



An
Bord
Pleanála

Inspector's Report ABP303249-18

Development

110kV electrical substation with associated electrical plant, electrical equipment, welfare facilities, wastewater holding tank and security fencing. 110kV overhead grid connection cabling, upgrade of existing tracks, new site access roads, all associated site development, and ancillary works.

Location

Timahoe East, County Kildare.

Planning Authority

Kildare County Council

Applicant(s)

Bord na Mona Powergen limited and ESB Wind Development Limited.

Type of Application

Section 182A

Observer(s)

Irish Water

Date of Site Inspection

29th March 2020.

Inspector

Hugh Mannion

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1.0 Site Location and Description

- 1.1. The application site has a stated area of 15ha and located within a wider area of largely cut over bogland of about 807ha at Timahoe North, County Kildare. The site is about 6.5kms north of Allenwood village, 6kms east of Carbury and 3kms south of Johnstownbridge. The harvested peat was once used to feed the now demolished Allenwood power station and for domestic use. The wider bogland area is accessed from the Derrymahon road where there is an informal off-road car parking area and from this access a disused narrow-gauge railway runs north east across the bog towards the Doogary townland.
- 1.2. The Deeyiron-Maynooth 110kV electricity line traverses the southern section of the overall Timahoe Bog from northwest to south east. The application site is located on both sides of this disused railway line and about 1.2 kms from the Derrymahon Road. The substation is immediately to the northwest of the railway line and will take energy from the battery storage facility which is part of the application under ABP 305953-19 for a solar farm. From this substation, and south of the railway line, is the site of the overhead grid connection comprising two angle masts where the 110 kV overhead line turns southwest and then pole sets carrying the overhead wires to an intersection with the existing Deeyiron-Maynooth 110kV 110kV national grid line is south of the rail line.

2.0 Proposed Development

The proposed development comprises;

- 1 no. 110kV onsite electrical substation with associated electrical plant, electrical equipment, welfare facilities, wastewater holding tank and security fencing;
- 110 kV overhead Line grid connection cabling with associated angle lattice masts and supporting pole sets;
- Upgrade of existing tracks and provision of new site access roads;
- Site drainage;
- All associated site development and ancillary works

At Timahoe East, County Kildare,

3.0 Planning History

- 3.1. Under PA reference 18/1514/ABP 305953-19 permission is being sought for a solar farm/battery storage facility, new access road, drainage works and amenity paths on about 260ha within the same Timahoe bog as this application.
- 3.2. An Bord Pleanála confirmed under ABP-300398-17 that this grid connection is strategic infrastructure for the purposes of seeking a planning permission.

4.0 Policy and Context

- 4.1. The **National Planning Framework 2018-2040** sets 10 strategic priorities including building a strong economy supported by enterprise, innovation and skills, enhanced amenity and heritage and transition to a low carbon economy. The NPF states that this transition to a low carbon economy requires,
 - A shift from predominantly fossil fuels to renewable energy sources,
 - Increasing efficiency and upgrades of appliances, buildings and systems.
 - Decisions around development and deployment of new technologies relating to wind, smart grids, electric vehicles, buildings, ocean energy and bioenergy.
 - Regulatory frameworks to facilitate this transition.
- 4.2. A key element of the NPF is to support and strengthen more environmentally focused planning at local level. The Framework states that the future planning and development of our communities at local level will be refocused to tackle Ireland's higher than average carbon-intensity per capita and enable a national transition to a competitive, low carbon, climate resilient and environmentally sustainable economy by 2050, through harnessing our country's prodigious renewable energy potential.
- 4.3. **National Policy Objective 55** seeks to promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a low carbon economy by 2050.

- 4.4. The **Government White Paper entitled ‘Ireland’s Transition to a Low Carbon Energy Future 2015 – 2030’**, was published in December 2015
- 4.5. The White Paper sets out a framework to guide policy up to 2030. The vision of the White Paper is to achieve a low carbon energy system that targets greenhouse gas (GHG) emissions from the energy sector that will be reduced by between 80% and 95%, compared to 1990 levels, by 2050, and will fall to zero or below by 2100. However, it does not supersede the NREAP (National Renewable Energy Action Plan), which sets out Ireland’s approach to achieving its (legally binding) targets, with a target of 40% of electricity consumption to be from renewable sources by 2020.
- 4.6. Paragraph 137 of the White Paper states that solar photovoltaic (PV) technology is rapidly becoming cost competitive for electricity generation, not only compared with other renewables but also compared with conventional forms of generation. The deployment of solar in Ireland has the potential to increase energy security, contribute to our renewable energy targets, and support economic growth and jobs. Solar energy also brings several benefits like relatively quick construction and a range of deployment options, including solar thermal for heat and solar PV for electricity.
- 4.7. The White Paper also sought to publish a Renewable Electricity Policy and Development Framework (with a spatial dimension) to underpin the proper planning and development of larger scale renewable electricity generation development on land. It is envisaged that such a plan will give guidance to those seeking development consent and to planning authorities in relation to larger-scale onshore renewable electricity projects.
- 4.7.1. **National Climate Change Strategy 2007-2012**
- 4.7.2. Under the Kyoto Protocol and as part of its contribution to the overall EU target, Ireland agreed to a target limiting its greenhouse gas emissions to 13% above 1990 levels over the period 2008-2012. The National Climate Change Strategy 2007-2012 sets out a range of measures, building on those already in place under the first National Climate Change Strategy (2000), to ensure Ireland reaches its target under the Kyoto Protocol. The Strategy provides a framework for action to reduce Ireland’s greenhouse gas emissions in the areas of energy, transport, housing, industry,

agriculture and waste as well as cross-sectoral actions. Local authorities are key agents for change at the local level in achieving target reductions.

4.7.3. **Strategy for Renewable Energy: 2012-2020 - Department of Communications, Energy and Natural Resources (DCENR) (2012)**

- The Government's overriding energy policy objective is to ensure competitive, secure and sustainable energy for the economy and for society.
- The development of renewable energy is central to overall energy policy in Ireland. Renewable energy reduces dependence on fossil fuels, improves security of supply, and reduces greenhouse gas emissions creating environmental benefits while delivering green jobs to the economy, thus contributing to national competitiveness and the jobs and growth agenda.
- Climate change, energy security and competitiveness are inter-related challenges that will be addressed through the transforming of Ireland's economy from one based on a predominantly import based fossil fuel dependence to a more indigenous low carbon economy based around energy efficiency, renewable energy and smart networks.
- The Government's overarching strategic objective is to make renewable energy an increasingly significant component of Ireland's energy supply by 2020, so that at a minimum we achieve our legally binding 2020 target in the most cost-efficient manner for consumers.

4.8. **National Renewable Energy Action Plan (NREAP)**

4.9. The EU Renewables Directive 2009/28/EC promotes the use of energy from renewable sources and set the EU's 20% renewable energy target by 2020. Ireland was set a renewable energy target of 16% target by 2020. The National Renewable Energy Action Plan sets out the Government's strategic approach and concrete measures to deliver this target which includes:

- 40% of electricity consumption from renewable sources by 2020.
- 10% electric vehicles by 2020
- 12% of renewable heat by 2020

4.10. The Government is also looking beyond 2020 in terms of the significant opportunities to develop Ireland's abundant offshore renewable energy resources, including offshore wind, wave and tidal energy.

4.11. **Draft Methodology for Local Authority Renewable Energy Strategies (Sustainable Energy Authority of Ireland, 2011)**

4.12. There is a growing trend and need to prepare strategies for the co-ordinated development of renewable energy sources. These strategies will allow Local Authorities to maximise the renewable energy resource and potential of its area and assist in the transition to a low carbon economy. The Sustainable Energy Authority of Ireland (SEAI) has produced draft methodology guidelines for Local Authorities when preparing Renewable Energy Strategies.

