

Appendix 2

Finding of No Significant Effects Report



In accordance with the EC (2001) guidance document, *Assessment of plans and projects significantly affecting Natura 2000 sites – Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*, A Finding of No Significant Effects Report has been completed for the proposed Maighne Wind Farm Development in respect of five Natura 2000 sites; Ballynafagh Bog cSAC (000391), Pollardstown Fen cSAC (000396), Mount Hevey Bog cSAC (002342), The Long Derries cSAC (000925) and Mouds Bog cSAC (002331). The standard matrix for this report provided in Annex 2 of the guidance document was followed. Line items in italics are taken directly from the guidance document.

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<i>Name and location of the Natura 2000 sites</i>	<p>Ballynafagh Bog cSAC (000391):located 6.19km from the proposed development</p> <p>Pollardstown Fen cSAC (000396):located 6.74km from the proposed development</p> <p>Mount Hevey Bog cSAC (002342):located 5.4km from the proposed development</p> <p>The Long Derries cSAC (000925):located 3.09km from the proposed development</p> <p>Mouds Bog cSAC (002331):located 5.4km from the proposed development</p>
<i>Description of the project or plan</i>	<p>The individual elements of the Maighne Wind Farm project (either alone or in combination with other plans or projects) likely to give rise to significant impacts on the Natura 2000 sites within 15km of the site of the proposed development are as follows:</p> <p>The proposed development will primarily consist of the following:</p> <ul style="list-style-type: none"> • Erection of up to 47 no. wind turbines with an overall tip height of up to 169m • Construction of foundations and hardstanding areas in respect of each turbine • Construction/upgrade of 9 no. site entrances from public roads • Construction of approximately 31km of new site access tracks and associated drainage • Upgrade of approximately 10km of existing access tracks and, where required, upgrade of associated drainage • Excavation of 3 no. borrow pits • Establishment of 4 no. temporary construction site compounds and associated parking areas • Construction of drainage and sediment control systems • Construction of 1 no. electricity substation (which will operate at a voltage up to 220kV) including: <ul style="list-style-type: none"> ○ 2 no. control buildings containing worker welfare facilities ○ electrical infrastructure ○ parking ○ fencing ○ appropriate landscaping • Installation of approximately 75km of medium voltage (MV) underground cabling (which will operate at a voltage up to 33kV) between the proposed turbines and proposed on-site substation. Approximately 36km will be laid within the public roadway • Installation of high voltage (HV) underground cabling (which will operate at a voltage up to 220kV) between the proposed on-site substation and either the existing substation at Woodland, Co. Meath (totalling approximately 29km, of which approximately 28km will be laid within the public roadway) or the existing substation at Maynooth, Co. Kildare (totalling approximately 23km, of which approximately 17km will be laid in the public roadway) • Installation of joint bays along the cable route • Installation of underground communication cables • Installation of a permanent meteorological mast up to 100m in height • Temporary alterations to the public road at identified locations to accommodate the delivery of turbines

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	<ul style="list-style-type: none"> • Associated site works including landscaping • Tree felling • Peat excavation • Clearance of buffer zones around selected turbines to avoid collision risk to Bats.
<p><i>Is the Project or Plan directly connected with or necessary to the management of the site (provide details)?</i></p>	<p>No</p>
<p><i>Are there other projects or plans that together with the project of plan being assessed could affect the site (provide details)?</i></p>	<p>No</p> <p>In-combination impacts may occur should indirect impacts such as a decline in water quality be sufficiently significant to cumulatively add to existing pressures on key species and habitats which form the qualifying interests of the Natura 2000 sites. To inform the current appraisal, planning searches were carried out on the relevant planning authority webpages. Planning searches and a review of the IWEA webpage were also utilised to search for other wind farm developments in the area.</p> <p><i>Existing or Proposed Wind farms</i></p> <p>The following neighbouring wind farms within 15km of the proposed development were examined for potential cumulative impacts on water quality and avifauna with the proposed development (Emlagh wind farm is being considered following a request from NPWS for inclusion):</p> <ol style="list-style-type: none"> 1. Crowinstown Wind Farm, a 3 turbine permitted wind farm at Delvin, Co. Westmeath 2. Dryderstown Wind Farm, a 1 turbine wind permitted farm at Delvin, Co. Westmeath 3. Mountlucas Wind Farm, a 28 turbine existing wind farm at Derrylesk, Co. Offaly 4. Yellowriver Wind Farm, a 32 turbine permitted wind farm at Rhode, co. Offaly. 5. Emlagh Wind Farm, a proposed 46 turbine wind farm near Kells County Meath (c.35km from the subject site) <p>The existing neighbouring wind farms outlined above are not located within any of the same waterbody catchments as the proposed development for Maighne Wind Farm. They are also not located within any of the same waterbody catchments within which the TDR and the cable route are located. The potential cumulative impact on water quality is therefore considered to be negligible as there is no cumulative risk of an increase in sediment to waterbodies.</p> <p>Flight height or the flight heights which birds habitually use along either migration or local flight paths is an influencing factor in determining whether the proposed development will combine with additional wind farms to produce additive, synergistic or antagonistic effects. These effects include increased Barrier Effect (potentially obstructing migratory flightpaths), increased collision risk (through combined mortality in species susceptible) and increased disturbance to birds utilising foraging grounds whilst on migration.</p> <p><u><i>In combination Collision Risk to Whooper Swans:</i></u></p> <p>In a study of on the migration routes of Whooper Swans and geese in relation to wind farm footprints in the UK ⁽¹³⁸⁾; the mean recorded flight height for Whooper Swan migration over land was 80m ±134m, at ground speeds of 63kph ±16kph (n=226). Median flight height (i.e. the</p>

