997-1999 tracking study crosses a line roughly from Tullamore to Edenderry which is a distance of c.36km (see map attached to submission from Tim O'Rourke & Pat Foley received 28/03/17).
- 11.2.2.17. I note that the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs in its submission to the Board states that the exact flight lines of the geese are not known and that circumstances such as weather can cause them to vary and can, on occasion, land anywhere along their flight path. I acknowledge that the route taken would be dependent on a number of factors including distance and weather conditions.
- 11.2.2.18. Taking into consideration the baseline data collated in line with established practice and supported by further studies carried out in the vicinity of the site in which the migratory birds in question were not recorded, the fact that there is one recording of Greenland White Fronted Geese in the area in 2015, only, and having regard to the Department's comments on the matter, I accept the applicant's conclusions and that there appears to be an absence of definitive evidence that the site is on a defined flyway.
- 11.2.2.19. In terms of direct habitat loss for the species subject to the assessment it is considered that there is comparable habitat abundant within the surrounding area which would mean that any possible moderate short term impact is unlikely.
- 11.2.2.20. To determine the collision risk to target species a Collision Risk Model (CRM) has been prepared to estimate the number of birds colliding with turbines over a period of time. It was not prepared for a number of species including Hen Harrier as flights were not observed at collision risk height. It was also not conducted for Greenland White Fronted Goose as it was not recorded on the site. Table 6.20 sets out the predicted results and are deemed to be low or negligible in all instances of the key avian receptors including Whooper Swan.

- 11.2.2.21. In terms of disturbance and barrier effect the scale of deterrence, together with the availability of suitable alternative habitat that can accommodate displaced birds, will determine whether the effect is significant or not. The size and scale of wind farms involved will determine the magnitude of barrier effects. Displacement could occur for distances up to 800 metres and up to 300 metres for breeding birds. The Bord na Mona cutaway site at Ballycon which attracts high number of waterbirds since its rehabilitation is outside 800 metres of the appeal site and therefore displacement effects are not foreseen. The spacing between the turbines is a minimum of 600 metres which is materially greater than the 200 metre separation recommended.
- 11.2.2.22. In terms of the barrier effect for migratory geese and swans I would accept the assertion that as there is no evidence of a defined flyway over the site the development would not represent a barrier with no evidence of a risk to migrating species.
- 11.2.2.23. With regard to cumulative impacts consideration was given to Mountlucas (28 turbines) c.4 km to the west, and Yellow River (29 turbines) permitted c.9km to the north/north-west with the assessment carried out in line with best practice (SNH, 2012). Reference is made by observers to other planned windfarms in the general area however none have yet progressed to planning application stage and as such details are not available on same. Therefore, I submit that their inclusion at this juncture is not a reasonable requirement. I also note that should any of the projects be further advanced they would, in their own right, be required to address cumulative impacts with existing and permitted development including the current proposal should it secure permission.
- 11.2.2.24. Given the wide availability of comparable habitat in the vicinity cumulative effects associated with habitat loss and disturbance displacement effects are considered to be low. In terms of the barrier effects total flight duration and flight activity within the study area was found to be low for all avian receptors identified. It is considered that the distance between the wind farms will not result in any barrier to transit corridors used by birds or losses in increased energy expenditure and is therefore accorded low significance.

11.2.2.25. The mitigation measures as detailed in the EIS include appropriate timing of construction works outside of the bird nesting season and retention of an Ecological Clerk of Works with specific measures detailed for the borrow pit and the Sand Martin colony, including provision of alternative habitat using Sand Martin breeding barrels during the construction period. In terms of the operational phase it is stated that the Cloncreen Rehabilitation Plan will facilitate the development of additional birch scrub and emergent wetland vegetation to enhance the ecological value of the site during the wind farm operation. A post construction Bird Monitoring Programme is also proposed and is set out in Appendix 6-6. It aims to monitor parameters associated with collision, displacement/barrier effects and habituation. Surveys will be scheduled to coincide with Years 1, 2, 3, 5, 10 & 15 of the life time of the wind farm. The measures are based on guidelines by SNH. A report summarising the findings of the survey are to be submitted to the planning authority at the end of each monitoring year. A controlled experiment to estimate carrion removal by scavengers is also proposed.

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

### 11.2.3. **Soil**

11.2.3.1. The site is generally flat and consists predominately of bare, locally re-vegetated cut away peat and intact peat with an extensive drainage network typically running east to west. As per the published soil map for the area the site is exclusively mapped as cutaway raised bog. Based on the GSI bedrock map the site is underlain by Dinatian Pure Bedded Limestone (DPBL).

11.2.3.2. A geotechnical and peat stability assessment report was prepared in support of the application and is attached to the EIS in Appendix 7-1. A total of 860 peat depth probes were carried out on the site (see figure 7.2). Peat thickness ranges from 0 to

4.8 metres with an average depth of 1.0m. 98% recorded depths of less than 3 metres and 84% less than 2 metres. Depths of over 2 metres are largely located on the perimeter of the bog.

11.2.3.3. The peat depths recorded at the turbine locations varied from 0 to 3.1 metres with an average depth of 1.1m. The slope angle at the turbine locations range from 1.0 to 2.0 degrees which reflects the flat topography/nature of the site. With regard to the proposed access roads peat depths are typically less than 2 metres with localised depths of up to 4.8m.

11.2.3.4. Excavation of peat and subsoil will be required during construction notably during the installation turbine base/hardstand, access roads and other works associated with the substation. Such works will result in the permanent removal of peat and subsoil at excavation locations. Estimated excavated peat volumes will range between 338,750m<sup>3</sup> and 362,870m<sup>3</sup> depending on which substation location option is developed. A Peat Management Plan is provided in Appendix 7-4. From the applicant's experience in the handling of peat both during peat production operations and during wind farm construction, notably Mountlucas which is located on similar terrain, it is considered that the most environmentally sensitive and stable way of handling and moving of peat is its placement across the site and at locations as close as possible to the excavation areas. Excavated roads through peat is the proposed new access road construction technique for the site, the methodology for which is set out in Section 4.1 of the Appendix. 18 of the 21 turbine bases are likely to require piled foundations.

11.2.3.5. In terms of stability in situ shear vane testing results at c.685 locations indicate shear strengths in the range of 12 to 70kPa with an average value of c. 37kPa and are typical of well drained peat. The said shear strengths were used to calculate the Factor of Safety (FoS) ie. the degree of stability of a peat slope resulting from the interaction between the weight of the soil/peat and the shear resistance of the peat to the downslope weight (strength of peat). A minimum of 1.3 based on BS6031:1981: Code of Practice for Earthworks (BSI, 2009) is taken as acceptable.

- 11.2.3.6. An undrained analysis, which applies in the short term during construction, shows all locations having an acceptable FoS of greater than 1.3 indicating a low risk of peat failure. See Figure 7 of the Appendix and Table 7.6 of the EIS. The undrained analysis would be considered the most critical condition for the peat slopes.
- 11.2.3.7. A drained analysis which is relevant to the long term stability of the site examines the effect of, in particular, rainfall on existing stability of the natural peat slopes on the site. 683 out of the 685 locations all have a FoS of greater than 1.3. These findings are not mapped and it unclear where the two locations which have a FoS greater than 1.3 are within the site. It is stated that the slope angles at the locations where these were calculated were based on contour survey plans for the site which give approximate values. Based on site data recorded during the walkover, it is likely that the slope angles derived from the contour survey plans overestimated the slope angle at these locations. Peat instability at these locations is not envisaged to be an issue should the proposed control measures be put in place. This is a reasonable conclusion. I note that the proposed roads and infrastructure locations would be the initiation point for any peatland failure and that peat conditions are mapped for these locations. Table 7.7 of the EIS confirms that the locations of the turbine locations, substation locations or construction compounds all have a FoS of greater than 1.3.
- 11.2.3.8. A number of localised areas, largely in the centre of the site, were recorded as having quaking (buoyant) peat with the areas delineated in Figure 4 of Appendix 7-1. The areas are relatively small with the largest being in the vicinity of T10 and the proposed site entrance. It is stated that Turbines 1, 3, 10 and substation option B and compound would need control measures due to deeper peat. Such measures include access and working areas formed using bog mats, supporting of excavation side walls, removal of water using pumping should there be greater water inflow into excavations and increased exclusion zone around excavation to avoid accidental loading of crest of slope.
- 11.2.3.9. From the findings of the peat assessment, it is concluded that the site has an acceptable margin of safety and is considered to be at low risk of peat failure. Accepted practices during the construction period are detailed in section 7.5.3.4.1.

- 11.2.3.10. The borrow pit on site is to provide for 320,000 tonnes with material from off site quarries ranging between 261,129 and 286,929 tonnes depending on which substation option is to be built.
- 11.2.3.11. Due to the localised nature of the proposed construction earthworks, which will be kept within the proposed development site boundary, there is no potential for cumulative effects.
- 11.2.3.12. I am satisfied, on the basis of the information provided in terms of the detailed site investigation, assessment of peat stability, the excavations required and expected volumes of material, in addition to details on foundation design, that the conclusions reached are robust and that the proposed development would not have adverse impact on the soils and geology of the area. I note that detailed methodologies have been provided for all aspects of construction including a geotechnical risk register as set out in Appendix 7-2 which sets out contingency measures for both the construction and operational phases should an identified hazard arise and the Peat Management Plan including contingency measures for excessive movement and peat slide. The mitigation measures as detailed represent good construction practice and their efficacy has been established in other developments involving groundworks in peatlands, of note Mountlucas c.4km to the west.

#### 11.2.4. **Water**

##### Surface Water

- 11.2.4.1. The surface of the cutover bog is drained by a network of east / west orientated peat drains that are typically spaced every 15 to 20m. These drains generally slope in both an easterly and westerly direction from the central north / south trending railway track line. Surface water outflows from the bog are located along the western, southern and eastern boundaries of the site and comprise both gravity and pumped outfalls. Surface water draining/pumped from the site is routed via large settlement ponds prior to discharge to off-site drainage channels which flow into the local rivers (ie Figile River to the east and Philipstown River to the west). Other than the designated surface water outfalls, there are no other areas where runoff can leave the site. The site drainage is delineated on Figure 8.4 in the EIS.

- 11.2.4.2. The site is located in the River Barrow surface water catchment within Hydrometric Area 14 of the South Eastern River Basin District. At a local scale the site is located in the Figile River surface water catchment. The Figile River flows in a southerly direction c. 500 metres to the east of the site. The eastern section of the site drains to the river via a number of outfall channels. The Philipstown River flows in a southerly direction c. 500 metres to the west prior to flowing in a more easterly direction to the south of the site and merging with the Figile River c. 2km downstream. The western section of the site drains to the Philipstown River via a number of channel outfalls.
- 11.2.4.3. The most recent data available (2004 to present) show that the Q-rating for the Philipstown River and the Figile River is Moderate to Good Status in the vicinity of the proposed site (see Table 8.3).
- 11.2.4.4. As part of the IPC licensing for the peat harvesting operation (licence ref. P0503-01) surface water quality monitoring data for runoff from the Cloncreen bog is available for six outflow locations. Summary data for 2013 and 2014 is shown in Tables 8.8 to 8.13. As would be expected average ammonia typically exceeded the Freshwater Fish Directive (2006/44/EC) limit for both Salmonid waters and Cyprinid waters. The presence of elevated ammonia is due to natural decomposition of peat within the bog.
- 11.2.4.5. The proposed development is estimated to result in an approximate 0.17% increase in the average daily/monthly volume of runoff from the site in comparison to the baseline pre-development site runoff conditions. The extensive network of field drains already existing at the site are to be integrated and enhanced as required within the wind farm drainage system with the installation of interceptor and collector drains, check dams, local settlement ponds and small wetland areas prior to discharge and further treatment in the existing main settlement ponds before discharge from the site. In effect the proposed drainage measures will create additional attenuation to what is already on site with the net effect being a reduction in the overall runoff rate from the site. In addition to these permanent measures additional temporary measures will be invoked during the construction phase

entailing both source and in-line controls and treatment systems which would be in accordance with established practice.

- 11.2.4.6. The proposed water monitoring plan will be the same as the existing monitoring regime for the commercial peat mill activity subject of an IPC licence although the licence will be surrendered on cessation of peat harvesting. The applicant has confirmed that it will maintain the established drainage features and control pumped outfalls to control silt discharged in the interim period between cessation of harvesting and development of the site.

#### Flooding

- 11.2.4.7. No recurring flood incidents within the site boundary were identified from the OPW's indicative river and coastal flood map with several recurring flooding incidences mapped to the east and west of the site on the Figile River and the Philipstown River respectively. The PFRA mapping ([www.cfram.ie](http://www.cfram.ie)) shows the extent of the indicative 1 in 100-year flood zone which relates to fluvial flood events. The vast majority of the proposed development site is located outside of the 1 in 100-year flood zone (Flood Zone A) with the exception of a section on the north-western corner of the site and a section on the southwestern corner of the site. These mapped fluvial flood zones within the site occur at the locations feeding into outfalls SW-34 and SW32. These areas are also the lowest lying areas of the site. All proposed turbine locations and the access roads are outside of the fluvial indicative 1 in 100-year flood zone.
- 11.2.4.8. Also shown on the PFRA mapping is the indicative extent of pluvial flooding (flooding from rainfall ponding). Pluvial flooding appears to occur along the main drainage channels within the site and this is as result of surface water runoff backing up in the drainage routes when the capacity of the outfalls is exceeded.
- 11.2.4.9. Where complete, the CFRAMS OPW Flood Risk Assessment Maps are now the primary reference for flood risk planning in Ireland and supersede the PFRAM maps. CFRAM fluvial mapping has been completed for approx. 321 ha of the 960 ha site. The proposed development site is not identified on the CFRAM flooding fluvial extent mapping, dated February 2015, as either in Flood Zone A or B. Therefore, according to CFRAMs the proposed development is located in Zone C, where the probability of

flooding is low. This suggests that the site is suitable for the proposed development in terms of flood risk.

11.2.4.10. On rare occasions there is a risk of inundation from pluvial flooding. Surface water discharges from the site are attenuated, and will be slowed down below greenfield runoff rates. Where pumping is used, pumping stations are rated for low discharge volumes in the order of 15mm per hour. No part of the proposed infrastructure will flood, and all access roads, and turbine bases will be designed to be above known pluvial flood levels.

11.2.4.11. Overall, during the wind farm phase of development for the site, surface water is more likely to be held on site due to new proposed attenuation measures, and this will have a positive impact on downstream flooding events.

#### Groundwater

11.2.4.12. The Dinantian pure bedded limestones which are mapped to underlie the proposed development site are classified by the GSI ([www.gsi.ie](http://www.gsi.ie)) as a Locally Important Aquifer - Bedrock which is Generally Moderately Productive (Lm).

11.2.4.13. Regional groundwater levels below the bog are expected to be high, or close to base of peat level. The vulnerability rating of the bedrock aquifer underlying the site is classified as “Low” to “Moderate” and this is consistent with the presence of basin peat underlain by a substantial depth of lacustrine SILT and glacial deposits.

11.2.4.14. No dewatering will be required in the borrow pit with the excavation to be above the water table. The installation of turbine bases in the underlying glacial deposits is likely to require some temporary dewatering arrangements. The primary risk to groundwater would be during the construction phase arising from cementitious materials, hydrocarbons spillage and leakages. The application of best practice measures and management of potential contamination sources during construction are proposed.

11.2.4.15. The site is not located in the groundwater protection zone of the Clonbullogue Public Water Supply spring source which is approximately 1km to the southeast of the

proposed development site. The location of the ZOC is shown on Figure 8.6. In addition, a search of private well locations was undertaken using the GSI well database with no wells with an accuracy of 1 – 50m mapped in the area of the proposed development site. In terms of providing an adequate assessment and to overcome the issues regarding accuracy of the GSI mapped wells, it has been assumed that every private dwelling in the area has a well supply although this is unlikely to be the case given that public water supply is present locally at Clonbullogue and there is a group water scheme at Drumcooley. A quantitative risk assessment to wells is provided in Sections 8.3.15 and 8.4.2.8 of the EIS which concludes that any groundwater level impacts would be localised due the local hydrogeological regime, namely high water table, low groundwater gradients and significant distances to any potential off site receptors such as wells or natural rivers/streams.

#### General

11.2.4.16. No cumulative impacts with other projects are anticipated as set out in section 8.4.7 of the EIS. A number of observers express concern about the cumulative impact of the proposed development with the Ash Repository bounding the site to the south in terms of groundwater quality. The said repository which has a composite liner underlain by low permeability clay/marl has a waste intake limited to 70,000 tonnes per annum comprising of industrial non-hazardous solids and is subject to a waste licence from the EPA which requires ongoing monitoring of groundwater. In view of the hydrogeological regime in the area and the distance between the turbine bases the conclusion that the installation of the turbines and associated infrastructure on the site would not impact on the operation of the repository is accepted.