4.13. The **Eastern and Midland Regional Economic and Spatial Strategy 2019 to 2031** is the relevant regional strategy for the application site. A key principle of the RESS is "the need to enhance climate resilience and to accelerate a transition to a low carbon society recognising the role of natural capital and ecosystem services in achieving this". Of the sixteen Regional Strategic Outcomes for the eastern and midlands region number 10 is to "identify, protect and enhance Green Infrastructure and ecosystem services in the Region and promote the sustainable management of strategic natural assets such as our coastlines, farmlands, peatlands, uplands woodlands and wetlands".

4.14. **Development Plan**

4.15. The **Kildare County Development Plan 2017-2023** is the relevant county development plan for the area.

4.16. Objective ECD 23.

Facilitate and encourage the development of the alternative energy sector and to work with relevant agencies to support the development of alternative forms of energy where such developments are in accordance with the proper planning and sustainable development of the area.

4.17. In relation to solar energy the objectives SE 1 and SE 2 are;

SE1 - Promote the development of solar energy infrastructure in the county, in particular for on-site energy use, including solar PV, solar thermal and seasonal storage technologies. Such projects will be considered subject to environmental safeguards and the protection of natural or built heritage features, biodiversity views and prospects.

SE2- Ensure that the assessment of solar energy development proposals will have regard to:

- site selection, by focussing in the first instance on developing solar farms on previously developed and non-agricultural land, provided that it is not of high environmental value;
- where a proposal involves greenfield land, whether (i) the proposed use of any agricultural land has been shown to be necessary and poorer quality land has been used in preference to higher quality land; and (ii) the proposal allows for continued agricultural use where applicable and/or encourages biodiversity improvements around arrays;
- the nature of solar farms as normally temporary structures. Decommissioning and site rehabilitation plans will be required providing for the land be restored to its previous use;
- the proposal's impact through glint and glare on neighbouring uses and on transportation and aviation safety;
- the proposal's visual and landscape impact and the potential to mitigate these impacts through, for example, screening with native hedges;
- the guidance provided in relation to compatibility with landscape designations of Tables 14.3 and 14.4 of Chapter 14 of this plan;
- the need for, and impact of, security measures such as lights and fencing;
- the need to ensure that heritage assets are conserved in a manner appropriate to their significance, including the impact of proposals on protected views and scenic routes etc. As the significance of a heritage asset derives not only from its physical presence, but also from its setting, careful consideration should be given to the impact of large-scale solar farms of such assets, e.g. historic demesnes. Depending on their scale, design and

prominence, a large-scale solar farm within the setting of a heritage asset may cause substantial harm to the significance of the asset,

- the need to consider ecology so as to avoid or minimise damage on important species or protected habitats,
- the energy-generating potential, which can vary for a number of reasons including latitude and aspect,
- the design of the scheme needs to be carefully considered including layout, scale, land cover panel, height, landscaping, access roads, noise, cumulative impacts and the design of ancillary elements.

4.18. Policies in relation to electricity supply and infrastructure include.

Objective TN 1 Ensure that planning applications involving the siting of electricity power lines and other overhead cables and their support structures, consider in full, the impacts of such development on the landscape, nature conservation, archaeology, residential and visual amenity.

Objective TN 2 Seek the undergrounding of all electricity, telephone and TV cables wherever possible and specifically in areas of sensitivity, in the interest of visual amenity. Provision should be made for the unobtrusive siting of transformer stations, pumping stations and other necessary service buildings. Pole mounted equipment (such as transformers) will not be permitted.

Objective TN 3 Recognise the development of secure and reliable electricity transmission infrastructure as a key factor for supporting economic development and attracting investment to the area and to support the infrastructural renewal and development of electricity networks in the county.

Objective TN 4 Support the sustainable improvement and expansion of the high voltage electricity transmission power lines and distribution network, subject to human health, landscape, residential amenity, tourism, equine industry and environmental considerations.

Objective TN 5 Require developers to outline in any proposed planning application for high voltage transmission lines:

(a) the key drivers for the project;

- (b) the manner in which the preferred technological solution has been arrived at, including considerations of alternatives;
- (c) How environmental assessments have informed options relating to undergrounding/partial undergrounding/overgrounding of transmission infrastructure;
- (d) how the preferred route and substation requirements within the county were selected and justification for same, having regard to paragraph (c) above;
- (e) the cumulative impact of the proposal with other planned projects. Where impacts are inevitable mitigation measures shall be clearly outlined.

Objective TN 6 Have regard to the requirements of the service providers in the provision of strategic infrastructure while also seeking to ensure that development, including the location of high voltage transmission power lines, is controlled, particularly adjoining existing dwellings, except where no other alternative can be shown to exist.

Objective TN 7 Ensure that the ability of the area to absorb overhead transmission lines is considered with reference to landscape character designations of the county as outlined in Chapter 14 of this plan or following any forthcoming National Landscape Guidelines issued pursuant to Section 28 of the Planning and Development Act 2000 (as amended).

Objective TN 8 Ensure that the landscape and visual assessment of any proposal focus on the potential of the development to impact upon county landscape designations and important designated sites. Proposed overhead lines shall as far as possible seek to avoid areas of sensitivity (e.g. areas of high amenity, high sensitive landscape designations, scenic views, protected structures etc). Where avoidance is not possible full consideration shall be given to undergrounding the lines.

Objective TN 9 Have regard to the potential impact of proposed overhead high voltage transmission powerlines on the established equine industry in the county, such as the sport horse and the thoroughbred bloodstock sectors, and to ensure that appropriate mitigation measures are provided to mitigate any adverse impact on this important industry.

Objective TN 10 Ensure that the developers of high voltage transmission overhead lines seek to minimise the visual impact of the lines. In this regard detailed

consideration shall be given to appropriate support structure designs and the reason for the selection of particular support structure design over other designs. Where appropriate alternative solutions including monopole designs or such other designs or mitigation measures shall be given due consideration.

Objective TN 11 Ensure that additional infrastructure and/ or substation sites that are required to accommodate high voltage transmission power lines shall be detailed, including consideration of alternatives. Mitigation measures shall be outlined to minimise the visual impact of the multiplicity / convergence of overhead lines including any associated tie-ins at substations. Where there is a multiplicity and or convergence of overhead lines the undergrounding of existing and/or proposed lines shall be investigated by applicants.

Objective TN 12 Ensure that proposals for development which would be likely to have a significant effect on nature conservation-sites and / or habitats or species of high conservation value will only be approved if it can be ascertained, by means of an Appropriate Assessment or other ecological assessment, that the integrity of these sites will not be adversely affected except where there are imperative reasons of overriding public interest (IROPI).

Objective TN 13 Seek compliance with any statutory government guidelines issued by the DECLG pursuant to Section 28 of the Planning and Development Act 2000 (as amended). This includes the review by the expert group on “Health Effects of Electromagnetic Fields”, Department of Communications, Energy and Natural Resources (2007) and any further reviews.

Objective TN 14 Seek to ensure that there is adequate electrical infrastructure and network capacity to provide a reliable supply to all those working and living in the county, and thereby support national economic growth and social development.

- 4.19. The site is designated ‘high sensitivity’ which is class 3 in a 5-point scale of landscape sensitivity in Chapter 14 of the County Development Plan and mapped on map 14.1 of the Plan.
- 4.20. Objective NH5 in relation to environmental conservation states;
Prevent development that would adversely affect the integrity of any Natura 2000 site located within and immediately adjacent to the county and promote favourable

conservation status of habitats and protected species including those listed under the Birds Directive, the Wildlife Acts and the Habitats Directive.