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most frequently recorded altitude of flight) over land during migration was 40m in spring and 6m in autumn; 40m overall. Local movements are often likely to occur at lower heights depending on topography. This is reflected in the flight observations from the study site which recorded the highest proportion of flight activity at the <50m height interval. Predicted mortality rates (within a worst case scenario model) from the proposed Emlagh wind farm are c.1 bird per annum. It should be noted that this is located c.35km from the proposed Maighne wind farm.

In relation to nocturnal flight activity recent studies utilising radar on both offshore and coastal wind farms in Europe have recorded macro-avoidance rates in wildfowl at least as high, or higher at night than during the day, implying that diurnal avoidance rates are comparable to those in periods of lower visibility ⁽¹³⁹⁾. Best scientific knowledge therefore suggests comparable if not higher avoidance rates by wildfowl during perceived periods of poor visibility.

A population model has already been described for Whooper Swan in relation to predicting the population level effects of elevated mortality resulting from wind turbine collisions. This model, produced by SNH ⁽¹⁴⁰⁾, is based on the same breeding population as the birds found in Ireland and is therefore comparable (note the population simulations were run on the assumption of survival rates for the Scottish population and a closed population model with no immigration or emigration). The model predicts that 4% of the population has to be removed annually to cause a population decline.

Applying this rate of population removal to the Irish wintering population (10520 birds ⁽⁶⁵⁾) results in 420 individuals having to be removed on an annual basis to cause population decline. Given the low frequency of occurrence of this species at the Maighne Wind Farm Development and low numbers recorded, the predicted in combination mortality from collision both at the other wind farms, the proposed N-S interconnector, and other sources such as overhead wires is appraised as negligible given the distances involved from the proposed Maighne site, the high avoidance rates of wind farms and turbines by Whooper Swans and low numbers of birds utilising the Maighne site.

In combination Barrier Effect

The proposed Maighne Wind Farm development does have the potential to combine with other wind farms in an additive manner although this is unlikely to be synergistic. Distance is important to note in this regard and the proposed Emlagh wind farm is c.35km from the proposed Maighne wind farm. The main effect of Barriers on birds is resulting energy expenditure (as a result of having to circumvent obstacles) and it has been suggested that multiple wind farms along migration routes may result in energy expenditure rates sufficient to affect breeding success (i.e. through loss of body condition) ⁽¹⁴¹⁾ It should be noted, in relation to the energetic capacity of swans for example, that Whooper Swans can make the crossing from Ireland to Iceland, a distance of 800-1200km, in 1.5days ⁽¹³⁸⁾. Therefore the relative increase in energy expenditure and fuel loss through flying over or through an obstacle is important. In the case of the Maighne wind farm the dispersed nature of the clusters will serve to reduce energy expenditure through the provision of transit corridors between clusters. This also applies to other species of migrating wildfowl such as Geese. Swans have been shown to exhibit both macro and micro avoidance of turbines; in one study in the Netherlands swans were noted flying through windfarms ⁽¹⁴²⁾ suggesting that in instances where the predicted rotor envelope is above typical flight heights, swans are not deterred from commuting through wind farms.