11.2.4.17. As noted by a number of observers a section of the preferred pipeline route of the Eastern and Midlands Region Water Supply lies to the north and north-east of the site with a section, in the region of 400 metres, within the site itself. Whilst referenced in the EIS further evaluation of the potential cumulative impacts is given in the applicant's response to the submissions received. Invariably the availability of detailed proposals are unavailable given the stage of the water supply project but I consider that the applicant has made a reasonable attempt with the information to

hand, to identify any cumulative impacts that may arise. The proposed pipeline would likely involve the excavation of a shallow trench and river crossings of both the Figle and Philipstown River which would have the potential for water quality impacts but subject to best practice during construction any potential impacts would be controlled. I therefore accept that there is no significant potential for cumulative water quality impacts both during construction and operation.

11.2.4.18. I consider that the conclusions regarding surface and ground water are reasonable and that the most significant potential impacts would arise during the construction phase. Any potential impact arising from dewatering during construction would be localised and would not impact on any private or public water supplies. I am satisfied, overall, that the development would not have a significant adverse impact on water quality subject to the proper implementation of the proposed mitigation measures. These measures are comprehensive and are described as pre-emptive and proactive, with ongoing inspection, water quality monitoring and maintenance. Cumulative impacts can be prevented by phasing construction such that it does not take place at the same time as potential development adjacent such as the Eastern and Midlands Region Water Supply Scheme were it to be realised as proposed at this juncture.

#### 11.2.5. **Air & Climate**

##### Noise

11.2.5.1. The Board is advised that Section 10 of the EIS deals with Noise and Vibration.

11.2.5.2. In terms of the baseline monitoring undertaken I consider that the locations of the five monitoring locations as delineated on Figure 10.2 of the EIS to be reasonable, in accordance with recommended practice and largely correspond with the nearest noise sensitive receptors. They are, therefore, considered to be representative. The duration of monitoring also accords with the recommended practice of 2 weeks minimum. The justification for the use of the  $L_{90}$  rather than  $L_{Aeq}$  parameter with specific reference to the Department of Trade and Industry (UK) Energy Technology Support Unit (ETSU) publication *The Assessment and Rating of Noise from Wind Farms*, 1996 which informed the WEGs is considered reasonable.

- 11.2.5.3. The derived daytime and night-time background noise levels as indicated in Table 10.6 can be considered typical for a rural area with low noise levels particularly during periods of low wind speeds. The night-time background noise levels at the measured locations are less than 35  $L_{A90, 10min}$  for wind speeds up to 7m/s whilst there are no day time measurements over 40  $L_{A90, 10min}$  at wind speeds up to 8m/s.
- 11.2.5.4. The WEGs state that, in general, a lower fixed limit of 45dB(A) or a maximum increase of 5dB(A) above background noise at nearby noise sensitive locations is considered appropriate to provide protection to wind energy development neighbours. However, in very quiet areas, the use of a margin of 5dB(A) above background noise at nearby noise sensitive properties is not necessary to offer a reasonable degree of protection and may unduly restrict wind energy developments which should be recognised as having wider national and global developments. Instead, in low noise environments where background noise is less than 30dB(A), it is recommended that the daytime level of the  $L_{A90, 10min}$  of the wind energy development be limited to an absolute level within the range of 35 – 40dB(A).
- 11.2.5.5. In assessing the impact of the proposed development and taking into consideration the location of the site the following criteria have been used:
- 40dB  $L_{A90, 10min}$  for quiet daytime environments of less than 30dB  $L_{A90, 10min}$
  - 45dB  $L_{A90, 10m}$  in for daytime environments greater than 30dB  $L_{A90, 10min}$  or a maximum increase of 5dB(A) above background noise (whichever is the higher), and
  - 43dB  $L_{A90, 10min}$  for night time periods.
- 11.2.5.6. The justification for these parameters, specifically that to be applied to day time quiet environments is set out in section 10.3.2 of the EIS with regard had to (a) the WEGs as detailed above, (b) the Proposed Revisions to the WEGs – Targeted Review which sets out an absolute limit of 40dB  $L_{A90, 10min}$ , (c) EPA Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities which proposes a daytime noise criterion of 45dB(A) in areas of low background noise, (d) the parameters set by the Board in its decision on the Mountlucas windfarm under ref. PL19.237263 which set a limit of 43dBA  $L_{Aeq, 15min}$  (condition 9(1))

which is equivalent to 41dB  $L_{A90, 10min}$  and (e) UK's *A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise* as published by the Institute of Acoustics in 2013. I consider the justification for the parameters to be reasonable.

- 11.2.5.7. A series of computer-based prediction models have been prepared in order to quantify the cumulative noise level associated with the operational phase of the proposed development and the operating Mountlucas development. A worst case assessment was taken assuming all noise locations are downwind of all turbines at the same time. Noise was modelled for 363 receptors, the results of which are set out in Table 10.15. with additional modelling for 1 further location to the north-east (on which permission exists for a dwelling) set out in Table 5.1 of the applicant's response to the submissions received. The predicted noise levels at all locations for the various wind speeds do not exceed the noise criteria adopted for the assessment. A noise contour for the rated power wind speed 10m/s (the highest noise emission) is provided in Appendix 10.6.
- 11.2.5.8. The predicted noise levels have been compared against the 40dB  $L_{A90, 10min}$  absolute criterion that has been put forward as part of the Department of Environment, Community & Local Government (DECLG) document Proposed Revisions to Wind Energy Development Guidelines 2006 – Targeted Review in relation to Noise, Proximity and Shadow Flicker. The predicted levels are within the consultation criterion of 40dB  $L_{A90, 10min}$  save at 6 locations as detailed in Table 10.16, two of which are identified as farmyards. When wind directivity is considered the said criterion is exceeded at five locations (and not four as stated see Table 10.17) at standardised wind speeds of 7m/s. As per the details provided in Appendix 10.7 these occurrences are calculated when the wind is in a south-easterly and southerly direction and not in an easterly direction as stated in paragraph 10.5.2.7 of the EIS. In this regard I note that the prevailing wind is from the west and south-west and not from the direction at which the exceedances were recorded. The predicted excess is in the range of 0.1 to 0.8 dB. Such an excess of this order of magnitude would be indistinguishable to the human ear. Site curtailment of turbine operation will be implemented for specific turbines should the identified exceedances be realised.

11.2.5.9. As confirmed by the applicant in its response to the submissions received, post commissioning monitoring is proposed to confirm the operational noise levels comply with the relevant day and night time criteria which are to be submitted to the planning authority and which will form part of the planning record. Continuous monitoring is not proposed and does not constitute a feature assigned to other windfarm development. Should specific issues arise investigations including noise monitoring would then be employed to address same. Should the absolute limit as suggested in the targeted review come into play then curtailment measures may arise at wind speeds of 7m/s and not 11m/s in certain wind directions as stated in Section 10.6.2 of the EIS.

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

*no longer a significant feature*'. A modern active yaw turbine is proposed for this development.

11.2.5.11. In terms of mitigation if low frequency noise issues are identified, appropriate mitigation measures, including site curtailment under conditions (i.e. wind direction/speed) that give rise to the issue are to be implemented through the turbine control system associated with the development. The applicant proposes that should infrasound be considered a pertinent issue and having regard to the guidance in document *A Review of Published Research on Low Frequency Noise and its Effects Report for Defra 2003*, a review of G-weighted levels measured during a suitable operational period will be used to assess same considering that sound levels below 85dB(G) are not normally significant for human perception.

11.2.5.12. In terms of the issue of aerodynamic modulation (AM) mitigation measures include a detailed noise survey, conducted by an appropriately qualified person, in order to confirm the presence of the issue, the extent of the issue (i.e. number of locations, wind speeds and environmental conditions in which it is occurring) and based on the findings of this work a schedule of measures to be formulated and agreed with the planning authority, which would typically be envisaged to focus on control and regulation of the operation of turbine unit(s) in certain atmospheric and meteorological conditions.

11.2.5.13. I would reiterate the comments made in the introduction to the targeted review of the WEGs that concerns of possible health impacts in respect of wind energy infrastructure are not matters that fall within the remit of the guidelines as they are more appropriately dealt with by health professionals. However, I note that it is envisaged that Appendix 1 of these revisions (which is yet to be made available) will contain a best practice guide to the assessment and modelling of wind turbine noise that will include consideration of special audible characteristics which can be associated with both aerodynamic and mechanical wind turbine noise such as amplitude modulation, low frequency noise and infrasound. Thus it would appear that it is the intention to address the methodology for the assessment of infrasound etc. as opposed to drawing any conclusions as regards its alleged impact on human health.

11.2.5.14. There will be an increase in noise levels in the vicinity of the proposed development site during the construction phase but this will be temporary in duration, estimated 18-24 months. The noisiest construction activities are associated with excavation, piling and pouring of the turbine bases and the extraction of stone from the borrow pit. The type of activity and equipment that would generate the noise at this stage of development are much the same as those that would be used during other infrastructural works in the countryside which have been the subject of EIA by the Board, including road schemes. Similarly, the flow of traffic transporting material to and from the site is also likely to be a potential source of increased noise. Best practice measures are to be adhered to during the construction phase. The mitigation of the potential negative effects from construction noise by the imposition of a condition requiring the regulation of such activity is an established measure whose efficacy is established.

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

11.2.5.16. It is my opinion, based upon the analysis undertaken, that the proposed development will not have a significant adverse impact on residential properties arising from noise. I have no reason to doubt the veracity of the information contained in the EIS in respect of the noise analysis undertaken however notwithstanding this conclusion, there will be an onus on the applicant to comply with best practice as per the guidelines in relation to noise generation. I note that the WEGs acknowledge that noise is unlikely to be a significant problem where the distance from the nearest turbine to any noise sensitive property is more than 500 metres. In this case the nearest property has a separation distance of 750 metres.

#### Dust

11.2.5.17. In relation to dust emissions I would suggest that as the site is primarily composed of cutover bog with a high moisture content, the wet nature of this soil is less likely to result in the release of dust particles during construction works. Furthermore, given the separation distance to nearby housing it would seem unlikely that residential

amenity would be affected by dust emissions arising from the construction of the proposed development, although there may be a localised effect on flora and fauna in the immediate vicinity of the site / works. Nevertheless, section 9.1.5 of the EIS has outlined a series of measures which will be implemented on site in order to mitigate for the potential release of dust during the construction phase.

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

11.2.5.19. A number of observers express concern that air quality could be adversely affected arising from the proximity of turbines to the ash repository and the potential of ash being transmitted to the atmosphere by the movement of the rotor blades. The nearest turbine would be over 250 metres from the repository boundary. The said repository is subject of an Industrial Emissions Licence which would include the requirements in terms of acceptance and management of waste ash at the facility so as to prevent off-site impacts. Schedule B sets the emissions limits including that for dust deposition. Air monitoring is not stipulated. The monitoring of emissions arising from the facility lies within the remit of the EPA. By way of Section 37(F)(1)(c) of the Planning and Development Act, 2000, as amended, the EPA was invited to make a submission on the application and, subsequently, to the applicant's response to observations received. No response was received. I consider it reasonable to conclude that there is no evidence to suggest that there would be any cumulative impacts arising in this instance.

### Climate

11.2.5.20. The proposed development will be a positive impact in terms of renewable energy production and reductions in greenhouse gas emissions. Emissions associated with vehicular movements and plant during the construction period would arise but these would be temporary in duration. Established practices in terms of the

construction period are to be followed. Limited emissions are anticipated from the proposed substation.

11.2.5.21. A number of observers consider that the issue of carbon balance has not been adequately addressed. The issue is dealt with in section 9.2.3 of the EIS. Peatland habitats are significant stores of organic carbon. There will be direct effects and loss of peat in the area of the development footprint with indirect effects where it is necessary to install drainage in certain areas to facilitate construction. The works can either directly or indirectly allow the peat to dry out which permits the full decomposition of the stored organic material with the associated release of the stored carbon as CO<sub>2</sub>. Tables 9.8 and 9.9 present the estimated CO<sub>2</sub> losses from the development and lifetime savings. The loss is calculated to be a fraction of the total amount of the carbon dioxide emissions that will be offset by the proposal. In response to the observers' submissions the applicant has confirmed that the carbon balance model includes losses that would arise in terms of the manufacture and transport of the turbines.

#### 11.2.6. **Landscape**

##### Landscape Character

11.2.6.1. At the outset I submit that a key consideration in adjudicating on visual impact concerns is the fact that the site and its surroundings have been the subject of a landscape and visual assessment as part of the Wind Energy Strategy for County Offaly which was carried out as part of the Development Plan preparation. In terms of the said strategy the site is within one of two areas in the county identified as open for consideration for such type development. The fact that the Board considered wind farm development at both Mountlucas, comprising of 28 turbines to a maximum height of 156 metres c. 4km to the west, and Yellow River which has secured permission for 29 turbines with a maximum height of 166 metres c. 9 km to the north to be acceptable development is, in my opinion, also a material consideration

11.2.6.2. The site is within a landscape that is level and open, dominated by commercial peat harvesting and associated development including the Edenderry Power Station and ash repository in addition to the Mountlucas wind farm. Commercial forestry is noted

in pockets with sporadic housing along the local roads and Clonbulloge village c. 2.km to the south-east. The topography of the wider area is reflective of the site and its environs with higher grounds noted at Ballykilleen Hill c.1km to the north-east and in the vicinity of Croghan Hill c. 10km to the north-west. By reason of the commercial peat milling on the site and the surrounding lands the natural qualities of the landscape have been substantially modified but this, in itself, gives the landscape its distinctiveness.

11.2.6.3. The site is not designated as being of high amenity in the Development Plan. There are no designated tourist amenity facilities in the area in terms of walking and cycling routes save for the walking/cycling route developed within the Mountlucas wind farm. The nearest area of High Sensitivity is the Grand Canal corridor which, at its nearest point, is c.3.5 km to the north with Croghan Hill, also an area of high amenity, c.10km to the north-west.

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

11.2.6.5. Observers have raised what is considered to be inconsistencies between the County Development Plan and County Wind Energy Strategy and Methodology Statement 2014 with regard to the landscape sensitivity of the site. As per the development plan the site is within an area identified as being of moderate sensitivity but where it is acknowledged in Table 7.11.3 that some of the cutaway bogs may be appropriate for sensitively designed and located development including windfarms. The Wind Energy Strategy in seeking to identify suitable areas incorporated a 2km setback

from visually sensitive features for analytical purposes. Following on from same the areas deemed suitable for wind energy development were drawn up as presented in Figure 9. The said strategy is subject to compliance with policies EP-03 and EP-04 and objective EO-01, in which there is the requirement to maintain a 2km separation from town and village cores, European sites and NHA's, only. This is complied with in this instance with a distance of 2.3km separation between Clonbulloge village and the nearest turbine.

- 11.2.6.6. The EIS gives due cognisance to the landscape character of the adjoining counties of Kildare, Westmeath and Laois. Of particular note the county boundary between Offaly and Kildare is 3.6km to the east of the site. The LCA for Kildare identifies the lands adjoining the border to the east ranging between low and medium sensitivity although there are a number of scenic routes and views and prospects of which due cognisance is required. In this regard I note that Kildare County Council, in its submission on the application, considers that the visual impact of the proposal would be minimal on County Kildare.
- 11.2.6.7. In view of the site's location at a remove from the county boundaries with Laois and Westmeath I do not consider that the proposal would have a material impact on same.
- 11.2.6.8. The WEGs classify turbine heights as being short, medium and tall. A height to blade tip of 170 metres would represent the tallest turbines to be developed in the country and would fall into the latter category. Whilst taller than those erected at Mountlucas they are comparable to over half of the turbines permitted at Yellow River (two maximum tip heights permitted - 156 metres and 166 metres). The proposed layout entailing a grid pattern, is generally in accordance with the recommendations of the WEGs where the preferred approach in such peatland locations is a large scale response where the vast scale of the landscape allows for a correspondingly large spatial extent for wind energy developments. The regular spacing with depth comprising a grid layout is generally preferred especially in areas of mechanically harvested peat ridges.

11.2.6.9. Several observers make reference to section 6.9.3 of the WEGs, which states in relation to flat peatland states that *'the openness of vista .... will result in a clear visibility of other wind energy developments in the area. Given that the wind energy developments are likely to be extensive and high, it is important that they are not perceived to crowd and dominate the flat landscape. More than one ...development might be acceptable in the distant background provided it was only faintly visible under normal atmospheric conditions'*. Whilst I propose to address the issue of cumulative impact, I submit that the guidelines do not actually prohibit multiple developments in such a landscape and I would suggest that the Wind Energy Strategy devised for the County would have had regard to same when drawing up areas where windfarms are open for consideration.

11.2.6.10. Therefore, from a planning precedent and planning policy point of view with specific regard to local policy provisions, it would be reasonable to conclude that the landscape on which the proposed wind farm is to be located is deemed to be one of the more suitable landscape types within the county to accommodate such a large wind farm development subject to further consideration of impacts on specific vantage points, as discussed below.