- 4.21. The County Development Plan at 13.7 states that;
- 4.22. The County supports a range of plant, animal and bird species that are deemed to be rare and threatened under European and Irish legislation and which are known to exist outside of designated sites such as Natura 2000 sites or Natural Heritage areas. This includes nationally rare plants, plants listed in the Red Data Lists of Irish Plants, the Flora Protection Order, 1999 (or other such Orders) and their habitats and animals and birds listed in the Wildlife Act 1976 (amended 2000) and subsequent statutory instruments.
- 4.23. It is the policy of the Council to protect and promote the conservation of biodiversity outside of designated areas and to ensure that species and habitats that are protected under the Wildlife Acts 1976 and 2000, the Birds Directive 1979 and the Habitats Directive 1992 are adequately protected.
- 4.24. It is the policy of the Council:

NH 11: To ensure that development does not have a significant adverse impact on rare and threatened species, including those protected under the Wildlife Acts 1976 and 2000, the Birds Directive 1979 the Habitats Directive 1992 and the Flora Protection Order species.

NH 12: To ensure that, where evidence of species that are protected under the Wildlife Acts 1976 and 2000, the Birds Directive 1979 and the Habitats Directive 1992 exist, appropriate avoidance and mitigation measures are incorporated into development proposals as part of any ecological impact assessment. In the event of a proposed development impacting on a site known to be a breeding or resting site of species listed in the Habitats Regulations a derogation licence, issued by DAHG may be required.

4.25. Natural Heritage Designations

- 4.26. Table 6.4 in Chapter 6 of the EIAR lists the Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs) within a zone of influence of 15kms from the application site and these are mapped in figure 6.1a.
- 4.27. The NHAs are Hodgestown Bog NHA, Carbury Bog NHA, Molerick Bog NHA, Blackcastel Bog NHA. The pNHAs are Royal Canal pNHA, Grand Canal pNHA, Donadea Wood pNHA, Ballynafagh Lake pNHA, Ballina Bog pNHA, The Long Derries Edenderry pNHA, Ballynabarny Fen pNHA, Rathmoylan Esker pNHA and Mounds Bog pNHA.
- 4.28. The EIAR concludes that there will be no impact on these areas because there is no potential for direct or indirect effects with regard to surface water pollution, disturbance, habitat loss, fragmentation or deterioration as there is no identifiable pathway for any of these or any other impacts. Given the separation of the proposal from the designated site as well as the nature and scale of the proposal, there is no potential for direct impacts on the designated site.
- 4.29. Having regard to the factors set out in the EIAR, the nature of the grid connection and substation and the foreseeable emissions therefrom I conclude that there are no likely significant impacts arising for these areas from the proposed development.

5.0 The Applicant's Submission to the Board.

- 5.1. The applicant's submission to the Board is summarised as follows;
- This application is being made directly to An Bord Pleanála as 'Strategic Infrastructure Development' (SID) under the provisions of Section 37 of the Planning and Development (Strategic Infrastructure) Act 2006, the Planning and Development Act 2000 as amended, and the associated Planning Regulations.
 - The Board has confirmed under ABP- 300398-17 that the application comprises a strategic infrastructure project.

6.0 Planning Authority's Submission to the Board.

- There are two related applications; ABP303249-17 for a grid connection made directly to the Board and 18/1514 ABP 305953-19 for a solar farm/battery storage facility, new access road, drainage works and amenity paths both on Timahoe East bog County Kildare.
- There are no national monuments within 10km of the site but there is one recoded monument within the site (KD008-025 unclassified Togher). Clarification should be sought in relation to an appropriate buffer zone for this monument. There is evidence of timbers turning up in some archaeological tests that may be related to bog toghers.
- This application was referred to internal departments of the planning authority. They responded as follows;
 1. Area engineer – no report
 2. Environment -no objection subject to conditions.
 3. Transport – further information sought.
 4. Environmental Health Office – no objections subject to conditions.
 5. Water Services -Further information requested.
 6. Conservation Office -no comment
 7. Heritage Officer further information requested
 8. National Roads design Office – no objection subject to conditions.
- Significant developments in the area recently granted permission included;
 1. 66,000m² solar panels and associated works at Coolcarrigan, Timahoe West, County Kildare (15/1172).
 2. 35ha solar farm and associated works at Dysart, Johnstownbridge, County Kildare to Power Capita Renewable Energy (16/1265).
 3. 13.5ha solar farm at Ovidstown, Ballyvoneen, Enfield, County Kildare (18/94).

4. Drehid Waste Management Facility has been subject to a number of applications and is subject to another application currently before the board under ABP300506-17.

- The UN Framework Convention on Climate seeks to limit greenhouse gas emissions. The EU Directive on Promotion of the Use of Energy from Renewable Resources sets a target of 20% of energy consumption from renewable resources and a cut of 20% in greenhouse gas emissions.
- The National Planning Framework sets out national policy objectives that support development in rural areas, the reduction of greenhouse gasses and a move to a low carbon economy by 2050.
- The Eastern and Midland Draft Regional Spatial and Economic Strategy recognises (chapter 10.3) that traditional fossil fuel powered electricity stations will be wound down.
- The current Kildare County Development Plan sets out objectives that support National and European policy in relation to the reduction of dependence on fossil fuels for energy. Objectives ER1, ER3, ER6, ER7, ERCD23, ECD27 support green energy. Objective LA3 requires a landscape assessment of significant planning applications. Objective LL5 recognises that cutaway and cutover boglands represent degraded landscapes and/or brownfield sites and are thus potentially robust to absorb a variety of appropriate developments.
- The County Development Plan supports the provision of electricity supply and infrastructure. Specifically, objectives TN1, TN7, TN8, TN10, TN11, TN12 refer to the assessment criteria to be applied to electricity supply and infrastructure applications. These criteria are landscape, nature conservation, archaeology, residential and visual amenity.
- The site is located in an area designated 'Western Bogland' in the County Development Plan which are high sensitivity with a reduced capacity to accommodate uses without significant adverse effects on the landscape. Objectives LA1, LA3, LA7, LL1, LL3, LO1, LO2, LU3, A1, LA2, LU1 and SR1 refer to landscape and scenic route protection policies.

- The planning authority considered that the EIAR submitted with reference number 18/1514/ABP 305953-19 was inadequate.
- The AA Screening and NIS submitted with 18/1514/ABP 305953-19 was inadequate in that it did not fully identify the potential impacts of the proposed development, it had not incorporated the more recent advice from the EU (November 2018) and the impacts on the metapopulation of the Marsh fritillary butterfly.
- Notwithstanding the previous industrial use of the site and having regard to the deficiencies in the AA screening, NIS and EIAR it is not possible to conclude that the site is suitable for the form of development being proposed.
- The application should be considered cumulatively with the Drehid waste management facility (ABP300506-17) and the windfarm under ABP306500-20, the Irish Water Shannon/Dublin supply pipeline under the headings of;
 1. Population and human health.
 2. Biodiversity.
 3. Land, soils and geology
 4. Water
 5. Air and climate
 6. Noise and vibration
 7. Landscape and visual
 8. Cultural heritage
 9. Material asset.
- The replanting of 46ha of trees should be accompanied with details timing, species and the predicted habitat impacts on this element of the proposal.
- The impact of the increased footfall associated with the amenity walkway should be subject to additional environmental impact assessment.
- It is unclear if a bog woodland habitat (a Habitats Directive Annex 1 priority habitat) exists within the site.

- A full decommissioning and rehabilitation plan should be submitted prior to any decision.
- The impacts on lepidoptera species are unclear in the application.
- The proposed development will not negatively impact on the landscape value of the area or on any scenic route.
- The chapter 4 of the EIAR which examines the hydrology of the site, the flood risk assessment submitted and the surface water management plan are all inadequate. Areas of the site are at risk of pluvial flooding and the deforestation and excavation for will undermine the drainage capacity of the site.
- The planning authority's roads section requested an inspection/condition survey of the road network in the area. The combined construction traffic impacts on the road of the present application, the Drehid waste management facility ABP300506-17 and the windfarm under ABP306500-20 should be considered.