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Any in combination collision risk due to the barrier effect of these wind farms is appraised as negligible.

Land Use:

Construction of the proposed wind farm poses a potential risk to watercourses in terms of alteration of drainage regimes, silt run-off and pollution events originating from site works which gives rise to the potential for impacts affecting fish and fisheries, as well as aquatic invertebrate communities within the study area. Further enrichment from land use patterns could give rise to the potential for cumulative indirect impacts on the aquatic environment, including the downstream designated sites.

Bord na Móna carry out peat extraction in the vicinity of the Derrybrennan cluster, the Drehid-Hortland cluster and the Cloncumber cluster. Bord na Móna turf extraction works traverse access points into the Derrybrennan and Cloncumber clusters. Whereas a small portion of the bogs owned by Bord na Móna traverse the study area of the Drehid-Hortland cluster. Silt protection controls in the area will mitigate any potential impacts of sediment discharges to watercourses.

Turbary rights in the townlands of Mulgeeth and Allenwood South are located outside the site boundary, with no turbary access within the proposed development site boundary. However, there are turbary rights within the Drehid and Hortland clusters. Turbary rights in the Hortland townland are located in close proximity to turbine 9. Turbary rights within the Drehid cluster site boundary are located with the Drehid townland. They form part of the Drehid House estate and are located close to turbines 9 and 11.

Recreational Pressure:

The general area is drained by a series of rivers and streams, many of which are important for angling and water sports, including the Blackwater and its tributaries, and the canals present.

Infrastructure:

The Cork – Dublin high pressure gas transmission pipeline runs through counties Kildare and Meath. Responsibility of the gas pipeline infrastructure lies with Bórd Gáis Eireann. There are currently no existing high pressure gas transmission pipelines with the study area of the proposed Maighne Wind Farm.

According to the Commission of Energy Regulation there are no pipeline planned or under construction within the site boundary of this proposed development.⁵

The Leinster Orbital Route (LOR), previously known as the Dublin Outer Orbital Route (DOOR), is a proposed motorway around the County of Dublin. The orbital route proposes to connect Drogheda, Navan and Naas with links to the N2, M3 and M4/M7.

A Corridor Protection Study was issued to Meath and Kildare County Councils to identify zones along the key radial routes from Dublin where junctions with the proposed LOR may be constructed in future in order

⁵ <http://www.cer.ie/>

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to protect areas from development which could compromise the deliverability of the proposed scheme.⁶ The feasibility study for the proposed LOR has been undertaken, however no route corridor selection or preliminary design has been undertaken or progressed. It is not anticipated that this project will commence in the near future.

Factories and other Businesses:

There are a number of industries in the vicinity of the proposed Maighne Wind Farm, namely Carbury Compost Ltd, Bord na Móna Drehid Waste Management Facility, Allenwood Business Park, Monaghan Mushrooms, Clairstone Ltd, Moyvalley Meats, Brady's Family Ham, Doran Nurseries and Irish Industrial Explosives Ltd. These were examined for potential cumulative impacts on water quality.

Carbury Compost Ltd is located south of Derrinturn, off the R403 and is approximately 3.1 km from the nearest turbine no. 27 in the Derrybrennan cluster. Carbury Compost Ltd produces mushroom substrate (compost) at its facility. This facility is registered and licensed by the Environment Protection Agency (EPA) under Waste Licence Registration No. W0124-01. It is located in the same waterbody catchment as turbine no. 27 in the Derrybrennan cluster and is upstream of the cluster. Any drainage from the mushroom compost facility would drain to a different tributary of the Cushaling River. There is an EPA monitoring point downstream of the compost facility and upstream of the cluster.

Drehid Waste Management Facility is located within the townlands of Parsontown, Loughnacush, Kilkeaskin, Drumond, Timahoe West, Coolcarrigan, Killinagh Lower and Killinagh Upper and Carbury in County Kildare. It is owned and operated by Bord na Móna Public Limited Company. This facility is registered and licensed by the EPA under an Industrial Emissions Licence Register No. W0201-03. This facility is located between the Drehid-Hortland cluster and the Derrybrennan cluster. It is approximately 1.8km from the nearest turbine no. 48. It is in the same waterbody catchment as turbine no. 27 in the Derrybrennan and as Carbury Compost Ltd. The MV Cable Route also runs through this catchment. There are two monitoring points located upstream of the Derrybrennan cluster and downstream of the waste management facility.