#### Visual Impact

11.2.6.11. The Zone of Theoretical Visibility (ZTV) shown in Figures 11.5 (hub height) and 11.6 (half blade) of the EIS illustrate the overall potential for all or parts of the development likely to be visible from the surrounding countryside within a radius of 20km. This would represent what could be considered to be a worst case scenario as the ZTV does not take into account the effects of screening by natural vegetation and existence of structures. I consider that it demonstrates the extent of the most relevant geographical area likely to be impacted and includes the most critical areas of influence that are of relevance to the assessment of the proposal. Whilst it is possible that the development may be visible from further afield distance will play a significant role in abating the impact.

11.2.6.12. The EIS submitted provides a visual assessment of the proposed development with 23 photomontages. These viewpoints represent the local community, the nearest settlements, main transport routes, scenic routes and the wider rural environment

with a number of photomontages taken from vantage points where all three existing, permitted and proposed wind farms are in view and, therefore, a good perspective is provided in respect of the cumulative impact arising. I have reviewed each of the photomontages in the field. I have also observed the appearance of Mountlucas windfarm and I have noted the legibility of turbines in different weather conditions which can have a material impact on visibility. Whilst I would accept that in some of the photomontages landscape features (including vegetation) do obscure views of some of the turbines, these features are components of the existing environment and would, in practice, act in the same way.

11.2.6.13. I note that a number of observers have queried the absence of photomontages from points closer to the site and from residential properties. The preparation of photomontages necessarily involves a degree of selectivity and artificiality and are not regarded as definitive but provide for a useful tool to assist in the assessment. Whilst the accuracy of the photomontages was also queried they were prepared and presented in a reasonable and competent manner. I would submit that the photomontages indicate that the impact and the extent of visual dominance of the wind turbines depends on the location from where the wind farm is viewed and the extent of local screening or vegetation. The impact of the layout on the visual appearance of the wind farm is also dependent on the angle of view as the grid layout is not apparent in some of the photomontages due to the angle of view.

11.2.6.14. I consider that viewpoints 1 – 9 and viewpoint 18 which are within 5km of the site are within what I consider to be the local environment with the cumulative impact with Mountlucas windfarm addressed. Due to the generally flat topography of the area in which the wind farm is to be situated, it is apparent that the turbines will be visible from a wide range of locations. In this regard I submit there would also be a material visual impact as viewed from Walsh Island to the south-west and the R400 to the west as it is anticipated that both the proposed development and Mountlucas windfarm would be within the same view shed at relatively close proximity. Whilst photomontages taken from these vantage points would have been beneficial their absence is not detrimental to the assessment.

11.2.6.15. Travelling eastwards along the R402 from Esker Beg and travelling both north and south on the R401 to the east of the site the wind farm will become visually significant. From closer in and in particular from the viewpoints on the road network which surrounds the site the wind farm will be a dominant element in the landscape. By reason of the open nature of the landscape I submit that the magnitude of change will range from medium to high owing to the height, proximity and spatial extent of the turbines as they appear at the locations. Of particular note in this regard are the viewpoints 3, 4 and 5 to the north of the site in the vicinity of a number of residential properties. As demonstrated from same it is clear that the wind farm will have a significant impact on the landscape in the views from the surrounding road network and, by extension, on views from local residential properties located along same and, in many instances, would be the dominant element in the landscape and the views available.

11.2.6.16. In terms of viewpoint 6 at Ballykilleen Hill c.1km to the north-east, a panoramic view of the lower lands and the site to the south is available. I consider that the context of the archaeological site has not been properly considered in terms of sensitivity or significance of effect and I submit that it would be more appropriately be considered to be significant rather than moderate. However I note that the site is not open to the public and that views are restricted to the local road. Similarly the development will be visible from Drumcooley Hill, albeit at a further setback than Ballykilleen. Again the ringfort is not open to the public but access is available to the graveyard nearby. I propose to address the proposal in the context of cultural heritage in further detail in section 10.2.7.

11.2.6.17. The Grand Canal at its nearest point is c.3.5km to the north of the site and is both an area of high sensitivity and is used for recreational purposes including a long distance walking route. Whilst the EIS makes reference to the fact that views from the canal would be possible at two particular locations near Blundell Aqueduct to the east and Trimblestown Bridge to the north, this is contradicted by the details provided on Figure 11.11 which states there is no visibility at the said points. Following inspection I can confirm that the details provided in Figure 11.11 are correct and no views would be available. As noted in the EIS the existing bankside

vegetation provides for partial screening along most of its length. I note that Waterways Ireland has no comment to make on the proposal.

11.2.6.18. Viewpoints 10-17 and 19-23 are within what I consider to be the wider environment

In my opinion of particular concern is the impact arising from the view from the elevated locations in the vicinity of Croghan Hill to the north-west (viewpoints 19, 20 and 21) which corresponds with protected views in the Offaly County Development Plan, from viewpoint 12 along the designated scenic route in County Kildare near Boston Hill to the south-east and viewpoint 16 at Geashill to the south-west. I note that views would also be available from Grange Castle near Carrick Cross Roads c. 9km to the north in County Kildare, whilst intermittent views would be available from the R402 exiting Carbury in a westerly direction.

11.2.6.19. As is evident from the photomontages provided the existing development at Mountcuas is already visible from these vantage points and the permitted windfarm at Yellow River expected to provide another intervention in the landscape.

11.2.6.20. In terms of views from the vicinity of and from the summit of Croghan Hill which correspond with development plan protected View 9 (photomontages 19, 20 & 21) and from the designated scenic route near Boston Hill (photomontage 12), Mount Lucas and Yellow River effectively frame the view and the proposed development would represent a further intervention in the centre of the shots. In terms of the former certainly unfettered views of the landscape in a southerly direction will be possible but in terms of the latter scenic route the viewer is only afforded intermittent views with roadside hedgerows providing screening. In addition I did not identify any viewing points etc. on the relevant stretch of road. Undoubtedly the proposal would constitute a significant additional contribution, resulting in a greater cumulative impact which will impact on the character of the protected views, however the fact remains that the views have already been altered and that the additional intervention is not of a magnitude as to warrant a refusal of permission.

11.2.6.21. In terms of photomontage 16 from Geashill c. 14km to the south-west the issue of visual clutter has been raised by the planning authority to which I would concur. However the R420 along which this shot has been taken is largely delineated by

hedgerows and roadside vegetation with few points where uninterrupted views are available. The photomontage also presents the worst case scenario with clear bright conditions and the turbines facing the viewer. Invariably weather conditions and aspect taken with the distance, would result in the views available being less distinct.

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

11.2.6.23. I submit that in the context of the 21 turbines proposed that the landscape and visual impact of the ancillary facilities including a substation, anemometer mast, grid connection (option B) and access roads would not prove to be significant visual elements of the overall scheme.

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

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

#### **11.2.7. Cultural Heritage**

- 11.2.7.1. Section 12 of the EIS addresses archaeology and cultural heritage.
- 11.2.7.2. Cloncreen bog has been the subject of archaeological peatland surveys in 2002 and 2013 with a number of archaeological sites identified during the surveys subsequently excavated. 117 sites were identified in the 2002 survey with only two sites detected in the 2013 Re-assessment Survey which suggests the majority were removed. All works undertaken previously and which will arise until peat extraction finishes are done under the Code of Practice between Bord na Mona and Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.
- 11.2.7.3. Of the said 117 sites, 105 were recorded archaeological monuments with almost all located in the north-eastern corner of the site. The sites were all sub-surface and consist of peatland sites such as toghers and trackways which were identified during the above referenced peatland surveys. Section 12.3.1.1.3 of the EIS states that the majority of the sites may no longer be extant due to the ongoing peat milling and extraction. The majority of the sites are Redundant Records, followed by Class 3, 2 & 1 Toghers with one post row. Redundant Records are sites where the evidence is not sufficient to warrant its acceptance as the remains of an archaeological monument. A description of the sites is given in Appendix 12.3.
- 11.2.7.4. As stated previously the area of archaeological potential is mainly confined to the north-eastern corner of the site. The proposed layout avoids this area.

- 11.2.7.5. Following a walk over investigation undertaken for the preparation of the EIS three possible sites were identified on which the development could have a potential impact and are set out in Table 12.7. Bord na Mona has been notified as these are dealt with under the Code of Practice between Bord na Mona and the Department during the lifetime of peat milling. It is considered that the bog is highly likely to change by 2018 when the bog will be out of production. New sites may be uncovered during this active milling period which would be covered by the said Code of Practice. The significance of the number of finds in the bog is high and the potential for uncovering additional finds is also high. Pre-construction archaeological testing and subsequent monitoring is proposed as a mitigation measure. This measure is reiterated in the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs' submission to the Board.
- 11.2.7.6. In the wider context the EIS also identifies recorded monuments within 5km of the site for the purposes of establishing the archaeological context of the immediate environs of the proposed development site. Of the 55 noted 44 are in excess of 1km from the site. Table 12.17 sets out the likely significance of the indirect effects and in the majority of instances are deemed to be negligible.
- 11.2.7.7. Ballykilleen Ringfort Complex, referenced by a number of observers, is immediately to the north-east and is positioned on higher ground with good views afforded to the south overlooking the application site. Currently there is no public access to the complex. Whilst the proposed development would not impact directly on same, full uninterrupted views of the development will be possible from it. Both from my inspection and photomontage 6, which provides for views in proximity to the site along the local road, I consider that the impact would be greater than an initial viewing of the photomontage would indicate. Therefore, as detailed in the landscape assessment above it is my opinion that the EIS conclusion that the proposal would have a moderate visual impact is an understatement. I consider that it would be more reasonable to refer to a long term major visual impact and thus significant impact on its setting. In terms of the relationship between Ballykilleen Hill and Drumcooly Hill c. 2.5 km to the north-east the proposal will not obstruct any intervisibility but will form the backdrop and thus will alter the setting of Ballykilleen Hill when viewed from Drumcooly Hill.

- 11.2.7.8. In terms of the other archaeological sites at Ballynakill Td. c. 685 metres distant the remains of the church and graveyard, which are not accessible by the public, is set within the context of one off housing and agricultural development as viewed from the cul-de-sac road. The turbines will form the backdrop to the site. As per Table 12-17 the likely significance of the indirect effects is stated to be moderate.
- 11.2.7.9. The Church and Graveyard at Cloncreen are c. 635 m to the south of the site and, as above, the turbines will form an uninterrupted backdrop in views from the site.
- 11.2.7.10. I submit that none of the above sites have a prominent position in the landscape and note that save for the graveyards at Cloncreen and Drumcooly none have public access. I therefore consider that the impact of the proposal on the setting of the site would not, of itself, justify refusal of permission having regard to other material considerations.
- 11.2.7.11. In terms of archaeological sites at distances in excess of 5km particular regard is had to Croghan Hill and Cannakill Medieval Deserted Village (c.10 km and 11km to the north-west respectively) the latter of which is a National Monument, Clonin Earthwork c. 8.3km to the north-east and Grange Castle c.9km to the north-east, both which are also National Monuments.
- 11.2.7.12. Croghan Hill, in addition to its designation as an area of high amenity in the County Development Plan, is also identified as a site of archaeological importance with a hill top cairn and ring barrow in addition to a deserted medieval village at the base at Cannakill. By reason of the prevailing flat topography it is one of the most prominent landmarks in the area and can be seen from the site. The hill top enjoys panoramic views in all directions including views of Clonin Hill c. 5km to the east. The intervisibility between the two sites was intentional and whilst I would accept that it would not be impeded by the presence of the proposed development, the existing Mountlucas windfarm to the south and the permitted Yellow River to the south, all will be evident and effectively frame the view and, as such, I would suggest that the collective aesthetic impact of the views between the sites would be better classified as moderate rather than slight as detailed in Table 12-20 of the EIS. As is evident from photomontages 19, 20 and 21 near Croghan Hill the proposal would constitute

a significant additional contribution, resulting in a greater cumulative impact which will impact on the character of the view however the fact remains that the view has already been altered and that the additional intervention is not of a magnitude as to warrant a refusal of permission. I would also suggest that the whilst the full extent of the permitted Yellow River wind farm is not within the same view shed as the proposed development when viewed from Croghan Hill, views from the summit will be impacted upon by windfarms in a south and northerly/north-westerly direction. However in the context of the existing and permitted development the character of the landscape has been altered. As such I would accept the conclusion of a 'moderate' impact from the site.

11.2.7.13. I would concur with the view that the development would only have a slight effect on the setting of Cannakill deserted village at the base of Croghan Hill which is c.11km from the site. The proposed development is largely screened from same.

11.2.7.14. Grange Castle which is also a National Monument is located c.9km to north-east of the site in County Kildare. Contrary to the view set out in the section 12.4.5.1.2 of the EIS views of the development would be visible from grounds of the site and not just from the upper reaches of the structure. Notwithstanding the monuments setting and character would not be impacted upon.

11.2.7.15. The Board is advised that the nearest site on the Tentative List of UNESCO World Heritage Sites is Durrow Abbey c. 24km to the north-west and will not be impacted by the development.

11.2.7.16. There are no protected structures in the immediate vicinity of the site. Table 12-11 of the EIS list 54 structures within 5km, the majority of which are within the settlements of Clonbulloge and Edenderry. The likely significance of effects is considered moderate in terms of a number of the buildings listed in Clonbulloge village, Ballydermot House, Ballymorán house, An Scoil Naisunta Eiscir, Cloncrane House, 2 thatched cottages located to the south-west. I consider this assessment to be reasonable.

11.2.7.17. In conclusion whilst the proposal would alter the setting and character of the area I do not consider that this alteration is an inappropriate change in the context of features of archaeological and cultural interest. I note that the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs has no objection to the proposed development subject to the archaeological monitoring as detailed above.

#### 11.2.8. **Material Assets**

11.2.8.1. I consider that a number of issues arise under this heading namely aviation, traffic, tourism, telecommunications and the peat extraction industry. I propose to address each in turn.

##### Aviation

11.2.8.2. The Board is advised that chapter 13 of the EIS as supplemented by a Safety Report included in Appendix 13-1 refers. The Irish Aviation Authority (IAA) is the body responsible, by statute, for the management of Irish controlled airspace and safety regulation of Irish aviation. Although invited it did not make a submission on the application or the applicant's response to observations received.

11.2.8.3. Clonbulloge airfield, which is owned and operated by the Irish Parachute Club, is accessed from the minor local road circa. 2.7 kilometres south of the proposed site. It is an uncontrolled airfield with take-off and landing generally in accordance with certain standard procedures and patterns. The runway dimensions are stated to be 770 x 18 metres. The defined limit of the Obstacle Limitation Surface (obstacle clearance zone) by the Irish Aviation Authority is 2.7km. This refers to aircraft operations. The Safety Report states that having regard to other parachuting operations on uncontrolled airfields a non-turbine aircraft (parachuting aircraft) will enter the base leg (cross wind) at take-off within the 2.7km distance for obstacle clearance as specified in the IAA Guidance document 'Guidance Material on Aerodrome Annex 14 Surfaces' (IAA 2015) and more typically at a maximum distance of 2km. I note that aircraft used for parachute jumps are regulated by the Irish Aviation Authority and must be conducted in accordance with the requirements of the Irish Aviation Authority [Rules of the Air] Order, 2004.

- 11.2.8.4. All parachuting activities take place in Class C airspace (or a lower class), based on Visual Flight Rules. I note that the IAA has no statutory or regulatory authority of parachuting. Thus there are no formal restrictions in IAA regulations on parachuting activities relating to surface particularities like obstacles.
- 11.2.8.5. Section 13.2.3.2.3 of the EIS details contact had with the IAA prior to the lodgement of the application. The IAA in correspondence stated *that the nearest wind turbine in this wind farm is located 2,730 m, approx., from the runway centreline at Clonbullogue Aerodrome. The Conical Surface, (obstacle limitation surface), for Clonbullogue starts 2,000 m from the runway centreline, (at the edge of the Inner Horizontal Surface), and slopes upward at a 5% slope to a height of 35 m above the Inner horizontal Surface. The Inner horizontal Surface for Clonbullogue is located at 45 m above the runway surface and has a radius of 2,000m. This means that some of the wind turbine blades will penetrate the Conical Surface for Clonbullogue Aerodrome when they are oriented north-south when the wind is from the east or west. In addition the windfarm could potentially produce turbulence downstream of the turbines which could affect flight operations at Clonbullogue including parachuting.* In response the applicant states that the obstacle limitation surfaces, referenced in the said response from the IAA and contained within the IAA's document 'Guidance Material on Aerodrome Annex 14 Surfaces' (IAA, 2015), require an exclusion zone of 2,700 metres from the runway centreline. The coordinates for Clonbullogue Aerodrome are given in the Aeronautical Information Publication (AIP) published by the IAA. Allowing for a 65-metre maximum blade length, no turbine will be located within 2,765 metres of the runway centreline. The applicant notes that detailed GIS analysis shows that the nearest two turbines (T4 and T5) are both located 2,790 metres from the centreline of the runway. Both of these turbines are outside the conical surface from Clonbullogue Aerodrome, as referred to by the IAA.
- 11.2.8.6. The Irish Parachute Club in its objection considers that the proposal would have an adverse impact in that the turbines would cause a serious hazard to flying and parachuting operations and that a 5km buffer should be maintained. The basis for this buffer, which is almost twice that proposed, is not set out in their submissions.