7.0 Observations

- Irish Water commented that the proposed development would not impede the delivery of the Dublin/Shannon water supply pipeline.

7.1. Further Responses

- None

8.0 Environmental Impact Assessment

- 8.1. The application was subject to a consultation with the Board under ABP300398-17 whereby the Board directed that an application for the grid connection be made to it under section 182A of the planning and Development Act 2000, as amended and that the solar farm and associated infrastructure be subject to a separate application to Kildare County Council. The applicant (see chapter 1.1.3 of the EIAR) considered

that it was appropriate to submit an EIAR with the application and having regard to the judicial decisions in O’Grianna & Ors v An Bord Pleanála [2014] IEHC 632 and in Sweetman v An Bord Pleanála & Ors [2017] IEHC 46 whereby it was found that grid connections are integral to renewable energy projects I consider that it is appropriate to provide an EIAR in this instance.

8.2. The EIAR is broken down into 14 sections.

1. Introduction
2. The background to the proposed project
3. Site selection and alternatives
4. Description of the proposed development
5. Population and human health
6. Biodiversity, Flora and Fauna
7. Land, soils and geology
8. Water
9. Air and climate
- 10.Noise and vibration
- 11.Landscape and visual
- 12.Archaeology and Cultural heritage
- 13.Material assets
- 14.Interactions of the foregoing,
- 15.Schedule of mitigation measures.

8.3. **Chapter 1 Introduction.**

8.4. The introduction summarises the legislative backgrounds and provides a rationale for the preparation of an EIAR. Section 1.7 sets out the qualifications and expertise of the persons who prepared/contributed to the EIAR.

8.5. Having reviewed the EIAR I am satisfied that the report complies with article 94 of the Planning and Development Regulations 2001, as amended, and includes the information specified in Schedule 6. The report includes a non-technical summary

and a list of the expert contributors to the report. I consider that the report identifies, describes and assesses the significant effects on the environment.

8.6. Chapter 2 Background to the Proposed Development.

8.7. This chapter sets out in detail the international, European, national, regional policy underpinning the proposed development.

8.8. The 1992 United Nations Framework Convention on Climate Change (UNFCCC), “the Kyoto protocol” seeks to limit average global temperature increases and the resulting climate change. Under the Kyoto Protocol, the EU agreed to achieve a significant reduction in total greenhouse gas emissions of 8% below 1990 levels in the period 2008 to 2012.

8.9. Ireland’s contribution to the EU commitment for the period 2008 – 2012 was to limit its greenhouse gas emissions to no more than 13% above 1990 levels. Ireland’s first National Climate Change Adaptation Framework (NCCAF), was published in December 2012, and aims to ensure that adaptation actions are taken across key sectors and also at local level to reduce Ireland's vulnerability to climate change. The Climate Action and Low Carbon Development Act 2015 puts the development of National Climate Change Adaptation Frameworks and Sectoral Adaptation Plans on a statutory basis. The Climate Action and Low Carbon Development Act 2015 provides for the establishment of a national framework with the aim of achieving a low carbon, climate resilient, and environmentally sustainable economy by 2050, referred to in the Act as the “national transition objective”. The National Mitigation Plan published in July 2017, gives effect to the provisions of the Climate Action and Low Carbon Development Act 2015. The act provides the statutory basis for the transition to a low carbon, climate resilient and environmentally sustainable economy by 2050 and commits the state to reducing greenhouse gas emissions by at least 40% by 2030, compared with 1990 in accordance with the Paris Climate Agreement as part of its EU responsibilities.

8.10. The National Planning Framework (NPF) Ireland’s national energy policy under objective 55 aims to ‘promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a low carbon economy by 2050’.

8.11. The government recognises that it must reduce greenhouse gas emissions which come from the energy sector by at least 80% by 2050 when compared to 1990 levels while ensuring a secure supply of energy, the NPF notes that our transition requires:

- Shift from predominantly fossil fuels to predominantly renewable energy sources, increasing efficiency and upgrades to appliances, buildings and systems
- Decisions around development and deployment of new technologies relating to areas such as wind, smartgrids, electric vehicles, buildings, ocean energy and bio energy.
- Legal and regulatory frameworks to meet demands and challenges in transitioning to a low carbon society.

8.12. Kildare is in the Eastern and Midland Region and Section 3.2 of the NPF list as a key future planning objective for the region (page 35) harnessing the potential of the region in renewable energy terms across the technological spectrum from wind and solar to biomass and, where applicable wave energy, focusing in particular on the extensive tracts of publicly owned peat extraction areas in order to enable a managed transition of the local economies of such areas in gaining the economic benefits of greener energy.

8.13. The Kildare County Development Plan planning objective SE 1 is to promote the development of solar energy infrastructure in the county, in particular for on-site energy use, including solar PV, solar thermal and seasonal storage technologies. Such projects will be considered subject to environmental safeguards and the protection of natural or built heritage features, biodiversity views and prospects. Policy objective SE 2 sets out a number of criteria against which applications for solar farm developments will be assessed and these include; focussing solar developments on previously developed and non-agricultural land, submission of decommissioning and site rehabilitation plans which provide for restoration to the site's previous use, mitigation of glint and glare impact on neighbouring uses and on transportation and aviation safety and the proposal's visual and landscape impact and the potential to mitigate these impacts through, for example, screening with native hedges.

- 8.14. Section 2.5 describes the processes of scoping and consultation engaged in as part of the EIAR preparation process and table 2.3 sets out the consultees and their responses where such were received.
- 8.15. Section 2.6 sets out the projects considered as part of the cumulative impact assessment and these include ongoing peat extraction partially within the application site by individuals on lands leased by Bord na Mona, the Drehid Waste management facility, other solar farms in the wider area, the proposed Drehid Windfarm, an Irish Water pipeline has identified a route which runs south of the Timahoe bog but does not impact on the proposed works area.
- 8.16. I consider that chapter 2 has adequately set out the policy European, national and local policy context for the proposed development. The planning history of the wider area has been adequately summarised and the projects which should form part of the cumulative impact assessment have been identified. The consultations engaged with are adequate and meet the requirements of the Directive and Regulations.
- 8.17. **Chapter 3 Site selection and alternatives.**
- 8.18. The EIAR makes the point that a key driver in identifying a suitable location for any renewable energy development is grid capacity. A short grid connection to existing infrastructure is a key consideration. The shorter distance reduces the potential environmental effect by reducing the number of pole sets/angle masts and therefore use of materials such as steel and concrete and reduces the disturbance of soil and sediment run-off. A grid connection assessment of the area has been undertaken to inform a potential grid connection for the proposed development which consisted of a review of the local network, capacity at local substations and potential connection methods. A grid connection agreement for the adjoining solar farm site has been secured with Eirgrid through the statutory process operated by the Commission for the Regulation of Utilities.¹
- 8.19. The site was identified as suitable as it is close to the existing Derryiorn/Maynooth 110kV line which traverses the Timahoe site. It is therefore proposed to connect the adjoining solar farm to this line, via two short (less than 1 km) sections of overhead line within the site.

¹ Formerly the energy regulator.

8.20. I have considered the material set out in Chapter 3. I am satisfied that the location of the grid connection within about 1km of the proposed solar farm is necessary for the connection to the national grid while minimising the length of that connection and that no more suitable location could be identified. This location effectively mitigates against more substantial impacts which might arise from the choice of another location and I am satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects on the application site or wider area.