The licensee's are required to monitor groundwater and surface water up and down stream of their facilities and in addition the waste management facility has attenuation to mitigate the potential impact of sediment on nearby watercourses. The potential cumulative impact on water quality is therefore considered to be negligible.

Allenwood Business Park is situated northeast of Allenwood village and is north of the Cloncumber cluster. Allenwood Business Park is located approximately 2.5km from the nearest turbine (no. 30). It is located in the same waterbody catchment as turbine no's 30, 29 and 31. Any drainage from the business park would be combined with other surface water flows in the area. The potential cumulative impact on water quality is therefore considered to be negligible.

Monaghan Mushrooms, Moyvalley Meats and Clairstone Ltd. are all located in the vicinity of the Windmill cluster. Monaghan Mushrooms merged with Carbury Mushrooms in 2004⁷. Their facility is located in

⁶<http://kildare.ie/CountyCouncil/Planning/DevelopmentPlans/LocalAreaPlans/NewbridgeLAP2013-2019/SubmissionstoDraftLAP/21%20NRA.pdf>

⁷ <https://www.monaghan-mushrooms.com>

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	<p>Carbury village at Carbury Farm. There are no turbines in this catchment but two short sections of the MV Cable Route run through it. The cable route is approximately 2.5 km upstream of Carbury Farm.</p> <p>Moyvalley Meats is located off the L5005, in Taneragee, and is approximately 2.1km north of the nearest turbine no. 24 in the Windmill cluster. Moyvalley Meats is licensed by the EPA under an Industrial Emissions Licence Register No. P0192-02. Clairstone Ltd. gravel pit is located to the north of the Windmill cluster and is approximately 0.9 km to turbine no. 25. Both Moyvalley Meats and Clairstone Ltd. are located in the same waterbody catchment as the turbines in the Windmill cluster. The turbines are upstream of the two industrial sites. There is a monitoring point downstream of the cluster and upstream of the industrial sites and there is a further 2 monitoring points within a short distance downstream of the industrial facilities. Moyvalley Meats as an IPC licensed facility has strict controls on discharges and from the facility, it operates its own WWTP under the licence. The potential cumulative impact on water quality is therefore considered to be negligible.</p> <p>Brady's Family Ham, together with Doran's Nurseries next door, are located approximately 1.2km north of the Timahoe Cross Roads between the townlands of Coolgmartin, Derryvarroge and Timahoe. Brady's Family Ham produces traditional Deli ham. It is located approximately 2.2km from its nearest turbine (no. 40 in the Drehid-Hortland cluster). Doran's Nurseries, which is one of Ireland's leading nurseries dedicated to providing their customers with a wide range of heathers. Neither of these facilities is located in the same waterbody catchment as any turbines or the MV Cable Route. The potential cumulative impact on water quality is therefore considered to be negligible.</p> <p>Irish Industrial Explosives Ltd is located in the townland of Clonagh, Co. Kildare and has an IPC Licence issued by the EPA, Licence Register No. P0055-01. It is situated within the Drehid-Hortland cluster but not within any of the cluster boundaries. It is located approximately 0.9km west of turbine no. 46. It is in the same waterbody catchment as 8 of the turbines in this cluster along with a short section of the MV Cable Route. The turbines are all located upstream of the facility. As an IPC licence holder, the licensee is required to carry out regular monitoring of surface water and groundwater in the environment. These controls coupled with the proposed mitigation measures for the operation of the windfarm mean that the cumulative impacts on water quality are considered to be negligible.</p>
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The Assessment of Significant Effects

<i>Describe how the project or plan (alone or in combination) is likely to affect the Natura 2000 site</i>	The proposed project will not affect the Natura 2000 sites.
<i>Explain why these effects are not considered significant</i>	There were no effects identified on Ballynafagh Bog cSAC (000391), Pollardstown Fen cSAC (000396), Mount Hevey Bog cSAC (002342), The Long Derries cSAC (000925) and Mouds Bog cSAC (002331)
Name of Agency or Body Consulted	Summary of Response
National Parks and Wildlife	The following summarises consultation undertaken with the National