- 11.2.8.7. Two elements of parachuting activity are relevant, namely the Parachute Landing Area (PLA): the terrain onto which parachute descents are made and the Dropping Zone (DZ): the notified portion of airspace within which parachute descents are made.
- 11.2.8.8. The Safety Report contends that a parachutist exiting 3km from the dropzone is an exception. 1 to 1.5km would be the typical maximum distance. Outlandings by parachutists are generally caused by wrong exit points (the exit point being too far away and/or in the wrong direction) and/or low opening altitudes. Most off drop zone landings are typically between 500 to 1km. The measures taken to prevent off dropzone landings include instructions to parachutists, monitoring meteorological considerations and briefing the pilot. The Irish Parachute Club states, that whilst not a common occurrence, outlandings have occurred in the vicinity of the site. No details have been provided as to the frequency of such occurrences and the circumstances arising but I note that there is no statutory requirement to record any such outlandings unless injuries have occurred.
- 11.2.8.9. In the examination of International Rules and Guidelines in terms of the location of windfarms and parachuting the Safety Report makes reference to English Civil Aviation Authority Policy and Guidelines on Wind Turbines CAP 764 and specifically paragraph 9.5 that wind turbines over 15 metres within 1200m of the drop zone would likely result in parachute operations restrictions. I could not locate the relevant paragraph in the most recent 2016 edition (issue 6) of the document which is stated to have been comprehensively reviewed and updated where necessary to reflect current information and practices. In Germany following a fatal accident involving a parachutist and a wind turbine in Germany 2000 the above referenced there is a legal requirement for a 1km distance separation.
- 11.2.8.10. In terms of turbulence the Irish Aviation Authority guidance document titled *Land Use Planning and Off Shore Development* states that it is caused by the wake of the turbine which extends stream-wise for a considerable distance behind the blades and the turbine tower. The dissipation of the wake intensity depends on the convection, the turbulence diffusion and local topography (terrain, obstacles etc.). Published research shows turbulence effects are still noticeable at 16 rotor

diameters downstream of the wind turbine. The document notes that smaller type aircraft, helicopters, hot air balloons and parachuting activity are particularly susceptible to this turbulence and pilots who experience it are encouraged to file a report via their applicable safety occurrence reporting scheme. On the basis of this information the proposed turbines with a rotor diameter of a maximum of 132 metres would result in a distance of in the region of 2100m from the development where turbulence could potentially be experienced. As noted above the nearest two turbines (T4 and T5) are both located 2,790 metres from the centreline of the runway.

- 11.2.8.11. There are no specific scientific reports or research investigating the exact influence of the turbulence of a turbine on a parachute. As per the said CAA document CAP 764 it is stated that until the result of further research is known, analysis of turbulence can only be undertaken on a case-by-case basis, taking into account the proximity of the development and the type of aviation activity conducted.
- 11.2.8.12. The Safety Report concludes that 2.7 km would be a safe distance for a windfarm to be constructed from the airfield (runway a starting point in all directions), with chances of a parachutist having negative effects of turbulence when landing within 1 km of the drop zone considered to be unlikely. Furthermore, the potential impact of turbulence will only occur if the wind is blowing from the wind farm to the drop zone.
- 11.2.8.13. Whilst I accept that the proposed development will introduce an additional hazard within the area of the airfield I would consider that the additional risk posed by the development is one which could be managed through appropriate launch/flight planning, without significant impact on Irish Parachute Club or the airfield. The potential for outlandings at a distance of 2.7km will always exist however to effectively stymie development potential of 3<sup>rd</sup> party lands in the case of such a scenario being realised cannot be considered to be a reasonable proposition. I note that the County Development Plan does not make specific reference to the airfield nor delineates any restrictions in terms of development in its vicinity. The fact that there are no regulations in relation to surface particularities pertaining to parachuting is also noted. In addition I would defer to the fact that the IAA has not made a

submission expressing concerns regarding the turbines, the impact of the development and the future use of the airfield.

11.2.8.14. I also note that the Department of Defence did not raise any concerns in terms of the airspace. Suitable aviation obstacle warning lighting scheme will be agreed with the IAA and Department of Defence.

11.2.8.15. Thus on balance I consider that the applicant has provided sufficient detail to support its assertion that the proposed development, with the nearest turbine being over 2.7 km from the runway, would not have an adverse impact on the operations of the airfield and parachute club.

#### Roads and Traffic

11.2.8.16. I submit that the potential adverse impact of any significance arising from traffic generation will be during the construction phase.

11.2.8.17. The route for large turbine plant will be via the M6 before turning south onto the N52 at Kilbeggan. The route will follow the N52 south, bypassing Tullamore to the east before turning east on the R420. Approx. 6km east the route will then head northeast onto the R402 at the priority junction at Ballina Cross. It will follow the R402 northeast for approx. 9km through the village of Ballinagar turning due east at Daingean for approx. 10km. The site is then accessed via a right turn at the priority junction with the L1003 from which the site is to be accessed. Save for the last section, the route as detailed corresponds with that used during the construction of the Mountlucas windfarm and is shown on Figure 13.1. The relevant protocols in terms of the temporary works along the M6/N52 section will be enacted as required. As clarified in the applicant's response to the TII submission the abnormal loads are abnormal in size but that the delivery vehicles are designed to ensure that the axle loadings will not exceed those permissible under the Road Traffic Regulations.

11.2.8.18. In terms of other HGV construction traffic it is estimated that 90% will use the same route as detailed above with 10% originating from the east, accessing the site from the 2<sup>nd</sup> site entrance located on the R401.

11.2.8.19. The construction phase is divided into two stages. The first entails site preparation and ground works with an expected duration of 17 months with estimated 2-way PCUs per day of 320. The 2<sup>nd</sup> stage is the turbine construction including delivery and assembly which will take 38 days spread over 19 weeks. It is estimated that 189 trips to and from the site in terms of abnormal loads will arise with a further 63 trips by conventional HGV's. In addition there will be a further two days per week lasting for 11 weeks where the remaining equipment will be delivered.

11.2.8.20. The studies undertaken show that for the worst case construction days, namely the 21 days that concrete will be poured, all parts of the route will operate within capacity. Due consideration is given to the cumulative effects with other existing and permitted projects in the area.

11.2.8.21. A route assessment undertaken identified improvements, including temporary measures at 4 locations, to facilitate the large abnormal loads on the proposed haul route as follows:

- R420/R402 junction
- R402 in Ballinagar
- R402/L1003 junction
- Along the L1003 from R402

11.2.8.22. I note that both the Roads Section and Area Engineer of Offaly County Council are generally satisfied with the information provided in the EIS. The requirements for a pre and post construction condition survey and a Transport Management Plan are common requirements for developments of this nature in addition to the application of a bond to ensure satisfactory reinstatement of any roads damaged by the construction phase. Due to the nature of the application and the time that may lapse before development commences on site I would concur with the view that to carry out a pre-construction survey at this juncture would be premature should additional wear and tear occur on the proposed haul and delivery routes and it would be more appropriate to carry out the survey prior to commencement of deliveries. I note that the Local Authority recommends a condition similar to condition 7 attached

to the Mountlucas windfarm application (PL19.237263) to which I would generally concur.

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

11.2.8.24. The level of traffic that would be generated during the operational phase will be minimal save for vehicular movements associated with operational/maintenance staff. As in the case of Mountlucas the applicant is committed to providing amenity facilities, namely walkways/cycleways throughout the development, dependent on the application securing permission, the scheme becoming operational and that it is operated within the appropriate Health and Safety guidelines. A carpark is proposed off the R401 in the vicinity of the Edenderry Power Station and is delineated on drawing number 0504-30. Whilst a number of observers consider the location to be sub-optimum, I note that the Local Authority did not express any reservations. I have no objection to the proposed location.

#### Tourism

11.2.8.25. Section 4.3 of the EIS addresses tourism and provides details of surveys done in Ireland and Scotland on tourist attitudes to windfarms. Issues in relation to landscape and visual impact have been discussed previously.

11.2.8.26. Whilst having an innate quality, the area where the development is proposed is not a significant tourism destination although I acknowledge it is within the area of the Ireland's Ancient East tourism programme. Currently walking/cycling routes are provided within the Mountlucas windfarm and, as noted previously, there is a commitment to replicate such provision in this development, subject to provisos, with the potential for connection between the two via Ballycon bog on which a program of

wetland enhancement has commenced. There is a rail line currently connecting the sites.

11.2.8.27. The Grand Canal which provides both land and water based recreational facilities is, at its closest point, c.3.5km from the site. Whilst views of the wind farm will be available there would be few uninterrupted views and those available will be at a distance as not to be dominant or detract from the amenity. As noted previously Waterways Ireland has no objection to the proposal.

11.2.8.28. In terms of Ballykilleen Ringfort and the tourism potential as part of the Ancient East Programme I note that the site is currently not accessible by the public although were it to be developed for such purposes I would accept that it would be likely to impact on the visual amenity of the attraction and visitor experience.

11.2.8.29. I consider that there is no conclusive evidence that wind farms significantly interfere with tourism in locations such as that in question. The proposed development will not prevent the use of any of the identified attractions. By acting as a focal point of interest windfarms can, at least in the initial stages, become a tourist attraction in their own right. This appears to be borne out in the comments made by a local representative at the Offaly Council Meeting with reference made to increased vehicular movements arising from onlookers at the Mountlucas windfarm.

#### Telecommunications

11.2.8.30. The development has the potential to interfere with telecommunications with an existing mast on the site to be removed. I note that the applicant has, through the scoping exercise prior to the production of the EIS, made contact with a wide range of agencies involved in the communications industry and services with a synopsis provided in Table 13.25. Potential interference was flagged. This issue can typically be overcome by engineered solutions such as in the installation of deflectors or repeaters with the potential of relocating the mast to be removed within the Bord na Mona landbank.

## Peat Extraction

11.2.8.31. As part of the ongoing peat resource assessments within Bord na Móna, the available peat deposits are determined for each bog unit and the level of peat extraction is projected over the coming years. On this basis, an estimate of when certain bogs would near the end or cease active peat extraction was made. Some bogs are predicted to be completely cutaway by 2020, with no other activities on site, and therefore more readily available for potential wind farm development. Other bogs may have areas predicted to have significant peat reserves remaining beyond 2020. Bord na Mona's Strategic Framework for the Future Use of Peatlands was published in 2011 in which it is stated that the future of the land lies in a wide mix of uses but that cutaway bogs present a range of complex options that require consideration on a bog by bog basis. It is projected that peat extraction will cease at the application site in 2018. Construction of the proposed wind farm will only commence once peat extraction has ceased.

### **11.2.9. Interaction of Foregoing**

11.2.9.1. Section 14 of the EIS, in setting out the interaction of impacts reiterates, in summary, the interactions arising as identified in the preceding sections of the EIS with a matrix provided in Table 14.1.

11.2.9.2. I would concur that the most dynamic interactions pertain to human beings with other interactions between flora and fauna, soils, hydrology and landscape and cultural heritage. All of the aforementioned have been assessed above and I am of the view that the interactions identified are unlikely to cause or exacerbate any potentially significant environmental impacts.

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

### 11.3. Appropriate Assessment

11.3.1. This section of the report considers the likely significant effects of the proposal on the relevant European sites in view of the Conservation Objectives, with each of the potential significant effects assessed in respect of each of the Natura 2000 sites considered to be at risk. A Natura Impact Assessment accompanies the application.

#### Description of the Project and Site Characteristics

11.3.2. The site and project are as described in sections 2 and 3 above.

#### Stage 1 - Screening

11.3.3. Section 3.2 of the AA- Screening set out in Appendix 1 of the NIS states that initially sites within a 15km radius of the proposed development were identified. In addition using the precautionary principle European Sites located outside the 15km buffer zone were also taken into account and assessed where potential pathways for impact were identified, specifically where hydrological connectivity could be established.

11.3.4. There are no SPAs within a 20km radius of the site. In relation to screening for SPA's due cognisance was taken of the Scottish Natural Heritage Guidance (2013) – Assessing Connectivity with Special Protection Areas. The nearest SPA is Lough Ennell 23.4km to the north-west. The qualifying interests of same are Pochard, Tufted Duck and Coot, none which were recorded within the development site during the dedicated bird surveys. Hen Harrier is the qualifying interest of the Slieve Bloom Mountains SPA 23.7km to the south-west. The site is outside the 2km core and 10km maximum foraging range for this species during the breeding season, there are no winter roosts or breeding territories within or surrounding the study area with the species recorded 6 times, only, over the survey periods dating from winter 2013/14 and breeding season 2016. It is not dependent on the habitats of the study area for breeding, roosting, foraging or commuting purposes. I accept that no significant effects on the species are anticipated.

11.3.5. Greenland White Fronted Goose and Whooper Swan, both which are Annex 1 species of the Birds Directive, are not qualifying interests of the nearest SPA sites detailed above. The issue that the site is situated under a flyway used by the species between a number of SPAs in Wexford and Iceland and Greenland is raised

in observations received on the application. Reference is made to a siting made of Greenland White Fronted Goose at Ballycon in 2015 flying in a north-northwest direction over the general area as recorded on irishbirding.com. I note that reference is made to this in paragraph 6.3.2.6 of EIS. In response the applicant refers to the two years bird survey works and the vantage point survey at Ballycon undertaken to establish whether this neighbouring site was regularly used by this species during the winter season 2015/16 and spring (2016) and autumn (2015) migration periods. The species was not recorded at the site either wintering or on passage.

11.3.6. The application site is within an area which is reflective of a large portion of the midlands and does not have any distinguishing features such as river valleys and mountain passes that would make the area more attractive to migrating birds than other areas. As such the site forms part of a wide section of the midlands across which migrating birds traverse. I acknowledge that the route taken would be dependent on a number of factors including distance and weather conditions. In this context I note that the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs, in its submission to the Board, notes that the exact flight lines are not known and that circumstances such as weather can cause the migratory species to vary and can, on occasion, land anywhere along their flight path. The observers note that the identified species are qualifying interests of a number of SPA's in Wexford and ex-situ impacts may arise as a result of the proposed development which could have an adverse impact on the integrity of the said SPA in that the qualifying interest, namely the identified species are at risk from collision. The SPAs referenced are Wexford Harbour and Slobs (004076), The Raven (004019), Tacumshin Lake (004092) and Lady's Island Lake (004009) SPAs. All are over 100km from the site.

11.3.7. I submit that it is the baseline data, collated in line with established practice, supported by further studies carried out in the vicinity of the site, in which the migratory birds in question were not recorded that has allowed the applicant to reach the conclusion and be confident that ex-situ impacts can be ruled out.

11.3.8. I therefore accept the conclusions of the AA- Screening that significant effects on SPAs can be ruled out.

11.3.9. In terms of SACs the following are noted and are mapped in Figure 3.1 of Appendix 1 to the NIS. The qualifying interests for same are detailed in Table 3.1.

<b>Site</b>	<b>Designation</b>	<b>Approx. Distances from Application Site (km)</b>
The Long Derries Edenderry (000925)	SAC	4.9 east
River Barrow & River Nore (002162)	SAC	12.1km south (20km via surface water)
Raheenmore Bog (000582)	SAC	12.3 north-west

- 11.3.10. Potential impacts arising from the development relate to changes in surface and ground water during both construction and operational phases.
- 11.3.11. In terms of Long Derries Edenderry SAC (site code 000925) which is designated for a terrestrial grassland habitat, there is no hydrological connection or other functional relationship to the proposed development. The site will not, therefore, be impacted directly or indirectly by the proposed development.
- 11.3.12. Hydrologically the development site and Raheenmore Bog SAC (000582) are not linked and the water regime governing this bog complex will not be affected by emissions or drainage effects from the operation and construction of the proposed development. No complete effect source-pathway-receptor chain was identified. There is no other functional relationship. Effects on the European Site resulting from the proposed development can be excluded.
- 11.3.13. The Figle River flows in a southerly direction c. 500 metres to the east of the site. The eastern section of the site drains to the river via a number of outfall channels. The Philipstown River flows in a southerly direction c. 500 metres to the west prior to flowing in a more easterly direction to the south of the site and merging with the Figle River c. 2km downstream of the site. The western section of the site drains to the Philipstown River via a number of channel outfalls. Theoretically there is potential for the proposed development to impact on the River Barrow and River Nore SAC (site code 002162) arising from siltation or pollution of watercourses

during construction/decommissioning phase or during operation. Thus the potential for significant effects on this European Site cannot be excluded. As the crow flies the SAC is c. 12.1 km south of the site but is 20km hydrologic distance downstream.