8.21. **Chapter 4 describes the proposed development.**

8.22. The proposed development comprises the construction of one 110kV onsite electrical substation with associated electrical plant, electrical equipment, welfare facilities, waste water holding tank and security fencing and one 110 kV overhead line grid connection cabling of 750m long with associated angle lattice masts and supporting pole sets. The development will be connected to the Derryiorn/Maynooth 110kV line which traverses the Timahoe site – these elements are illustrated on figure 4.1 in the EIAR. The proposed substation will be located within an area of peatland which will be excavated prior to construction. It is surrounded by forestry on all aspects, which will screen it from view from the Johnstownbridge/Crabury R402 Regional Road, located approximately 3.75km northwest of the substation at its nearest point, and all other local roads surrounding the proposed project site. It is proposed that some localised landscaping will be required along the southern boundary of the substation to reduce visibility.

8.23. Where peat excavation is required for the substation excavated materials that are surplus to backfill requirements and are deemed unsuitable for reuse in construction will be brought to the repository locations. This material will be levelled into suitable layers and compacted by tracking. Peat will be stored in 1m deep layers and where appropriate will be revegetated.

8.24. Fuels and oils will be managed to mitigate spills and potential pollution a Construction and Environmental Management Plan (CEMP) has been prepared for the proposed project and is included in Appendix 4-5 of the EIAR. The mitigation measures will include; storage of fuels, lubricants and hydraulic fluids in contractors' compounds, which will be fenced and have a lockable gate. The storage area within

the compound will contain a small bund lined with an impermeable membrane in order to prevent any contamination of the surrounding soils and vegetation and of groundwater. Storage areas will be remote from surface drains and watercourses, be readily visible for supervision and inspection, be readily accessible for filling and maintenance, and be protected against accidental impact. The bunded area will have a capacity of 110% of the largest tank accommodated or 25% of the total maximum capacities of all tanks, whichever is the greater.

- 8.25. The potential for concrete related contamination will be mitigated by;
1. Restricting concrete use to ready mixed concrete from local batching plants to avoid batching on site and only the chute of the delivery lorry will be washed on site.
 2. This wash water will be contained in a leak proof pond, allowed to evaporate and any residue will be taken off-site by tanker.
 3. Site roads will be constructed to a high standard to allow concrete trucks to be brought as close as possible to the excavation to pour directly into the excavation.
 4. Concrete deliveries will be on agreed routes, on-site washout will be prohibited, and instructions will be signposted and activity managed to prevent concrete spills.
 5. Concrete will not be poured in wet weather, or allowed to drain into drains or water courses, freshly poured concrete will be covered against rain.
- 8.26. Dedicated measures for ensuring that the excavations for the pole sets and erection of poles are set out at 4.9.5.1. Holes are excavated to allow the placing of two poles in the hole which are then fixed together close to the top. Sleepers are laid adjoining the poles and attached by cable to the pole for stability. The poles are earthed. The works are generally carried out by wheeled or tracked machinery and, where appropriate, by hand.
- 8.27. The 110kV towers will require concrete foundations. The foundations will be dewatered before concrete is poured and concrete trucks will be moved as close as possible to the foundation holes to avoid spill. If ground conditions do not allow access to concrete trucks dumpers will be used. The foundations will be backfilled.

- 8.28. Surface water management and pollution mitigation measures will include.
- Clearing blockages from drains within the site to enhance drainage to the Mulgeeth stream south of the site.
 - The construction of swales down gradient of construction works that will slow the movement of surface water over the site and allow settlement of suspended solids.
 - Check dams are constructed of rock, gravel/sandbags and used in constructed drains to slow water flow and prevent erosion.
 - Vegetation strips can be constructed/planted areas or areas protected during construction works to limit surface water flow over the site.
 - Settlement ponds reduce turbulence in runoff water where other methods may be ineffective and allow for slowing water flow of settling out of solids.
 - Silt fences are places especially along access roads which capture solids in runoff from these roads.
- 8.29. The temporary construction compounds associated with the solar farm and grid connection will be marked out and surface water management measures constructed to limit runoff. A geo-grid will be installed, and compacted layers of granular material laid down over it. Areas of hardstanding will be provided for vehicle parking and roads and the compounds will be fenced off and fitted with locked gates. Foul drainage related to staff facilities will be linked to a 18m³ retention tank.
- 8.30. The operational phase of the project will be about 35 years impacts will be limited maintenance activity.
- 8.31. I consider that the proposed development has been properly described in this chapter.
- 8.32. **Chapter 5 deals with population and human health.**
- 8.33. The grid connection is necessary to export electricity from the solar farm to the national grid. Figure 5.1 illustrates the study area for the project. Section 5.2.2 describes the population of the study area, section 5.2.3 describes the local economy section 5.2.4 describes land uses.

8.34. Health impacts arising from the grid connection and substation are discussed at 5.4.2. The authoritative sources for assessment of health impacts arising from electricity installations are identified as.

- the Department of Communications, Marine and Natural Resources, Expert Group on Health Effects of Electromagnetic Fields, 22 March 2007,
- World Health Organisation, Extremely Low Frequency Fields Environmental Health Criteria Monograph No.238, 2007,
- SCENIHR (Scientific Committee on Emerging and Newly Identified Health Risks), Potential health effects of exposure to electromagnetic fields (EMF), 27 January 2015.

8.35. The findings of these studies can be summarised as.

- Extremely low frequency fields (ELF fields) can impact on humans but only at very high field strength which will not be the case in this proposed development.
- There is no scientific evidence that electromagnetic fields impact (EMFs) on health.
- There is no scientific evidence that electromagnetic hypersensitivity is linked to EMFs.

8.36. In summary the results of current scientific research show that there are no evident adverse health effects if exposure remains below the levels recommended by the EU legislation.

8.37. In relation to the impacts on residential amenity the potential significant impacts are identified as noise, visual amenity and traffic. Noise will be dealt with in chapter 10 while visual impact is assessed in chapter 11, traffic in chapter 13.

8.38. Dust may arise from construction activity. Dust mitigation measures will include,

- sourcing aggregate material for construction works within the local area thereby reducing the distance travelled by vehicles,
- washing truck wheels before leaving the site,

- storage of all plant and materials and vehicles in the dedicated compound area.
- Minimising excavation and stockpiling and storing excavated peat in designated storage areas.
- Restricting construction traffic to defined routes and limiting speeds.
- dust suppression will be used on disturbed areas and roads in dry periods.

8.39. The EIAR concludes in relation to impacts on residential amenity that there will be a short term slight negative impact on traffic on the local road network in the unlikely event that the proposed development is constructed simultaneously with the adjoining windfarm (ABP306500-19). Furthermore, the grid connection/substation will have an imperceptible impact on residential amenity in the construction period.

8.40. I have considered the submission of the planning authority and this chapter of the EIAR. I am satisfied that potential effects on population and human health would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects on population or human health.

8.41. **Chapter 6 addresses biodiversity, flora and fauna.**

8.42. Table 6.1 lists the organisation consulted in the preparation of the chapter. The nationally designated Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas within a zone of influence of 15kms, are listed in table 6.4 and are mapped in figure 6.1a in chapter 6. The NHAs are Hodgestown Bog NHA, Carbury Bog NHA, Molerick Bog NHA, Blackcastel Bog NHA. The pNHAs are Royal Canal pNHA, Grand Canal pNHA, Donadea Wood pNHA, Ballynafagh Lake pNHA, Ballina Bog pNHA, The Long Derries Edenderry pNHA, Ballynabarny Fen pNHA, Rathmoylan Esker pNHA and Mounds Bog pNHA.

8.43. The EIAR concludes that there will be no impact on these areas because there is no potential for direct or indirect effects with regard to surface water pollution, disturbance, habitat loss, fragmentation or deterioration as there is no identifiable pathway for any of these or any other impacts. Given the separation of the proposal

from the designated site as well as the nature and scale of the proposal, there is no potential for direct impacts on the designated site.