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Service	<p>Parks and Wildlife Service in regard to the proposed development.</p> <p>In: Response to EIS Scoping Report Dated 12/12/2014: “The EIS scoping has not mentioned appropriate assessment. In accordance with article 6.3 of the Habitats Directive (Council Directive 92/43/EEC), this project should be subject to appropriate assessment (AA) screening and if necessary a NIS should be produced. Please refer to our previous scoping comments on AA. Please note however that the guidance documents referred to in that submission have been clarified by CJEU case law which should be consulted. For example case C-258/2011 on the N6, Galway City Outer Bypass and the Briels Case, C-521/12.”</p> <p>In: DAU correspondence dated 6/2/2013 (Ref: Gre 00199/2012): <i>“As the project that has the potential to significantly impact on the integrity of several Natura 2000 sites, an Appropriate Assessment as outlined in Article 6(3) of the EU Habitats Directive (Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora) is required as part of this proposal. The Appropriate Assessment should focus on the potential impacts in view of the site’s conservation objectives (qualifying interests/special conservation interests), and should include measures that will avoid, reduce and mitigate for any such impacts. Potential impacts must be considered in combination with other plans or projects, including other wind farm development. The Appropriate Assessment must establish and conclude that the proposed development does not pose a significant threat to the conservation objectives of the Natura 2000 site, if the proposal/project is to proceed. Guidance on the preparation of an Appropriate Assessment is available at www.npws.ie (see Planning and Appropriate Assessment, Department of the Environment, Heritage & Local Government (2009): Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities).”</i></p> <p>In: DAU correspondence dated 25/6/2012 (Ref: Gre 00199/2012): <i>“In accordance with article 6.3 of the Habitats Directive, this project should be subject to appropriate assessment screening and if necessary appropriate assessment. We refer you to the Departmental guidance document on Appropriate Assessment, which is available on the NPWS website at: http://www.npws.ie/media/npws/publications/codesofpractice/AA%20Guidance%2010-12-09.pdf.and the marine document entitled “Marine Natura Impact Statements in Irish Special Areas of Conservation - A Working Document” which is available online at http://www.npws.ie/planning/appropriateassessment/ or http://www.npws.ie/marine/marinelicencing/. We also refer you to the EU Commission guidance entitled “Assessment of plans and projects significantly affecting Natura 2000 sites. Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC”, which can be downloaded from http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/natura_2000_assess_en.pdf. In order to carry out the appropriate assessment screening and/or prepare a NIS you will need to collect information about the relevant Natura 2000 sites including their conservation objectives. Details of designated sites and species can be found on www.npws.ie while conservation objectives, if not yet available on our web site, can be obtained upon request by completing the data request form on our website at: http://www.npws.ie/media/npws/publications/Data%20request%20form.doc. We note however that you intend to keep cable routes as close to roads as possible and use bridges where possible for river crossings.</i></p>
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Ex-situ impacts should be considered, particularly in relation to SPAs where the flight paths of birds to and from SPAs may be over the proposed wind farm locations. We recommend that you consult with the relevant Local Authorities to determine if there are any projects or plans which alone or in combination could impact on any Natura sites."

Data Collected to Carry out the Assessment

<i>Who carried out the assessment</i>	<i>Sources of Data</i>	<i>Level of assessment completed</i>	<i>Where can the full results of the assessment be accessed and viewed</i>
Fehily Timoney & Company for Maighne Wind Farm Ltd.	A combination of desktop studies and comprehensive field surveys were carried out for the ecological assessment of the existing environment of the proposed Maighne Wind Farm Development and for the overall Environmental Impact Assessment of the proposed development. The methodologies employed for the ecological assessment of the site are detailed in Section 3 and the results of this assessment are detailed in Section 4. The ecological description of the existing environment presented in Section 4 is used to inform this AA.	<p>Appropriate Assessment Screening was carried out for the Ballynafagh Bog cSAC (000391), Pollardstown Fen cSAC (000396), Mount Hevey Bog cSAC (002342), The Long Derries cSAC (000925) and Mouds Bog cSAC (002331)</p> <p>It was considered that there was the possibility of there being a significant effect on a number of their European sites (i.e., the River Boyne and River Blackwater cSAC, the River Boyne and River Blackwater SPA, the River Barrow and River Nore cSAC, Ballynafagh Lake cSAC and the RYW Water/Carton cSAC)) and, accordingly, a Stage Two Appropriate Assessment is required for the purposes of Article 6(3) of the Habitats Directive in respect of those sites. Hence, an NIS has been produced (see Section 6).</p>	The website of An Bord Pleanála http://www.pleanala.ie/