#### Stage 1 - Screening Conclusion

It is reasonable to conclude that on the basis of information on the file, which I considered to be adequate in order to issue a screening determination, that the proposed development, individually or in combination with other plans or projects would not be likely to have a significant effect on European sites The Long Derries Edenderry SAC (000925) and Raheenmore Bog SAC (000582), Wexford Harbour and Slobs SPA (004076), The Raven SPA (004019), Tacumshin Lake SPA (004092) and Lady's Island Lake SPA (004009). Potential for significant indirect effects on the features of interest of the River Barrow and River Nore SAC (002162) arising from siltation or pollution of watercourses during construction/decommissioning phases or during operation cannot be screened out. Accordingly a Stage 2 Appropriate Assessment is required to determine the potential of the proposed development to adversely affect the integrity of the River Barrow and River Nore SAC.

#### Stage 2 - Appropriate Assessment

The Stage 2 Appropriate Assessment concerns European site no. 002162 - River Barrow and River Nore SAC.

11.3.14. The qualifying interests for the said designated site area as follows:

- Estuaries
- Mudflats and sandflats not covered by seawater at low tide
- Reefs
- Salicornia and other annuals colonising mud and sand
- Atlantic salt meadows
- Mediterranean salt meadows
- Water courses of plain to montane levels with the Ranunculus fluitans and Callitriche-Batrachium vegetation

- European dry heaths
- Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels
- Petrifying springs with tufa formation
- Old sessile oak woods with Ilex and Blechnum in the British Isles
- Alluvial forests with Alnus glutinosa and Fraxinus excelsior
- Desmoulin's Whorl Snail
- Freshwater Pearl Mussel
- White-clawed Crayfish
- Sea Lamprey
- Brook Lamprey
- River Lamprey
- Twaite Shad
- Salmon
- Otter
- Killarney Fern
- Nore Pearl Mussel

11.3.15. A copy of the detailed conservation objectives for the site are attached to Appendix 1 of the AA- Screening Report which, itself, forms Appendix 1 of the NIS. The overall aim of the objectives is to maintain or restore the favourable conservation status of habitats and species of community interest. Maps 2-7 delineate areas of qualifying interests.

#### Potential Effects

11.3.16. As the site of the proposed development is at a remove from the Natura 2000 site no direct impacts will occur. In terms of indirect effects the key element is the potential for emissions to surface water and the downstream potential for water pollution principally from sediment run-off from the construction works. Based on same the key sensitive receptors are considered to be as follows:

- Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation
- Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels
- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior*
- Desmoulin's Whorl Snail
- Freshwater Pearl Mussel
- White-clawed Crayfish
- Sea Lamprey
- Brook Lamprey
- River Lamprey
- Twaite Shad
- Salmon
- Otter

11.3.17. The existing drainage control measures on the site for the commercial peat milling operations, which are currently subject of an IPC licence, are to be maintained in addition to proposed wind farm drainage control measures such as interceptor drains, collector drains, swales, silt traps and settlement ponds.

11.3.18. The proposed preventative measures, including a Construction and Environmental Management Plan (CEMP) to be put in place, include measures associated with best practice for such type development such as maintenance of machinery, refuelling of vehicles, management and movement of excavated materials. The CEMP also requires the appointment of a Site Supervisor/Construction Manager and/or Environmental Manager to maintain responsibility for monitoring the works and contractors/sub-contractors from an environmental perspective. Supervision by a Project Ecologist Project Hydrologist and Project Geotechnical Engineer is recommended.

11.3.19. I am satisfied having regard to the hydrological distance between the site and the European site and the mitigation and avoidance by design measures to be

incorporated into the development, that the proposed windfarm development will not result in pollution of the pathways which could potential impact on the qualifying interests associated with the SAC in question.

#### In-combination Effects

11.3.20. I note that the NIS assesses the potential cumulative impacts which could possibly arise with due cognisance had of Clonbulloge Ash Repository, Edenderry power Station, Peat Extraction Derrygreenagh and Allen Groups, Barrow and Grand Canal Blueways, Eastern and Midlands Regional Water Supply Scheme, Shean Site Infill, Clonin North Solar farm and Mountlucas and Yellow River windfarms. No potential for significant in-combination impacts would arise. I am satisfied that no in-combination effects will arise.

#### Appropriate Assessment – Conclusion

11.3.21. On the basis of the information provided with the application, including the Natura Impact Statement which I consider adequate in order to carry out a Stage 2 Appropriate Assessment, and the assessment carried out above I am satisfied that the proposed development, individually or in combination with other plans or projects would not adversely affect the integrity of European Site No. 002162, or any other European site, in view of the site's Conservation Objectives.

#### 11.4. Procedural, Legal and Miscellaneous Considerations

##### *Strategic Environmental Assessment (SEA)*

- 11.4.1. It is contended in the submissions that the statutory process is flawed due to the failure in carrying out SEA on the application and various plans and programmes which set out the framework for the project. Reference is made in the submissions to the National Renewable Energy Action Plan (NREAP) and the adequacy of the SEA undertaken of the Offaly County Development Plan and associated Wind Energy Strategy Methodology Statement. Reference is also made to the Kiev Protocol.
- 11.4.2. The requirement for SEA derives from the SEA Directive (2001/42/EC) which came into force in 2001. Under its requirements competent authorities must subject specific plans and programmes to an environmental assessment where they are likely to have a significant effect on the environment. SEA is confined to plans and programmes as set out in Article 2 of the Directive. Article 2 defines plans and programmes as follows: *Plans and programmes which are subject to preparation and/or adoption by an authority at national, regional or local level or which are prepared by an authority for adoption, through a legislative procedure by Parliament or Government, and which are required by legislative, regulatory or administrative provisions.* SEA does not apply to individual projects.
- 11.4.3. The current proposal is a project as distinct from a plan or programme. It is subject to the provisions of the EIA Directive and not the SEA Directive. Any lack of SEA for plans/programmes at national level is outside the remit of the Board, and must be addressed through a different forum. The proposed development should be assessed within the context of the Offaly County Development Plan and the Renewable Energy Strategy for County Offaly which forms part of the said plan and which has been subject to SEA. The adequacy of the said SEA undertaken is not a matter for comment or adjudication by the Board.

##### *Espoo and Aarhus Conventions*

- 11.4.4. The Espoo Convention sets the requirements for carrying out environmental impact in a transboundary context. It sets out the obligation to assess the environmental impact of certain activities at an early stage of planning. It also lays down the general obligation of States to notify and consult each other on all major projects under consideration that are likely to have a significant adverse impacts on the

environment across boundaries. In view of the location of the site I do not consider that transboundary issues arise.

- 11.4.5. Aarhus Convention pertains to the involvement of the public in environmental matters. It makes provision for three basic rights to be exercised by the public, namely access to environmental information, the right to participate in decision making and access to justice. It requires that the public be given early and effective opportunities to participate in environmental decision making procedures. In this regard I note the public consultation process conducted by the applicant is documented in section 2.9.4 of the EIS in which public engagement was encouraged. This application process also provides for public participation.
- 11.4.6. At this juncture the Board is advised of the issue raised by an observer to the accessibility of the digital copy of the documentation on the application file.

#### Project Splitting

- 11.4.7. Project splitting arises where an overall project is split into different components in order to circumvent the requirement to carry out EIA as each component of the project would be compartmentalised so as to fall below the threshold for which EIA would be required. The development is brought forward as a standalone project and does not set out, in any manner, a framework for the future development consent of other projects. The EIA Directive does not preclude projects from being subject to separate decisions provided that all the impacts have been properly assessed. In this instance due consideration has been given to the adjoining landuses including the ash repository with cumulative impacts, if any, and where appropriate, the EIS also assesses the potential significant environmental impact which could arise from existing and other permitted developments in the area including wind farms. I have referred to cumulative impacts throughout my assessment.
- 11.4.8. I submit that the ash repository and proposed windfarm, whilst under the same ownership, constitute discrete projects in their own right and are not dependent on, or are extensions of each other. In terms of peat extraction activities those on site are to cease in 2018 and prior to the commencement of the development should it secure permission. As in the case of the repository the proposed development and peat extraction present as discrete projects which are not dependent on each other.

11.4.9. The connection to the national grid does not form part of the application. Two options for the grid connection have been put forward with the preferred route to be decided by Eirgrid. A full consideration and assessment of each option is provided for in the EIS and in my analysis above and I submit the detail provided is sufficient to enable the Board to assess the environmental impact arising from the each option.

#### Applicant's Legal Interest

11.4.10. The issue of legal interest in terms of the public road along which the grid connection is proposed in substation option A is raised. As noted the applicant will be required to secure a Road Opening Licence from the local authority. I am satisfied that the applicant has sufficient legal interest in the site to make the application.

11.4.11. The Board is also advised of the contention that the application is a breach of the Memorandum of Understanding and the Undertakings of Ireland from the 1990's in with regard to the implementation of a development plan for bogs supplying the new peat fired power station.

#### Decommissioning

11.4.12. Chapter 3 sets out the decommissioning proposals which accord with established practice for such type development. This matter can be addressed by way of condition.

#### Planning and Development Regulations,2008

11.4.13. Reference is made to non-compliance with the Planning and Development Regulations, 2008, notably the exempted development provisions of Class 56 pertaining to the erection of a wind turbine within the curtilage of a business premises. The said class effectively allows for such provision as exempted development subject to certain conditions and limitations being met, including setback from an aerodrome save with the consent of the IAA. The fact that a development does not meet the said conditions and limitations does not preclude it from seeking permission for such type development. The said provisions are not relevant in this instance as permission is being sought for the development as described.

### Cost Benefit Analysis

11.4.14. The issue of a cost/benefit analysis is a matter which is outside the scope of the Board, which is limited to the consideration of planning matters. I accept that it would be difficult to quantify in monetary terms the wider costs and benefits associated with the proposed development, but that the positive and negative effects associated with the development are identified and assessed in the EIS.

## 12.0 Recommendation

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

## 13.0 Reasons and Considerations

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

- (a) national policy with regard to the development of alternative and indigenous energy sources and the minimisation of emissions from greenhouses gases,
- (b) the provisions of the Wind Energy Development Guidelines – Guidelines for Planning Authorities issued by the Department of the Environment, Heritage and Local Government in June, 2006,
- (c) the policies set out in the Midland Regional Planning Guidelines, 2010 - 2022
- (d) the policies of the planning authority as set out in the Offaly County Development Plan 2014 -2020 including the Wind Energy Strategy for County Offaly Methodology Statement 2014,
- (e) the location of the wind farm site in an area which is identified in the development plan as an area 'Open to Consideration' where it is the policy of the planning authority to facilitate the development of appropriate wind energy proposals
- (f) the character of the landscape in the area and the absence of any ecological designation on or in the immediate environs of the wind farm site,
- (g) the characteristics of the site and of the general vicinity,
- (h) the pattern of existing and permitted development in the area, including other windfarms,

- (i) the distance to dwellings and other sensitive receptors from the proposed development,
- (j) the environmental impact statement submitted,
- (k) the Natura Impact Statement
- (l) the submissions made in connection with the planning application, and
- (m) the report of the Inspector.

### **Environmental Impact Assessment**

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

- (a) the nature, scale and location of the proposed development,
- (b) the environmental impact statement and associated documentation submitted in support of the application,
- (c) the submissions from the applicant, the planning authority, the observers and the prescribed bodies in the course of the application and
- (d) the Inspector's report.

It is considered that the environmental impact statement, supported by the documentation submitted by the applicant, identifies and describes adequately the direct, indirect, secondary and cumulative effects of the proposed development on the environment. The Board completed an environmental impact assessment in relation to the proposed development and concluded that by itself and in combination with other development in the vicinity, including other existing and permitted wind farms and the proposed grid connection route, and subject to the implementation of the mitigation measures proposed, the effects of the proposed development on the environment are acceptable. In doing so the Board adopted the report and conclusions of the Inspector.

### **Appropriate Assessment:**

The Board carried out an Appropriate Assessment in relation to the potential effects of the proposed development on European Sites, taking into account the nature, scale and location of the proposed development, the Natura Impact Statement

submitted with the application, the mitigation measures proposed as part of the development, the conservation objectives of the River Barrow and River Nore SAC (site code 002162), and the Inspector's report and submissions on file. The Board concluded that the proposed development, by itself or in combination with other plans or projects, including other existing and permitted windfarms and the grid connection route, would not adversely affect the integrity of the above European site, in view of the conservation objectives of that site, or of any other European site.

### **Proper Planning and Sustainable Development**

It is considered that, subject to compliance with the conditions set out below, the proposed development would not have a significant adverse impact on the landscape, the visual or residential amenities of the area, or upon its archaeological or cultural heritage, would be acceptable in terms of the safety and operation of Clonbulloge airfield and would be acceptable in terms of traffic safety and convenience of road users. The proposed development would, therefore, be in accordance with the proper planning and sustainable development of the area.

## **14.0 Conditions**

### **General**

1. The development shall be carried out and completed in accordance with the plans and particulars lodged with the application except as may otherwise be required in order to comply with the following conditions. Where such conditions require details to be agreed with the planning authority, the developer shall agree such details in writing with the planning authority prior to commencement of development and the development shall be carried out and completed in accordance with the agreed particulars.

**Reason:** In the interest of clarity.

2. The period during which the development hereby permitted may be carried out shall be ten years from the date of this order.

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

3. This permission shall be for a period of 30 years from the date of the first commissioning of the wind farm.

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

### **Site Development Works**

4. The following design requirements shall be complied with:

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

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

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

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

**Reason:** In the interest of visual amenity.

5. Within one year of the commissioning of the wind farm details of amenity and public access arrangements and the timescale for their realisation shall be submitted to the planning authority for its written agreement.

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

## Environmental

6. The mitigation measures identified in the environmental impact statement and other particulars submitted with the planning application shall be implemented in full by the developer, except as may otherwise be required in order to comply with the following conditions.

Prior to the commencement of development, the developer shall submit a schedule of mitigation measures identified in the Environmental Impact Statement and the Natura Impact Statement, to the planning authority for its written agreement.

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

7. Prior to commencement of development, a detailed environmental management plan for the construction stage shall be submitted, generally in accordance with the proposals set out in the environmental impact statement for the written agreement of the planning authority. The environmental management plan shall incorporate the following:

- (a) a detailed plan for the construction phase incorporating, inter alia, construction programme, supervisory measures, noise management measures, construction hours and the management of construction waste;
- (b) a comprehensive programme for the implementation of all monitoring commitments made in the application and supporting documentation during the construction period;
- (c) an emergency response plan, and
- (d) proposals in relation to public information and communication.

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

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

## Noise

8. (1) Noise levels emanating from the proposed development following commissioning, by itself or in combination with other existing or permitted wind energy development in the vicinity, when measured externally at third party noise-sensitive locations, shall not exceed the greater of 43dB(A)<sub>L90,10 min</sub> or 5 dB(A) above background levels.
- (2) All sound measurements shall be made in accordance with ISO 1996: Acoustics – Description and Measurement of Environmental Noise.
- (3) Prior to commencement of development the developer shall arrange for a noise compliance monitoring programme for the operational wind farm. Details on the nature and extent of the monitoring programme shall be submitted to, and agreed in writing with, the planning authority

## Shadow Flicker

9. The following shadow flicker requirements shall be complied with:
  - (a) Cumulative shadow flicker arising from the proposed development shall not exceed 30 minutes in any day or 30 hours in any year at any dwelling.
  - (b) The proposed turbines shall be fitted with appropriate equipment and software to control shadow flicker at dwellings.
  - (c) Prior to the commencement of development the developer shall submit for the written agreement of the planning authority a shadow flicker compliance monitoring programme for the operational wind farm.

**Reason:** In the interest of residential amenity.

## Communication Services and Aviation

10. Prior to the commencement of development the developer shall agree a protocol for assessing any impact on radio and television or other telecommunications reception in the area. In the event of interference occurring the developer shall remedy such interference according to a methodology to be agreed in writing with the relevant planning authority, following consultation with other relevant authorities and prior to the commissioning of the turbines.

**Reason:** In the interest of orderly planning and residential amenity

11. Details of any aeronautical requirements shall be submitted to, and agreed in writing with, the relevant planning authority prior to commencement of development. Prior to commissioning of the turbines, the developer shall inform the relevant planning authority, the Irish Aviation Authority and the Department of Defence of the as constructed tip heights and co-ordinates of the turbines and wind monitoring masts.