- 8.44. Having regard to the factors set out in this chapter of the EIAR, the nature of the grid connection and substation and the foreseeable emissions therefrom I conclude that there are no likely significant impacts arising for these areas from the proposed development.
- 8.45. The EIAR distinguishes between **habitats**, **species** and **European sites** and assesses the impact of the substation and grid connection separately in relation to all three.
- 8.46. Habitats are mapped in figure 6.3a of the EIAR and in the area of the proposed substation and grid connection may be described as a mix of bare peat, pioneer dry heath with grassland and birch scrub, bog woodland, the access road/railway line. There is no significant difference between north of the railway line (the substation) and south (the grid connection). There will be some loss of this habitat necessitated by the proposed development (access roads/hard standing/fencing, digging post holes and the foundations for the angle lattice masts). There is no loss or damage to remnants of high bog from the proposed substation/grid connection. There will be a loss of woodland but this is identified as a slight negligible effect because there is replacement planting of about 46ha of replacement woodland in the overall site of the grid connection/solar farm.
- 8.47. In relation fauna/birds the EIAR makes the point that the site is of County Importance for breeding waterbirds, mainly because of snipe but that the substation and grid connection are located outside the wetland areas where the majority of the breeding waterbirds were recorded. There are no such breeding areas within or adjacent to the proposed site and little suitable habitat. There were only two breeding territories along the grid connection route for mallard and snipe and it is unlikely that the construction of an overhead line will result in the loss or degradation of habitat for breeding waterbirds. The substation will result in the loss of an area of 2 ha of woodland and scrub that provides good quality breeding habitat for a range of passerine and songbird species. This is a very small percentage of the available habitat in the study area and thus there is a slight effect in the context of the overall

study area. The EIAR concludes that following mitigation measures there will be a slight negative impact on some bird species of local importance higher level.

- 8.48. Fish and other aquatic species are at risk of water pollution. The construction phase related works have the potential, in the absence of mitigation, to give rise to short term negative impacts due to the release silt and hydrocarbons. Detailed mitigation measures to prevent this impact are set out separately in chapter 8. There are no likely operational phase water pollution impacts and therefore no likely significant impacts on aquatic species.
- 8.49. There were no bat roosting sites identified within the substation/grid connection site, the site is not used by a large population of bats and no effects on roosting bats are predicted. The operational phase will give rise to an imperceptible negative effect because of a rise in general human activity.
- 8.50. No badgers or red squirrels were recorded within the site and the loss of a small amount of habitat in the context of a much larger bog is not give rise to significant impact on these species.
- 8.51. The small skipper butterfly has been recorded in the grassland north of the disused railway line but the substation will not impact on this area and thus there are no predicted impacts on the small skipper.
- 8.52. Impacts will be mitigated through;
- designing out or minimising impacts on the key ecological receptors identified in the site and wider area.
 - designing out/avoiding any direct, indirect or residual adverse effects on European Sites or other sites designated for nature conservation.
 - voiding/minimising effects on the cutaway bog habitats and breeding wetland birds,
 - maximise the potential for rewetting the areas outside the footprint of the proposed development.
 - the substation and grid connection will be constructed and operated in accordance with best industry practice to avoid any significant effects outside the site including the prevention of impacts on watercourses. A detailed

construction methodology is set out in the CEMP submitted with the application.

- 8.53. A cumulative impact assessment includes considering the Drehid Waste Management facility currently before the Board under ABP300506-17, the proposed Drehid wind farm ABP306500-19, ongoing turf cutting on the wider bog area, and the solar farm under ABP305953-19. Following consideration of the residual effects (post-mitigation) it is noted that the proposed grid connection/substation will have a long term moderate direct negative effect on cutover bog/woodland mosaic within the site. No potentially significant pollution or habitat loss cumulatively with other projects have been identified.
- 8.54. I have considered the submission of the planning authority and this chapter of the EIAR. I am satisfied that potential effects on biodiversity, flora and fauna would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects on biodiversity, flora and fauna.
- 8.55. **Chapter 7 addresses land, soils, and geology.**
- 8.56. The site is in northwest County Kildare within a landholding in the ownership of the applicant of about 800ha. Peat harvesting was carried on the overall landholding up to the 1990s. The existing ESB Derryiron-Maynooth 110 kV is about 500m from the entrance off the Derrymahon road.
- 8.57. Excavations will be required for the poles sets, angle masts and substation foundations. The substation and grid connection will be on between 0.5m and 3.0m of peat and the subsoils are silt/clay over gravels. The bedrocks underlying the site and wider area are mapped in figure 7.3.
- 8.58. The peat stability for the overall site is assessed at 7.3.9 and detail is set out in the peat stability assessment report (PSAR) included as appendix 7.1 of the EIAR. In summary, and having analysed over 49 no. locations within the application site the PSAR concluded that there is a low risk of peat instability at the substation and grid connection works arising from the flat topography and the draining of the site related to its previous use for peat harvesting.

8.59. Notwithstanding the basic suitability of the site for the proposed development additional mitigation measures are;

- The peat and subsoil removal will be limited to the volume required and kept within the footprint of the substation and access tracks and foundation locations for the grid connection.
- Excavated peat will only be moved short distances from the point of excavation to peat and soil repositories within the site.
- Stockpiling of materials and the parking of plant on peat will be avoided.
- Tracking machinery on peat will be minimised, and bog mats will be used where required.
- Low bearing pressure machines will be used.
- The length of unsupported excavations in peat will be minimised.
- Side slopes of cuttings in peat will be trimmed back to stable permanent side slopes. In soft potentially unstable peat, a berm of mineral soil will be constructed across the top of the cutting slopes to support the peat face.
- No work will be carried out down slope of a peat excavation at any time.
- Water build up in excavations will be avoided, either through backfilling or pumping to suitable surface water features for treatment.
- Peat excavations will not be left unsupported for extended periods or overnight.
- Vibrating rollers will not be used on site (dead weight permitted).
- Upslope cut-off drains will be installed in advance of construction.
- The existing drainage patterns in the peat will be maintained as far as is practicable.
- There will be no uncontrolled discharges of water onto peat. All site water will be managed within the site drainage system.

- Construction of any required settlement ponds will be volume neutral, and all excess material will be used locally to form pond boundary bunds and for surrounding landscaping.
- 8.60. Leakages of fuels or oils into soils or subsoils will be prevented/mitigated by limiting on-site machinery maintenance work, on-site re-fuelling will be undertaken using a double skinned bowser with spill kits at the ready, minimising fuel storage areas and providing appropriately bunded storage areas. The electrical control building will be bunded and fitted with a petrol interceptor to prevent accidental spills to the wider environment.
- 8.61. The EIAR considered the cumulative impacts with turf cutting, Drehid Waste Management Facility and other solar developments within 5km of the site and concluded that due to the localised nature of the proposed construction works which will be kept within the project boundary, there is no potential for significant cumulative effects on land, soils and geology in-combination other local developments.
- 8.62. I have considered the submission of the planning authority and this chapter of the EIAR. I am satisfied that potential effects on land, soils and geology would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects on land, soils and geology.
- 8.63. **Chapter 8 deals with water.**
- 8.64. The proposed development is in the River Boyne surface water catchment within Hydrometric Area 07 of the Eastern River Basin District (ERBD). A regional hydrology map is shown as Figure 8.1. The application site drains to the southeast via the longitudinal drains within the overall bog to the Mulgeeth Stream, therefore there are no potential impacts in water quality in the Fear English river to the northwest of the application site.
- 8.65. A joint flood risk assessment (FRA) was carried out for the entire project (solar farm and grid connection and solar farm) and concluded that there was no additional risk of flooding outside the site arising from the two projects.

8.66. The main sources of contamination of waters are identified as;

1. Drainage and seepage water resulting from substation/grid connection related excavations.
2. Stockpiled excavated material providing a point source of exposed sediment.
3. Erosion of sediment from emplaced drainage channels relating to substation and grid connection construction works.

8.67. Flow separation take place whereby clean surface water is distinguished from water carrying silt, the latter being treated before release into the wider surface water systems. Mitigation measures include;

- Use of buffers to protect the existing watercourse and field drains on site which will ensure that working areas are kept a 25m buffer around field ditches and a 50m buffer around the Mulgeeth watercourse.
- Vegetation filter strips will control flow and sediment movements in operational surface water runoff.
- Swales/Collector drains are open gently sloping grassed drainage channels that convey drainage water, trap sediment, and enhance filtration.
- Settlement ponds provide additional protection measures in areas where vegetation filter strips and swales are not considered sufficient on their own. Settlement ponds reduce the turbulence of drainage discharges and facilitate the settlement of solid particles entrained in the water.
- Check dams are small temporary barriers which will be constructed across areas of concentrated flow to reduce the velocity in areas of concentrated flow.
- Silt fences are effective at removing heavy settleable solids and will be placed along drains and parallel to access roads edges as required and at stream / watercourse crossings.

8.68. Mitigation measures against hydrocarbon contamination will include.

- On-site storage of fuels, lubricants and hydraulic fluids will be minimised and take place in bunded areas fitted with an impermeable membrane in the contractor's compound(s).
- Fuels and oils will be carefully handled to avoid spillages.
- Spill kits will be available to deal with accidental spillages. Fuels, lubricants or hydraulic oils spills will be immediately contained, and the contaminated soil removed from the site and disposed of appropriately.
- Any waste oils and hydraulic fluids will be collected and removed from the site for disposal or recycling. Simple spill protection equipment that will be held on site.
- Designated staff will be trained oil spill control and clean up procedures.
- On site re-fuelling of machinery will be carried out using a mobile double skinned fuel bowser.
- Site plant will be regularly inspected for leaks and fitness for purpose.
- An emergency plan for the construction phase to deal with accidental spillages will be contained within the CEMP.

8.69. Staff sanitary facilities will drain to a sealed tank and effluent will be removed from site for disposal to protect groundwater. Johnstown Public Water Supply (PWS) spring source and its groundwater protection zone (Zone of Contribution or ZOC) are located approximately 2.1km and 480m respectively to the northeast of the application site. The site is not located in the groundwater protection zone to this source. All private dwellings surround the site are assumed to have on-site water supply from groundwater and having regard to the shallow nature of the excavations associated with the proposed development, the nature of the soils underlying the site, the separation distances between the site and public and private sources of potable water and the very long travel times between the proposed development and any of these sources it is concluded that there is no likely significant impact on ground water quality within the site or on groundwater resources outside the application site.

- 8.70. The EIAR includes a cumulative impact assessment with turf cutting, the Drehid Waste Management Facility and other solar developments within 5km of the site. The report concludes that, due to the localised and shallow nature of the proposed construction works which will be kept within the site boundary, there is no potential for significant cumulative effects on the water environment in-combination with other local developments.
- 8.71. I have considered the submission of the planning authority and this chapter of the EIAR. I am satisfied that potential effects on water would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects on water.
- 8.72. **Chapter 9 deals with air and climate.**
- 8.73. The main contaminants of air are identified as SO₂, NO₂, PM₁₀, CO, and dust. Release of contaminants to the air from the construction phase of the substation and grid connection will be mitigated through;
- The use of water from on-site settlement ponds as a dust suppressant in times of dry weather bearing in mind the necessity to avoid significant runoff.
 - All plant and materials vehicles shall be stored in dedicated areas (on site).
 - Minimising excavation areas and stockpiling of disturbed materials.
 - Construction materials will be delivered via specified haul routes and materials with potential for creating fugitive dust will be covered.
 - The dust suppression measures set out in the Construction and Environmental Management Plan (CEMP- Appendix 4-5) will be in place throughout the construction phase.
- 8.74. During the operational phase exhaust emissions from machinery related to maintenance will be the main source of SO₂, NO₂, PM₁₀, CO. The machinery will be maintained in good operational order thereby ensuring no significant long-term impact on air quality.

- 8.75. In terms of climate impact there are no construction phase impacts. The operational phase impact will be positive because the proposed solar farm and this associated substation/grid connection will reduce CO₂ emissions.
- 8.76. In relation to cumulative impact the EIAR identified the potential for short term minor emissions' impacts from plant and machinery in combination with other permitted/proposed development in the areas in the construction phase. However, the mitigation measures outlined in the EIAR will adequately mitigate these cumulative impacts. The long-term impact will be positive due to a reduction in greenhouse gases arising from the proposed development.
- 8.77. I have considered the submission of the planning authority and this chapter of the EIAR. I am satisfied that potential effects on air and climate would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects on air and climate.
- 8.78. **Chapter 10 deals with noise and vibration.**
- 8.79. The overall site of the Timahoe bog, the receiving environment for the solar farm and substation/ grid connection, is mapped relative to the sensitive receptors (dwelling houses) on figure 10.3 in the EIAR. Table 10.12 sets out the predicted noise levels from different pieces of machinery typically used in construction projects.
- 8.80. The general construction phase mitigation measures to limit noise/vibration impacts are summarised as;
- limiting the working hours during which high levels of noise or vibration are permitted.
 - appointing a staff member responsible for liaison between the contractor/developer, local authority and residents.
 - monitoring of noise and vibration at sensitive locations in the instance that a noise complaint is received,
 - keeping access roads even to reduce vibration from lorries.

- choosing plant with low potential for noise and/ or vibration and regular maintenance of same.
- placing of noisy / vibratory plant as far away from sensitive properties.

8.81. The operational phase noise/vibration emissions are not significant and no mitigation measures for the operational phase are proposed.

8.82. The EIAR provides a cumulative assessment of the substation/grid connection, solar farm and Drehid waste management project and concluded that the worst case scenario would be if all these construction phases occurred simultaneously. The closest houses are along the Derrymahon road and these are 800m from the solar farm, 500m from the substation/grid connection and 500m from the Drehid waste management project. Even in this case the additional noise experience would be in the range 3 to 5 dB for a cumulative noise level of 55dB which is still well below the recommended construction noise limit of 65dB L_{aeqT} . The operational phase cumulative noise impact will be imperceptible.

8.83. I have considered the submission of the planning authority and this chapter of the EIAR. I am satisfied that potential effects on noise and vibration would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects on noise or vibration.

8.84. **Chapter 11 deals with landscape and visual impact.**

8.85. The site is located in the “western bog lands” in the landscape character assessment carried out by the planning authority and incorporated into the Kildare County Development Plan. This designation is described in the County Development Plan as an area with “reduced capacity to accommodate uses without significant adverse effects on the appearance or character of the landscape having regard to prevalent sensitivity factors.” The County Development Plan estimates the compatibility of solar development with landscape protection as ‘medium’.

8.86. The County Development Plan designates several scenic routes within the County that are of special amenity value which it is necessary to preserve. Table 11.7 lists the scenic route in the vicinity of the application site, and these are mapped in figure

11.3 of the EIAR. The EIAR identifies only scenic route 28 with views from county roads (L5017 & L26) of Carbury Castle and Hill and Teelough road junction with the R402 and the upland area at Mylerstown as being the route most likely to be impacted by the proposed development. Additionally, there are walking routes, cycleways and tourism trails in the area that are mapped on figure 11.3.