**Reason:** In the interest of air traffic safety

## Roads and Traffic

12. (a) Prior to commencement of development, details of the following shall be submitted to, and agreed in writing with, Offaly County Council and, where relevant, with Westmeath County Council:
- (i) a Transport Management Plan, including details of the road network/haulage routes and the vehicle types to be used to transport materials on and off site and a schedule of control measures for exceptionally wide and heavy delivery loads,
  - (ii) a condition survey of the roads and bridges along the haul routes to be carried out at the developer's expense by a suitably qualified person both before and after construction of the wind farm development. This survey shall include a schedule of required

works to enable the haul routes to cater for construction-related traffic. The extent and scope of the survey and the schedule of works shall be agreed with the planning authority/authorities prior to commencement of development.

- (iii) detailed arrangements whereby the rectification of any construction damage which arises shall be completed to the satisfaction of the planning authority.
  - (iv) detailed arrangements for the protection of bridges to be crossed
  - (v) detailed arrangements for temporary traffic arrangements/controls on roads.
  - (vi) a phasing programme indicating the timescale within which it is intended to use each public route to facilitate construction of the development.
  - (vii) Within three months of the cessation of the use of each public road and haul route to transport material to and from the site, a road survey and scheme of works detailing works to repair any damage to these routes shall be submitted.
- (b) All works arising from the aforementioned arrangements shall be completed at the developer's expense, within 12 months of the cessation of each road's use as a haul route for the proposed development.

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

### **Archaeology**

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

- I. notify the relevant planning authority in writing at least four weeks prior to the commencement of any site operation (including hydrological and geotechnical investigations) relating to the proposed development, and
- II. employ a suitably-qualified archaeologist prior to the commencement of development. The archaeologist shall assess the site and monitor all site development works. The assessment shall address the following issues:
  - (i) the nature and location of archaeological material on the site, and
  - (ii) the impact of the proposed development on such archaeological material.

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

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

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

### **Decommissioning**

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

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

### **Development Contributions and Bond**

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

**Reason:** To ensure the satisfactory reinstatement of the delivery route.

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

**Reason:** To ensure the satisfactory reinstatement of the site.

17. The developer shall pay to Offaly County Council a financial contribution in respect of public infrastructure and facilities benefiting development in the area of the planning authority that is provided or intended to be provided by

or on behalf of the authority in accordance with the terms of the Development Contribution Scheme made under section 48 of the Planning and Development Act 2000. The contribution shall be paid prior to the commencement of development or in such phased payments as the planning authority may facilitate and shall be subject to any applicable indexation provisions of the Scheme at the time of payment. Details of the application of the terms of the Scheme shall be agreed between the planning authority and the developer or, in default of such agreement, the matter shall be referred to the Board to determine the proper application of the terms of the Scheme.

**Reason:** It is a requirement of the Planning and Development Act 2000, as amended, that a condition requiring a contribution in accordance with the Development Contribution Scheme made under section 48 of the Act be applied to the permission.

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**Pauline Fitzpatrick**  
**Senior Planning Inspector**

**April 2017**

## **Appendix 1 - Summary of Observations**

### **1. Cllr Noel Cribbin**

- The height and scale of the turbines will dominate the area.
- Will devalue property.
- The cumulative impact of the proposal with that in proximity.
- Adverse impact on the Clonbolluge Parachute Club.

### **2. Cloncreen Anti Wind Action Group (submission by Peter Sweetman & Associates)**

- The screening for AA is fundamentally flawed. Reference is made to judgement Finlay Geoghegan J. in Kelly v. An Bord Pleanala 2013/802 JR. The wrong test was applied in the AA screening.
- The EIS under hydrology and hydrogeology notes that the site drains to the local rivers via a number of outfalls from the bog. These local rivers drain to the River Barrow. Construction phase potential effects at Section 8.4.2. are noted. It is difficult to reconcile the statement in section 8.4.2.1 that there are no natural watercourses present within the site and therefore there will be no requirement to avoid any streams or rivers with the fact that the site drains to the local rivers via a number of outfalls. In the context of case CJEU C-258/11 it must be concluded from the information provided that there is reasonable scientific doubt as to the effects on the River Barrow SAC.
- Given the occasional presence at the site it is necessary for screening for the effect on Whopper Swans (WS). The assessment of effects on WS and other protected species is totally inadequate.
- There has been no SEA or AA of what is referred to as 'suitable' for wind energy in the County Development Plan.
- If peat extraction is to be cease in 2018 and the proposal to commence after, it is queried why a peat management strategy is required.

- In terms of substation Option A the public road along which the underground cable would run is not in the ownership of the County Council. No letters of permission from the owners have been submitted.
- The fact that there are two options proves that there is no actual permitted grid connection. The O’Grianna judgement refers.
- The development is part of other development for which no EIA has been carried out, including peat extraction and Clonbullogue Ash Repository. The Ash Repository and the proposed windfarm are fully connected and the windfarm could be considered as an extension to the former. It is submitted that the windfarm and repository must be subjected to EIA otherwise it is project splitting. No EIS has ever been submitted covering the whole development therefore no EIA can be carried out.
- The information on decommissioning does not comply with the requirements on same in the EPA’s document Advice Notes on Current Practice in Preparation of Environmental Impact Statements 2003.
- In terms of economic benefits the windfarm will only produce electricity when the wind blows. There is no evidence of the percentage capacity that the turbines will produce.
- If the windfarm has all the benefits alluded to there would be no need for a community benefit fund.
- There is no information on the created wetland detailed in the AER for the bog in terms of flora and fauna.
- In view of the fact that with up to 4.9 metres of peat remaining the findings of Smith, Jo et al 2014 wind farms on un-degraded peatlands are unlikely to reduce future carbon emissions should be taken into account. This important peer reviewed paper is not referenced.
- The statement with regard to climate change and carbon balance calculations has no meaning without details of the inputs into the model.
- The surface water monitoring programme to be put in place during the construction phase requires EIA. As the information is not supplied this is not possible.

- There is no mention of infrasound.
- The 2006 guidelines are out of date. No decision should issue until the revised guidelines come into effect.
- It has been admitted that 115 no. archaeological monuments have been destroyed.
- As per the definition of material assets given in the EPA's Advice Note (resources that are valued and that are intrinsic to specific places), it is queried what they are and will they be affected.
- The draft guidelines states that where shadow flicker occurs the turbine must be switched off.
- The refusal by the Board on PA0041 pertaining to absence of any national wind energy strategy with a spatial dimension or wind energy strategies at local level is relevant in this instance.
- With reference to Connolly v An Bord Pleanala [2016] IEHC 322 and Connolly v An Bord Pleanala & ors [2016] IEHC 624 before any grant of consent An Bord Pleanala must state the reasons that each of the points in the submission are found to be not relevant.

## 2.1 Response to Applicant's Submission on Observations Received

In addition to reiterating a number of points in its first submission the following are noted:

- The Board made reference in its decision on the Maighne windfarm that the guidelines were out of date and not relevant to the turbine size proposed. The Offaly County Development Plan was drawn up on the basis of the said guidelines.
- Area 2 – lands from Clongowan to Clonbulloge of the Wind Energy Strategy does not cover the site. The maps are very vague.
- There are no economic benefits of the proposal. There is a need for a cost benefit analysis. Wind farms only generate power to 24% of their capacity due to either lack of winds or wind speed being too great when turbines have to be turned off.

- The alternative would be solar panels.
- The proposal would have a detrimental effect on property values.
- The photomontages do not give an accurate representation of the development.
- The proposal would have a negative impact on views from Ballykilleen Hill and Croghan Hill.
- The cumulative effect with Mountlucas would be overpowering. Mountlucas can be seen from great distances

### **3. Irish Parachute Club**

- The Irish Parachute Club is acknowledged as being vitally important for tourism in the North Offaly area. The visitors to the club and area are in the region of 18,000 per annum. The club also facilitates a large number of small aircraft and micro-light owners. It caters for excess of 3000 aircraft movements per annum.
- It is considered that any wind farm structures within 5km of the Clonbulloge airfield would cause a serious hazard to flying and parachuting operations which would subsequently have a safety impact on residences in the vicinity.
- The wind turbines are close to flight paths associated with its area of operations. This airspace is used regularly for practical flight training and for practical flight tests. The turbines will cause material hazard for all pilots.
- The club's ability to develop will be eliminated by the proposal.
- The turbines would have serious implications in emergencies and poor weather conditions. Turbines will not be visible to VFR pilots if visibility is affected due to fog. Helicopters must fly at low altitude and be capable of landing suddenly in an emergency. Safety will be compromised due to the dispersal of wind turbines over a very large area. The potential for serious accidents is real.
- Should the proposal proceed the aeronautical environment would be impacted with 'choke points' and 'canalisation' of air traffic due to increased incidences

of unauthorised penetration of the designated or restricted airspace by aircraft seeking to avoid wind turbines.

- Due to the base of R-16 a real risk of collision exists and a serious limitation of avoidance options for pilots will occur. Aircraft needing to route safely at lower altitudes requiring manoeuvre space for aircraft to apply a 'see and avoid' will experience greater risk.
- The opinion made on behalf of the applicant has no knowledge of occasions where student parachutists have inadvertently landed on dispersed sections of the development area over the years.
- A fatal accident involving a parachutist colliding with a wind turbine is recorded in Germany
- The great majority of parachute clubs and training centres worldwide are not located anywhere near wind farms.
- There are no measures available to date addressing the proximity of wind turbines to training centres. Therefore there is no relevance to a suggested acceptable level of fatality "taking into account the number of parachute jumps made worldwide and the global expansion of wind turbines" (Safety report wind farm development pg.11)
- The following points in the safety report are noted:
  - Avoidance of objects and hazards once the parachute is open depends on the individual parachutist.
  - Student parachutists are more likely to make a mistake with steering the parachute and with landing.
  - Any potential impact of possible pilot error/and or wind direction on student activities is mitigated by several factors.
- There are a number of scenarios with regard to student parachutists/parachutists where a wind farm/turbine hazard would increase the risk.

- The safety report notes that there are no specific scientific report or research on the exact influence of turbulence of a wind turbine and that an exact safe distance can only be speculated.
- S.I. 235 of 2008 is relevant.

### 3.1 Response to Applicant's Submission on Observations Received

In addition to reiterating a number of points made in the first submissions the following are noted:

- Should the proposal be permitted the Irish Parachute Club will be unable to satisfy a core objects clause of its Memorandum of Association namely clause 3 – *to operate as a club for the furtherance and encouragement of aviation activities of every kind, particularly parachuting, sky-diving, aeronautics, private flying and ballooning.*
- The growth of a parachute club is not restricted to jump capacity but may also include extending runway length and/or may also include provision of an additional runway. The proposal would eliminate the Club's ability to further develop.
- Landings 2.7km from the intended drop zone, whilst unusual, do occur. They are never planned or recommended save in an emergency situation. A number have occurred since the club located to the address in 1990. There is no statutory requirement to record any drop zone landings unless such landings involve injuries. The applicant's consultant has no knowledge of the Club's landings in the proposed development area.
- No academic data, risk/safety assessments exists to objectively measure or quantify the potential risks of locating windfarms close to active parachuting clubs.
- IAA has no statutory or regulatory authority of parachuting in Ireland. IAA Operations Advisory Memorandum (AOM 02/15) Information for Persons engaged in Parachute Jumping in Ireland.

- The safety parameters available to Irish Parachute Clun aircraft will be significantly compromised. Aircraft using runway 27 executing a right turn, and runway 09 left turn will have significantly less outlanding choices in the event of emergencies.
- It is the only training centre in Ireland providing parachute training courses including Assisted Free Fall. Assisted Free Fall students (Novice) parachute openings occur at 5500 to 5000 feet. If the wind is south-westerly in direction, a novice parachute student could easily achieve an off drop zone landing of 2.7km. The likelihood of future unintentional landings in the proposed area cannot be eliminated, mitigated or dismissed.
- In deciding on its current location the single influencing factor was the total absence of any major obstacle thereby minimising risk.
- No research has been undertaken to measure or assess the effect of turbulence due to the wake of wind turbines on fabric wings such as parachutes. Parachute performance has never been measured in such an environment.
- As the proposal is an operating commercial business, approval of the application will contravene SI No. 235, 2008. The site is within a 'business premises' that 'shall not be located within 5km of the nearest airport or aerodrome ...save with the consent of the Irish Aviation Authority'. IAA has not consented to the application to locate wind turbines within 5 km of the aerodrome.

#### **4. Kildare Environmental Awareness Group**

- The proposal is situated on the Kildare-Offaly border and is, in effect, a transboundary application with potential for huge negative impacts on the residents of County Kildare.
- No SEA has been carried out
- No cost benefit analysis provided to demonstrate justification on economic grounds

- The Wind Energy Guidelines are outdated.
- There are negative impacts from infrasound and low frequency noise
- The proposal will devalue property
- Increased traffic and road deterioration
- The displacement of peat to absorb water will give rise to flooding.
- The loss of remaining carbon sink in the cut away bogs and future ability for a regeneration programme to create a long term carbon sink.
- The turbine itself requires materials. The CO<sub>2</sub> produced in the building of a turbine is not mitigated in the life of the turbine which renders wind farms negative in CO<sub>2</sub> reduction.
- Would give rise to landscape, habitat and human environment destruction.
- Map references are inaccurate re. housing distances.
- There is no proper recording or evaluation concerning wind farm safety issues and accident reporting.
- Health and safety issues arise including safety of employees. No fire plan has been provided.
- There is no risk management assessment with incomplete description of design assessment and compliance in relation to turbine manufacturing and turbine base.

#### **4.2 Response to Applicant's Submission on Observations Received**

- It disagrees with the applicant's suggestion that they can mitigate its history and future out of the equation.
- The WEGs 2006 were designed to protect people and the landscape at a time when the tip height was an average of 50 metres.
- The noise generated by modern turbines are of great concern worldwide with serious health problems reported regarding sleep deprivation caused by infrasound.

## **5. Rhode Parish Wind Turbine Action Group**

- Reference made to Espoo Convention, Kiev Protocol, Aarhus Convention, Directive 2001/42 and judgement Case C-290/15.
- In the context of same the Board cannot grant approval on the application because the energy policy or the NREAP (National Renewal Energy Action Plan) has never had the required SEA carried out to underpin the policy, nor has the policy ever satisfied the criteria set out in the Aarhus Convention. Should it grant approval it could be seen to have contravened both International and European law.

### **5.2 Response to Applicant's Submission on Observations Received**

- The competent authority does not have the legal authority to grant permission in this instance in view of the absence or adherence to the mandatory requirements of the SEA Directive.

## **6. Wild Ireland**

- The screening report is not in accordance with the requirements set out in Kelly v An Bord Pleanala 2013/802.
- Any decision must be in accordance with the findings in Connolly v An Bord Pleanala [2016] IEHC 322.
- The Board must refuse on the grounds that in the absence of any national wind energy strategy with a spatial dimension such a large scale windfarm over an extensive geographical area would be premature pending the adoption of such a strategy, would represent an undesirable precedent and could undermine any future wind energy strategy for the country.

## **7. Gareth Byrne**

- The proposal would have an adverse impact on the landscape and visual amenities.

- A number of properties will be affected by shadow flicker. The recommended setback in term of shadow flicker is 10 times the diameter of the blades. This equates to approx. 1km. Some houses would have a setback of only 750 metres.
- Under certain conditions the turbines will be audible.
- The proposal will have a negative impact in terms of health and safety on the parachute club.
- The Wind Energy Guidelines are out of date.
- The consultation conducted to date has been just a box ticking exercise. The definition of near neighbour in terms of the proposed near neighbour scheme has not been decided upon.
- The proposal will have a negative impact on wildlife. In view of the proximity of the site to Mountlucas there is a very narrow gap for birds.
- Large flocks of plover use the surrounding bog and farm land during the winter.
- There will be some effect on the water table.
- Property will be devalued. General consensus is that within 2km of a turbine a drop of at least 12% would be expected. As his property is 1km from a turbine a drop of 25-50% is suggested.

## **8. Wayne Byrne**

- The proposal would have an adverse impact on the landscape and visual amenities.
- A number of properties will be affected by shadow flicker. The recommended setback in term of shadow flicker is 10 times the diameter of the blades. This equates to approx. 1km. Some houses would have a setback of only 750 metres.
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- There will be some effect on the water table.
- Property will be devalued. General consensus is that within 2km of a turbine a drop of at least 12% would be expected. As his property is 1km from a turbine a drop of 25-50% is suggested.

## **9. Finbarr Cullen**

- Landscape and visual impact
- Shadow flicker
- Noise
- Devaluation of property. His property is 1km from the turbines
- Size and scale of turbines
- Health impacts including infrasound and impacts on persons who have epilepsy and autism.
- Negative impact on wildlife
- Cumulative impact of number of turbines in area
- There is no local benefit deriving from the proposal. Providing funding to a local club does not compensate those who live in close proximity to the turbines.

- The forum set up by the applicant has had no meaningful outcomes.

#### **10. Ger Dunne & Theresa O'Rourke Dunne, Brendan & Nuala O'Rourke**

- Devaluation of property could be in the region of 30-50%. Due to the height of the turbines and their proximity it is likely to be at the upper end of the range.
- They are the closest residents to the development at 700 metres which is well within the 1000 metres recommended in the draft guidelines. As the guidelines are expected to be introduced in early 2017, by lodging the application the applicant is attempting to circumvent the proposed requirements.
- The development will have a negative impact on residential amenities.
- There have been complaints of noise at the Mountlucas wind farm.
- Construction noise will be an issue. Piling for foundations may cause vibration. The bogs in the area are generally over gravel or silt deposits and some of the silts are very unstable and subject to movement when disturbed or drained.
- Assurances could not be given that the proposal would not give rise to flooding or water damage arising during the construction phase. One of the main outlets from the site passes within 100 metres of their houses.
- Any drainage or dewatering during construction could have a severe impact on the shallow well water supplies serving their dwellings. Water quality could also be seriously affected.

#### **11. Olivia Evans**

- The nearest turbine will be 750 metres from her dwelling.
- The cumulative impact of the turbines in the area would be excessive.
- Devaluation of property both in terms of dwelling house and farmland.
- Adverse impact on health.

## 12. Laurence Feeney

- The proposed development has not been screened for SEA nor has a full SEA been carried out for the area.
- It is inconsistent with the Wind Energy Strategy for Offaly County Council Methodology Statement 2013. The proposal does not meet the criteria as set out in the strategy. The site is within an area of medium sensitivity and encroaches into the 2km buffer zone for high sensitivity. There is also a high density of housing in the area.
- Chapter 5 of the strategy states that it is anticipated that all windfarm sites within the strategy area will be intensified in the area. Therefore it is prudent to refuse approval or the community will become a waste land.
- The guidelines which informed the Strategy are out of date and were not intended to be guidance for such sized wind farms. The recommendations of the methodology statement directly contravene the guidelines by recommending the entire area of East Offaly as being suitable for wind farm development except for 3 scenarios.
- The proposal is inconsistent with the aesthetic considerations in siting and design as set out in the guidelines as it does not envisage the construction of such extensive large scale turbines in an area primarily characterised as a hilly and flat farmland landscape in such proximity to a high concentration of dwellings. The site may be peatland but the surrounding areas are hilly with flat farmland.
- The basis for the buffer of 2km to visually sensitive areas is not clear. It is accepted, following the Mountlucas windfarm, that such type development is visually dominant at 2km.
- The cumulative effect of the development with Mountlucas and Yellow River is inconsistent with the guidelines which state that a 2<sup>nd</sup> development may be acceptable in peat areas only at a very great distance with staggered minimal visual presence and is generally not acceptable in transitional marginal areas unless the visual impact of the 2<sup>nd</sup> wind farm is negligible.

- The strategy should be reviewed as proposed in the methodology statement. Substantial wind energy development has occurred in the area open for consideration.
- The proposal would not be in accordance either with the County Development Plan vision for quality of life and protection of natural and built assets or the Edenderry LAP in terms of ensuring an environment of the highest quality.
- The turbines will destroy views of Ballykilleen Hill and Drumcooley Hill to the north. The sites are of great local importance for landscape, beauty, amenity and history.
- The location is in an area with a history of settlement and an associated legacy of places and features of cultural importance from many historical periods.
- The proposed turbines would be significantly taller than the Mountlucas turbines.
- Devaluation of property
- The cumulative impacts would be significant on habitats, visual amenity, noise, property values and social and economic considerations.
- A precedent has been set by the Board in its refusal of the Maighne wind farm proposal under ref. PA0038. The current proposal is similar in many ways.

## **12.2 Response to Applicant's Submission on Observations Received**

In addition to reiterating a number of points made in the first submission the following are noted:

- SEA is required. It is tool used to described the land for which development is proposed. The description of the area should be agreed by all parties. The description as flat peatland is not accurate. Only the site is flat peatland. The landscape is better described as transitional marginal.
- The SEA undertaken for the County Development Plan and the Wind Strategy is inadequate. The area included in red in the wind energy strategy has not been subject to strategic evaluation and have not been studied or screened in accordance with SEA directives.

- As clearly stated by the county development plan the strategy is only to remove more sensitive areas in the county from consideration for wind energy at strategic level. Just because the area is hatched red does not give unlimited scope to build turbines.
- Whilst the site is categorised as medium landscape sensitivity the erection of 170 metre tall turbines will heavily impact on an area of high sensitivity less than 2km away and will encroach into the buffer zone of the landscape of high sensitivity.
- The wind turbines will be 140 metres above the apex of both Ballykilleen Hill and Drumcooley Hill and will destroy views of both.
- There is a high concentration of houses in the area within a network of existing village of Clonbulloge, Rhode, Mountlucas and Edenderry.

### **13. Billy & Madaline Hanlon**

- The noise pollution would be unacceptable and would reduce their quality of life.
- There are health concerns regarding the power to be transferred underground between the turbines and substation. There is no known precedent as to how this affects ground conditions or the wellbeing of people, animals and flora and fauna.
- There would be a significant adverse visual impact. A reduced number of turbines may assist in reducing the impact.
- The proposal will result in the devaluation of property.
- Shadow flicker has not been adequately addressed.
- The turbines are located too close to dwellings.
- There will be little employment benefit locally and it will not be beneficial to the local community in the long term.

- It is queried whether Bord na Mona owns the site. It should be obliged to uphold their promise to the original landowners to return the land following its cessation as a cutaway bog.
- The potential of ice throw and local damage to property and livestock needs to be addressed.

#### **14. Matt & Martina Harris**

- The current wind energy guidelines are out of date. A decision should be postponed until the new guidelines are published.
- The proposal would have an adverse visual impact, will destroy views across the bog and will dominate the skyline. The visual impact would be greater than that of Mountlucas.
- The ability to screen the turbines from views is impossible.
- The photomontages do not present a valid presentation of what the proposal would look like. Possibly due to camera setting and lens used and particular qualities of the field of view, the turbines as presented look a lot smaller than would be the case in reality. This can be shown by using the existing telecommunications mast as a reference.
- The proposal would give rise to a devaluation of property. The assumption otherwise is not accepted.
- There is no provision for decommissioning. There should be an index linked fund to cover same and should be transferable in the event the windfarm is sold.
- The EIS does not adequately report on the amount of carbon emissions that will be produced in the construction and installation.
- The long term employment is insufficient compensation for the significant impact that will arise. The new jobs will be cancelled by out by the employment reductions by Bord na Mona.
- The proposal will have an adverse impact on the Irish Parachute Club.

- The impact during the construction phase will be significant including the traffic that will be generated. No figures have been provided on same.
- Studies have been insufficient to categorically conclude that windfarms do not pose a threat to health. Many of the references made in the EIA have been superseded by more up to date information and should be rechecked. The evidence provided is not reliable.
- There would be impacts on flora and fauna
- Shadow flicker.
- Not enough consideration has been given to the ash repository.
- The fact that the area has a population density lower than the national average does not mean that the concerns and rights of the rural population can be ignored and the character of the area changed to industrial land.
- Whilst public consultation has taken place, there have been shortcomings with no meaningful results.

#### **14.2 Response to Applicant's Submission on Observations Received**

In addition to reiterating a number of points made in their original submission the following are noted:

- Only 6 of the 23 viewpoints are less than 2km from the turbines with 15 more than 10km away. Obviously the overall impact would be slight when the vast majority of the viewpoints are more than 2km away.
- As noted by the applicant visual impact is subjective. The applicant who will benefit from the development, is less qualified than those who live within 2km of the turbines, to make a judgement.
- In terms of WEGs houses should qualify as key viewpoints and turbines should not dominate views from same.
- The development will have a significant adverse impact on visual sensitive receptors.
- The Scottish study on house prices cannot be used to predict Irish house prices.

- The reported community benefit has been overestimated.
- The Near Neighbour proposals have not been agreed with Community Engagement Forum members.

## **15. Michael Hoey**

- The application is invalid. The application, documentation and EIS should be lodged with, and independently available on the Board's website, without reference back to the applicant's website.
- Peat in its natural state is 95% water and all the water necessary for 'the Navigations' is vested by Charter in the Navigations and their Authority, Waterways Ireland who has not been notified of the application.
- The application is premature pending the decision on file the Edenderry Power Station ref. 15/129 (PL19/245295).
- There is an irreconcilable conflict between the proposal and the agreed plan which Bord na Mona submitted to the Department of Transport, Energy and Communications (subsequently the Department of Public Enterprise) for a new peat fired station in 1993. The subsequent Memorandum of Understanding entered into by Ireland with the European Commission was that Bord na Mona would implement a development plan for the bogs supplying the station after the peat is extraction dividing areas between coniferous and deciduous forestry, grasslands and wetlands by end 1999. Bord na Mona is not open to lodge an application for any type development as there was an undertaking to restore, flood and plant the lands of the subject site. Any grant of permission would constitute a fundamental breach of the said Memorandum of Understanding. A grant of permission is ultra vires the powers of the Board.
- The application is illegal because it is seek planning permission for development on an unauthorised development. The applicant has carried out unauthorised development since 1<sup>st</sup> April 1999, including draining the lands and stripping the bogs, which required planning permission, EIA and AA.

- The proposed development is a modification of a plan and programme as defined in Article 2 of the SEA Directive 2001/42/EC. There was also a requirement to carry out SEA.

#### **16. James Kelly & Caroline Walsh**

- The noise pollution would be unacceptable and would reduce their quality of life.
- There are health concerns regarding the power to be transferred underground between the turbines and substation. There is no known precedent as to how this affects ground conditions or the wellbeing of people, animals and flora and fauna.
- There would be a significant adverse visual impact. A reduced number of turbines may assist in reducing the impact.
- The proposal will result in the devaluation of property.
- Shadow flicker has not been adequately addressed.
- The turbines are located too close to dwellings.
- There will be little employment benefit locally and it will not be beneficial to the local community in the long term.
- It is queried whether Bord na Mona owns the site. It should be obliged to uphold their promise to the original landowners to return the land following its cessation as a cutaway bog.
- The potential of ice throw and damage to property and livestock needs to be addressed.

#### **17. Paul, Amy, Gareth & Roisin Kelly**

- A study is required into how much greenhouse gases would be emitted into the atmosphere during the manufacturing, transportation and construction of the proposed development in comparison to emissions saved during operational years.

- Peatlands are carbon sinks.
- The turbine model to be used should be included with no ability to change height.
- Cost should be calculated in 3 ways: (a) financially bills will increase to cover the cost of the infrastructure, (b) socially the community has become divided by the proposed industrial wind turbines for the midlands and (c) environmentally it will have a negative impact.
- Eirgrid has confirmed that there is no agreement for a grid connection. Only projects in Gate 1, 2 and 3 will contribute to the 40% target for renewal energy. The project will not be a contributor.
- As no grid connection has been agreed the O’Grianna judgement is relevant. Whilst options are detailed, Eirgrid has confirmed there is no connection offer therefore this part of the EIA is obsolete.
- It is queried whether there should be such reliance on industrial wind turbines, especially in view of wind being unpredictable, intermittent, and dependent on the backup of conventional fossil fuelled power stations.
- The maps in the EIS do not show the proposal relative to Mountlucas and the cumulative effect it will have on the landscape within such a short distance.
- In view of the limited separation between the proposal and the Mountlucas windfarm (c.3.5km) the proposal is effectively an extension. Essentially they would be one windfarm consisting of 49 turbines. They need to be assessed as such. Such an industrial turbine zone is not conducive to community living. The Board refused a comparable development in Kildare/Meath (Maigne wind farm PA0041).
- At 170 metres these would be the largest turbines in Ireland. Due cognisance has not been taken of the aesthetic considerations in siting and design as set out in Chapter 6 of the WEGs. The size and scale of the turbines are completely out of proportion to the locality.
- The WEGs would never have envisaged the placing of a development of this scale, magnitude and visual dominance in such an inhabited and well used landscape. They would compete and detract from the features of interest

which combine to create a sense of place and define the landscape character of this part of North Offaly. A refusal consistent with the reason for refusal on Emlagh wind farm (PA0038) would be appropriate.

- The guidelines and Scottish Natural Heritage Guidance 2013 indicate that turbine height is critical in landscapes of small scale or those which comprise such features as houses. The proposal is contrary to same in that the turbines are to be 170 metres high within a settled landscape and located in close proximity to a substantial number of dwellings.
- With Mountlucas there will be the creation of a wind farm landscape which will lead to visual clutter. The statement that there would be little or no effect on local residents in terms of visual impact is totally untrue. The EIS has not considered the perspective for individual properties. The impact would be considerable with loss of amenity and rural appeal.
- The area is of historical importance with ancient burial grounds at Cloncreen and Ballinakill with Ballykilleen Ring Fort c. 750 metres from the nearest turbine. The proposal will have a negative impact on the setting of these sites and their visual amenities. Ballykilleen has huge tourism potential. It is located on Ireland's Ancient East and could be highly beneficial to the local community
- The proposal does not comply with the WEGs in terms of locational characteristics. Most of the characteristics of hilly and flat farmland are relevant in which the guidelines state development should be quite limited in extent. The flat peatland is less relevant or prevalent to the landscape and the guidelines recommend that wind farm development should not be seen to crowd or dominate the flat landscape.
- It is a very settled landscape with a high visible presence of heritage features. One of the most striking features is the flat and expansive nature of the low lying landscape. The small hills which, due to the surrounding terrain, appear as much more substantial landform features. As a consequence many areas provide for open and long vistas with uninterrupted views. The views are considered to be of material importance to residents and should be

considered in the assessment of both the landscape and the visual impact that the proposal will have on the character of the area.

- A set back of 10 times the height of the turbines should be required. This would require the reduction in the turbine size at this location.
- The applicant claims that 200 dwellings are 2km from the centre of the shaft of the turbine. This does not take into account the rotary blade which is 60 metres long and spins in all directions. There would be 450 residents located within 880 metres of the turbines in terms of the tip of the blade. The distance between the houses and the turbines is only 4.4 times the height of the turbine and not 10 times as outlined.
- Stages 3 and 4 of the NIS were not assessed. IROPI should be justified.
- Bees do not feature in the NIS.
- Impacts on water quality is queried, both during construction and operational phases.
- The non-removal of concrete foundations on decommissioning is of concern.
- Excessive noise is a public health issue. It is queried who will monitor the noise level to ensure it does not exceed acceptable levels.
- Devaluation of property and impact on quality of life will arise.
- The area is rich in wildlife and the proposal will have a negative impact including the removal of forestry.
- The proposal may interfere with existing sources of local revenue including revenue from housing, bloodstock and tourism industries, loss of income tax from those who leave the area, loss of visual appeal in surrounding settlements, loss of foreign investment and increased pressure on health care system.
- Offaly Development Plan policies on natural heritage and biodiversity do not appear to support the development.

- The proposal will have a negative impact on the Clonbullogue airfield and the Irish Parachute Club and the tourism it brings to the area.
- In view of the proximity of the ash repository to the wind turbines there will be much more ash and toxic dust being expelled and blown into the air. The proposal would have a knock on effect on the licence and will have adverse environmental significance. The EPA should be notified of the application.
- The preferred route of the pipe for the proposed Eastern and Midlands Region water supply would be within 100 metres and at places proposed to go through the bog. It would be within 130 metres of turbines 17, 20 and 21. The bog and surrounding lands would not be capable of accommodating the major construction from the two projects and will have a negative impact on water levels. The said pipeline must be considered in this assessment in terms of cumulative effects.
- This is a keystone proposal which others will depend on for case precedent and key infrastructural grid connections. There are plans for about 2000 turbines on the boglands radiating out to affect 5 counties in the midlands.
- There was a lack of public consultation.

## **17.2 Response to Applicant's Submission on Observations Received**

In addition to reiterating a number of points made in the first submission the following are noted:

- The time allowed for a response to the applicant's submission was insufficient.
- No photomontages have been provided from a distance of 750 metres where turbines will be to nearest houses. The distance and angle of shots do not reflect a true view.
- In terms of the Irish Parachute Club, a second opinion from a person with knowledge of Irish aviation should be available.
- There is sufficient proof given in the original submissions to prove that there will be an effect on both ecology and hydrology.

- Recent High Court cases in Ireland have proved that there is an impact on noise and property values with a number of families in Cork forced from their homes due to noise.
- In the UK local residents can claim reduction in their property tax if they live within 2km of a windfarm.
- There is whooper swan and hen harrier activity in the area.

## **18. Joseph Loughlin**

- Health impact
- Shadow flicker
- Property devaluation

### **18.2 Response to Applicant's Submission on Observations Received**

- Shadow flicker has a negative impact on health
- Windfarms are not an appropriate use for cutaway bogs.
- He does not agree with the assessment of local impacts and questions the ecology and hydrology assessments.

## **19. James & Karina Lowry**

- The proposal will have a visual impact on protected views, prospects, scenic routes as well as local visual impacts.
- It would destroy the residential amenities and would result in disturbance on everyday life. There is no idea of the real impact as such sized turbines are not built anywhere else.
- Environmental impacts such as noise and shadow flicker are of concern.
- Visual and environmental impacts of associated development such as access roads, plant and grid connections.
- The cumulative impacts with other projects needs to be assessed.

- There would be an impact on protected birds and mammals.

## **20. Eugene & B. Mangan**

- The visual impact would be unacceptable. The turbines appear to be out of proportion with other developments around the country. A reduced number of turbines may assist in reducing the impact. As they are within 2km of the Edenderry power plant the visual amenity from their dwelling will be completely depleted.
- The proposal will result in the devaluation of property.
- The noise pollution would be unacceptable and would reduce the quality of life to those within 1000m radius. There is also the issue of ongoing measurement and whether this data will be made available to local residents for review and whether contraventions of recommended guidelines would be addressed.
- Shadow flicker has not been adequately addressed.
- The turbines are located too close to dwellings. They can see the Mountlucas wind farm.
- Measures will need to be put in place prior to commencement of development to offset any future possible interference with telecommunications systems.
- There will be little employment benefit locally and it will not be beneficial to the local community in the long term.
- The potential of ice throw and damage to property and livestock needs to be addressed.

## **21. Oliver & Carol Mangan**

- The proposal will have an adverse impact on the historic site of Ballykilleen ringfort located 750 metres from turbine no.21. The potential tourism which could be generated from this significant site, which is located on Ireland's Ancient East, could be highly beneficial to the local community.

- The height of the ringfort is 110 metres with the trees 20m tall giving a combined total of 130 metres. The 170 metre high turbines will dwarf it. The area is also of outstanding natural beauty.
- The turbines would be higher than any other in Ireland.
- The proposal will result in devaluation of property.
- In terms of employment the numbers employed in Bord na Mona have been reducing. Construction would, most likely, be done by subcontractors and would be temporary. The proposal will not bring about additional local employment benefits.
- The issue of decommissioning has not been adequately addressed. The matter of costs of decommissioning and responsibility for same need to be clarified.
- The proposed manufacture of the turbines and construction of the development will have a negative effect on emissions and green energy savings as a whole. They will probably incur far more carbon dioxide emissions in their manufacture and installation than what their operational life will save.
- There are better alternatives to constructing a new wind farm.
- Since the project came into the public domain the dynamic of the community is changing. People are selling or seeking to sell their properties. It is unfair on a small community.
- The application should be assessed relative to the expected review of the guidelines and not those existing which are out of date.
- There is a conflict between the proposed development site and the preferred route of pipe for the Eastern and Midlands Region water supply scheme. The potential for the two projects to run concurrently would negatively impact the community and flora and fauna. There has been no study of the cumulative impact of the two projects.
- The proposal is essentially an extension of the Mountlucas windfarm. The proposal is effectively project splitting. The maps provided do not show the

windfarm. They have not been transparent enough to fully grasp the resulting the landscape.

- The applicant should not be allowed to develop a windfarm with a 10km radius of an existing windfarm.
- The cumulative impact needs to be addressed.
- The community in the area in between Mountlucas and the application site will effectively live in an industrial turbine zone.
- The application should only proceed with sound financial planning in place by the developer.
- No figures have been discussed in terms of the community gain and near neighbour schemes
- Devaluation of property will occur.
- Health concerns have not been considered fully. The ill effects of infrasound have not been ruled out. Sleep disturbance and deprivation can have devastating effects. The effects of dust and airborne particles is also a concern.
- Shadow flicker is also a concern.
- Turbines will have an impact on the quality of telecommunications
- The proposal will set a precedent for further development with plans for up to 2000 turbines on boglands radiating out to affect 5 counties in the midlands. Others will depend on it for case precedent and key infrastructural grid connections.

## **22. Paula Murphy**

- The proposal would have an adverse impact on Ballykilleen Hill Ring Fort.
- The impact on the adjoining ash repository needs to be fully assessed including potential for air turbulence to cause ash to escape resulting in possible air pollution.

- The potential cumulative impact with the preferred route of the Eastern and Midlands Water supply needs to be assessed. There are concerns about the disruption in ground movement and the effect on private wells from the two developments. Possible negative impacts include impacts on water quality resulting from mobilisation of sediment and altered hydrology. This has not been assessed in the EIS.
- The proposal for a permanent carpark will increase traffic on roads which cannot accommodate same. The location of the carpark is considered unsuitable.
- Mountlucas wind farm is not shown on maps.
- The long term economic benefits to the community would be low. The projects that would stand to receive monies from the proposed Community Funds are outside the 2km buffer of the site. A near neighbour scheme should be introduced which would assist in alleviating the difficulties that would arise. To date the scheme has not materialised.
- The proposal will have a severe visual impact on the surrounding area.
- Devaluation of property will occur.
- The proposal will have a negative impact on wildlife.
- The release of CO<sub>2</sub> during construction will be material and will take many years to be mitigated.
- The photomontages show a limited view from Croghan Hill. This is challenged. The 170 metres turbines would be very visible from many areas including Croghan Hill.
- A decision on the application should not issue until the revised guidelines are issued.

## **22.2 Response to Applicant's Submission on Observations received**

In addition to reiterating a number of points made in her first submission the following are noted:

- None of the photomontages were taken at any home. Thus how can it be decided that the visual impact would be slight to moderate.

- The proposal will have a serious effect on her quality of life and that of her family.
- The viewpoints from her home will be long term and severe.
- The report by Climate Exchange regarding house prices in Scotland is not of any value. Climate Exchange work with the Scottish Government, A report from the London School of Economics concludes that there would be devaluation of property arising from wind farm development.
- Should the development be permitted the applicant should be made liable to make up the difference between the value of a house prior to the development and that after.
- Noise pollution would be for a period of 2 years during construction with potential for both air and water pollution.
- Whooper Swan and Hen Harriers are in the area. Further studies need to be carried out independently of the applicant.
- The application was lodged prior to the applicant lodging the relevant applications for licences for flora and birds.

### **23. Laurence O'Brien**

- There would be a significant adverse visual impact. A reduced number of turbines may assist in reducing the impact.
- The proposal will result in the devaluation of property.
- There are concerns about the natural habitat and effects on livestock in close proximity to the turbines.
- The noise pollution would be unacceptable and would reduce their quality of life. There is the issue of ongoing measurement and whether this data will be made available to local residents. It is also queried whether contraventions of the recommended guidelines will be addressed.
- There would be adverse impact on flora and fauna.
- Shadow flicker has not been adequately addressed.

- The turbines are located too close to dwellings.
- There will be little employment benefit locally and it will not be beneficial to the local community in the long term.
- The potential of ice throw and damage to property and livestock needs to be addressed.

#### **24. Leanne O'Grady**

- There would be a significant adverse visual impact. Her home would be between the proposal and the Mountlucas windfarm. 49 turbines is an exceptionally high density for such a small area of the countryside. Edenderry power plant can be seen from her property. Her view will be completely depleted.
- The noise pollution would be unacceptable and would reduce the quality of life. There is the issue of ongoing measurement and whether this data will be made available to local residents. It is also queried whether contraventions of the recommended guidelines will be addressed.
- Shadow flicker has not been adequately addressed.
- The turbines are located too close to dwellings.
- There are health issues pertaining to living so close to such industrial turbines and the effects have not been fully considered. There will be issues with stress and anxiety for those prone to sleep problems or have issues within light disruption and have sensitive hearing.
- There will be little employment benefit locally.
- The potential of ice throw and damage to property and livestock needs to be addressed.

#### **25. Michael O'Meara**

- There would be a significant adverse visual impact. A reduced number of turbines may assist in reducing the impact.

- The proposal will result in the devaluation of property.
- The noise pollution would be unacceptable and would reduce quality of life. There is the issue of ongoing measurement and whether this data will be made available to local residents. It is also queried whether contraventions of the recommended guidelines will be addressed.
- Shadow flicker has not been adequately addressed.
- The turbines are located too close to dwellings.
- There will be little employment benefit locally and it will not be beneficial to the local community in the long term.
- The potential of ice throw and damage to property and livestock needs to be addressed.

## **26. Tim O'Rourke and Pat Foley**

- The proposal will adversely effect the environment within which Greenland White-Fronted Geese (GWFG) and Whooper Swans (WS) migrate.
- It will adversely effect the integrity of the Wexford Harbour and Slobs and The Raven SPAs in relation to GWFG and Tacumshin and Lady's Island SPAs in relation to WS.
- Cloncreen is on a migration flyway for the Annex 1 birds. It is contended that the flyway used by the birds and their wintering grounds are so interdependent that neither can be excluded from risk assessment. The wintering ground cannot exist without the flyway or the flyway without the wintering ground. It is illogical to protect and monitor the birds in Wexford while ignoring possible risks as they cross Ireland on their annual spring and autumn migrations. Migration flyways are often the subject of international agreements. How they are dealt with in Ireland needs to be considered as a matter of urgency.
- With turbine height of up to 170 metres the risk of collision should have been considered. The risk increases when the cumulative effect of Mountlucas and

Yellow River wind farms are taken into account. No modelling was done for GWFG or WS.

- There are also concerns that the cumulative and barrier effects of the proposal with Mountlucas and Yellow River windfarms will increase the risk to those species. The EIS fails to address this issue.
- No useful information on migration of GWFG or WS is included.
- The information available on observations and sightings did not appear to have been accessed by the teams carrying out the surveys for the wind farm. The concentration of tracks over the Tullamore to Edenderry area in a 3 year period shows the very high proportion of GWFG using this flyway. This suggests thousands of birds annually. The flyway is one of the most important in the country and one that must be carefully considered in planning development. Such information is important in drafting Development Plans especially where energy policies are being considered. The County Council and public need up to date information to inform the plans. It is likely that the County Council did not have the available information when drafting the plan to consider the matter.
- The one vantage point at Ballycon implies some awareness of the possibility of a recurrence of the migration event reported but shows no understanding of the random nature of the exact course taken by migrating flocks within a flyway. A minimalist approach was taken.
- The Bord na Mona bogs at Cavemount, Ballycon and Clonsast North, all within a few kilometres of Cloncreen, are being restored as wetlands which will, no doubt, continue to attract wildfowl in the future. This needs to be considered as migrant birds land and take off again in an area where turbines are up 170 metres. No risk assessment on this has been undertaken.
- The cumulative effects of multiple wind farms coupled with possible night migration and poor visibility may represent another problem for geese, whose condition on arriving at their breeding grounds determines reproduction rates.
- In relation to WS the EIS relies heavily on a previous study done for the Yellow River wind farm. It accepts the incorrect assumption that WS only

started to use the area around 2010. There is a long history of WS in the East Offaly area including Raheen Lough, Pallas Lake and Annaghmore Lough which have wintering flocks, while wetlands and cutaway bogs have seen WS return to naturally regenerating feeding grounds.

- While the EIS claims that swans wintering locally may become habituated to turbines the same can hardly apply to migrating flocks.
- No attempt was made to record migrating WS. It may be difficult to distinguish between birds settling for the winter and those that pass through.
- Research is needed on the issue of migration and developers should be contributing towards same.
- Consideration needs to be given to the possibility that a migration corridor over Ballycon between turbines in Mountlucas to the west and Clonreen to the east may channel migrating flocks northwards where they will then encounter the Yellow River wind farm.
- The EIS does not have any map showing the Mountlucas, Yellow River and proposed windfarms.
- The Board is requested to retain independent experts to review the ecological submission as was done on the Maighne wind farm proposal.

## **26.2 Response to Applicant's Submission on Observations Received**

In addition to reiterating a number of points made in their first submission the following are noted:

- Sufficient surveying was not done at optimum migration times and when it became clear that a significant migration event had occurred in Spring 2015. Autumn 2015 and Spring 2016 migration times were monitored, but only as part of longer wintering monitoring rather than specifically in association with migration. This was inadequate. The applicant should have liaised with the NPWS through the Wexford Wildfowl Reserve. Migration times are predictable due to monitoring.
- The EIS made no connection between the April 4<sup>th</sup> 2015 migration event and the SPA which the geese had left. On the basis that the geese did not

overfly the site but were within 2km of it a decision was made that the barrier and cumulative effects did not require assessment. In a migration journey of 3000km a deviation of 2km from a site is miniscule and cannot be accepted as the most significant or even credible factor in arriving at a decision that assessment of risk is not needed.

- The applicant does not and cannot claim that migrating geese did not fly over the site in April 2015 or other migration times. The limited monitoring by the applicant of only two migration periods was not sufficient for the applicant to make the case that there was no risk to migrating flocks.
- Proposed wind farm developments at Garryhinch, Ballybeg, and Moanvane were not mentioned in the EIS. All planned developments need to be considered and the cumulative effects assessed.
- The commitment to carry out post construction monitoring should there be a significant impact does not compensate for the lack of surveying at optimum migration times.
- The statement that the route follows a variety of routes through the midlands is misleading. Eleven of the twelve tracks taken by Greenland White Fronted Geese in the 1997-1999 tracking study crosses a line roughly from Tullamore to Edenderry – a distance of around 36km. The area used by migrating birds may be narrowing with each wind farm development. Mountlucas, Yellow River and the application site will have an east west axis of around 14km.
- Possible barrier and cumulative effects from such large scale developments with more at planning stage must be adequately assessed.
- The attraction of the area for migrating birds is clear; large tracts of open, level lowland with areas of water, scrub, woodland, farmland and spare population or industry.
- If the applicant could consider the possibility that geese might winter on the wetland at Ballycon then the possibility that geese could fly over the adjacent townland of Cloncreen could also be considered.

- Whilst a collision risk assessment was done for Whooper Swan there is no evidence of any specific surveying to determine migration.
- Guidelines need to be appropriate to Irish conditions and cannot be a substitute for appropriate and practical application based on Irish conditions and species. In terms of the SNH guidelines the density and height of turbines is different in Ireland. The recorded overland journey is much longer than that taken by birds in Scotland where wintering grounds are within a short flight of the open ocean.
- The view that a connection within an SPA in Wexford need not be made as it is beyond 15km from the site and that no risk assessment is necessary as the migrating flocks seen were close to, but not over the development, is contrary to the applicant's own Biodiversity Action Plan, NPWS advice and the best interest of protecting the Annex 1 species.

An international plan for the Greenland White Fronted Goose received formal approval from the AEWA in 2012.

## **27. Colm Ronan and Bernadette O'Connor**

- Ms. O'Connor suffers from epilepsy. They are concerned that vibration and shadow flicker would have a negative impact on her health.
- Shadow flicker has not been adequately addressed.
- The noise pollution would be unacceptable and would reduce quality of life.
- There would be a significant adverse visual impact. A reduced number of turbines may assist in reducing the impact.
- The proposal will result in the devaluation of property.
- The turbines are located too close to dwellings.
- There will be little employment benefit locally and it will not be beneficial to the local community in the long term.
- The potential of ice throw and potential for damage to property and livestock needs to be addressed.

## **28. Katherine Tanaka**

- The proposal will devalue her property.
- There is no provision for independent monitoring of the impact on health with regard to noise, vibration and flicker.
- The cumulative impact with Mountlucas needs to be considered.
- The windfarm will have an adverse visual impact with long distance open views available.
- The impact on the Clonbullogue aerodrome and Irish Parachute Club have not been addressed in terms of additional safety requirements, changes in flightpaths, noise etc.
- There is no provision for monitoring and response to the impact of the wind turbines on the natural environment especially in relation to bird strikes, bats etc.

## **29. Gaetano Tenuto, Olive Larkin and Marie Killaly**

- The consultation undertaken was tokenistic.
- The local road network is not capable of accommodating the transport during construction without significant upgrading.
- The proposal would be excessively dominant and visually obtrusive. The natural beauty of the locality will be decimated. The view from their home will be permanently altered and will be disrupted from the south and west.
- The proposal will have an impact on the flora and fauna, in addition to posing a significant threat to birds in flight.
- Shadow flicker and noise will be a constant issue with excessive noise and vibration from the pile driving for the foundations.
- The proposal will have an adverse impact on Ballykilleen Fort.
- The proposal will result in the devaluation of property.

### **30. Claire Watson**

- There is no National Wind Energy Strategy in place. It would be premature to consider the application pending the adoption of a wind energy strategy at national or local level. A precedent has been set in this regard in terms of the decision on the Maighne Windfarm proposal (PA0041).
- The turbines would dominate the naturally beautiful uninterrupted skyline of the area.
- There is already a power station, ash pit and Mountlucas windfarm in the area. Residents have been more than accommodating. They should not have to have any more disruptive and hazardous development at this location.
- There are concerns regarding water supply with regard to the proximity of turbines to the ash repository. The excavations for foundations in such close proximity could cause a leak of hazardous waste and pollution problems.
- There are concerns regarding fly ash being transmitted into the atmosphere by the rotor blades of the wind turbines and the impact on air quality. The observer is in the house nearest to the repository.