- 8.87. The visual impact of the proposed development is assessed from nine vantage points covering the scenic routes, the walking routes and the wider landscape and are mapped in Figure 11.5. Of the 9 vantage points the substation and grid connection will not be visible from 8 and only at a single location (viewpoint 6 close to the site entrance on Derrymahon Road) will substation and grid connection be visible and the impact will be slight.
- 8.88. This chapter of the EIAR provides a cumulative visual impact assessment with the solar farm and concludes that there are no residual impacts arising from the combined development (solar farm/substation and grid connection) and no significant cumulative impacts with other local development. In response to a request for additional information in the solar farm case (ABP305953-19) the applicant submitted a revised visual impact analysis which included an assessment of the Drehid wind farm (ABP306500) and concluded that there were no unacceptable cumulative visual impacts arising from the three developments.
- 8.89. I have considered the submission of the planning authority and this chapter of the EIAR. I am satisfied that potential effects on landscape and visual impact would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects on landscape and visual impact.
- 8.90. **Chapter 12 deals with archaeology and cultural heritage.**
- 8.91. Figure 12.7 maps the overall site boundary for the solar farm and the substation and grid connection. All but one of the recorded monuments are outside the overall site boundary. Only one recorded monument (KD008-025), an unclassified Togher, is within the site of the associated solar farm. Mitigation measures will include the establishment of a buffer around this recorded monument. Any works in the vicinity

will be carried out under licence from the Department of Arts, Heritage, Culture and the Gaeltacht. No significant residual impact is predicted.

- 8.92. No other impacts are predicted for recorded monuments, protected structures or structures included in the national inventory of architectural heritage (NIAH)
- 8.93. arising from the proposed substation/grid connection.
- 8.94. Cumulative impacts are addressed with reference to the associated solar farm, turf cutting within the proposed project site, Drehid Waste Management Facility (DWMF), proposed and permitted nearby solar projects (Ovidstown Solar Farm (PL. Ref. 1894), Hortland Solar Farm (PI. Ref. 171494), Power Capital Renewable Energy Limited Solar Farm (PI. Ref. 161265). No significant direct or indirect cumulative impacts on archaeological or cultural heritage resources have been identified arising from the substation/grid connection and these other projects.
- 8.95. I have considered the submission of the planning authority and this chapter of the EIAR. I am satisfied that potential effects on archaeology and cultural heritage would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects on archaeology and cultural heritage.
- 8.96. **Chapter 13 deals with material assets.**
- 8.97. The main material asset identified as subject to environmental impact is the road network serving the area and the application site. The EIAR states that the main construction traffic will use the M4/Enfield junction to the R402, through Johnstown Bridge to a junction with the Derrymahon Road and from there to the site entrance. This route and the constrained points along it are mapped on Figure 13.1.2 in the EIAR.
- 8.98. The construction phase traffic volume is calculated for the solar farm and the substation/grid connection. The project is divided into 4 phases of 110 days, 100 days, 110 days and 80 days and traffic predicted traffic volumes are set out in table 13.1.7, table 13.1.8, table 13.1.9, and table 13.1.10 for each of these phases. The EIAR states that the substation will be constructed in the 4th phase and in that final stage of construction the project will add 0.9% to ordinary traffic flows on the R402

and 2.1% to HGV volumes while adding an increase of 3.7% in ordinary traffic and 8.9% in HGV traffic on the Derrymahon road.

8.99. Three pinch points are identified as the left turn from the R402 Johnstown Bridge to Carbury road onto the Derrymahon road, a bend on the Derrymahon road and the access junction to the site on the Derrymahon road. Each of these have been assessed using an autotrack assessment tool and it is concluded that the delivery vehicles can be accommodated at these points.

8.100. Traffic related impact mitigation measures can be summarised as;

- The most appropriate delivery route for construction related traffic has been chosen and unsuitable roads have been avoided. The chosen delivery route will be agreed and adhered to by all contractors.
- The measures set out in the Construction Environmental Management Plan in Appendix 4-5 and the Traffic Management Plan (TMP) will be refined in consultation with the roads authority and implemented.
- Traffic Management Coordinator to manage construction related traffic movement will be appointed for the duration of the project.
- Local people will be informed of any upcoming traffic related matters via letter drops and posters in public places. An "out of hours" emergency number will also be provided.
- A pre and post construction Road Condition Survey will be carried out in consultation with the local authority.
- A travel plan for construction staff will be developed including car parking areas.
- Temporary traffic information signs will be erected at appropriate locations in accordance with the appropriate guidance.

8.101. The EIAR states that there will be construction phase impacts, but these will be managed to an acceptable level by the mitigation measures proposed. Traffic impact arising from the proposed development will be imperceptible in the operational phase.

- 8.102. The proposed substation and grid connection will have no impact on aviation during the construction or operational phase.
- 8.103. The cumulative impacts are assessed with reference to combined solar farm and substation/grid connection, turf cutting within the project site, proposed and permitted nearby solar projects (Ovidstown Solar Farm, Hortland Solar Farm, Power Capital Renewable Energy Limited Solar Farm, and Drehid Waste Management Facility (DWMF)). The delivery routes for the nearby solar projects (Ovidstown Solar Farm, Hortland Solar Farm, Power Capital Renewable Energy Limited Solar Farm do not overlap with the delivery route for the substation/grid connection and these projects are not considered further. If the DWMF were permitted and the construction phase coincided with that of this project (worst case scenario) there would be a significant short-term impact on traffic volumes on the R402/Johnstown Bridge to Carbury road. The potential traffic impacts of the Timahoe wind farm (ABP 306500-20) would also be considered in consultation with Kildare County Council and the Garda Traffic Corps.
- 8.104. I have considered the submission of the planning authority and this chapter of the EIAR. I am satisfied that potential effects on material assets would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects on material assets.
- 8.105. **Chapter 14 deals with the interaction of the foregoing.**
- 8.106. Table 14.1 summarises the interaction of the factors discussed in the preceding chapters. Generally, the negative impacts relate to the construction phase of the project and are slight. There are some positive impacts largely related to air and climate connected to the project assisting the switch to non-fossil fuel-based energy supply.
- 8.107. I consider that this summary of the potential for interacting impacts is reasonable.
- 8.108. **Chapter 15** provides a schedule of mitigation measures which have been discussed above.

8.109. Reasoned Conclusion.

8.110. Having regard to the examination of environmental information contained above, and to the submission by the planning authority it is considered that the main significant direct and indirect effects of the proposed development on the environment are as follows:

- Impacts on biodiversity are likely to arise during construction works due to the removal of shrub/tree and peat cover in preparation for the construction of the substation and grid connection on about 15ha. It is noted, however that these areas are brownfield areas which have been subject to anthropogenic activity (in particular drainage ditches and peat harvesting) are the less ecologically important areas within the applicant's landholding of about 800ha and the proposed development have been located away from wetlands or raised bog habitats in order to minimise the ecological impacts. The impacts arising from the removal of habitat and disturbance would be mitigated by minimising the removal of existing vegetation and reinstatement of vegetation and following best practice and procedures during the construction phase.
- Potential impacts on water quality are considered under the relevant headings. The site drains to the Mulgeeth stream. The watercourses adjoining the application site are unsuitable for sensitive species (salmon, lamprey or trout) and the measures to prevent the release of sediments or hydrocarbons set out in the EIAR are specific and practicable. The proposed development, therefore, will not give rise to water pollution in the water courses within the site, in the Mulreeth stream or in the wider Blackwater/Boyne catchment and it is concluded that significant impacts are not likely to arise.
- Impacts on greenhouse gas emissions (in particular CO₂) will be positive because the proposed development facilitates the transition from fossil fuel dependent energy sources to renewable sources by connecting a solar farm to the national grid.
- The EIAR has reasonably identified construction traffic related noise as having potential impact on residential amenity. Construction phase impacts in the form of short term increases in the traffic (private cars and HGVs) on the local road network are recognised, addressed in the EIRA and, specifically in

the construction and environment management plan (appendix 4-5 of the EIAR). The noise and vibration mitigation measures, such as the limiting of construction hours, the use of plant with low potential of noise and / or vibration, the use of noise barriers and locating plant away from noise sensitive receptors are reasonable and practicable. Noise and vibration levels would be within acceptable emissions limits during normal operation.

- The site is a relatively flat brownfield site which is not prominent in views from a wide area. Landscape and visual impacts will be mitigated by existing and proposed screening and screen planting. No impacts will arise for residential uses in the area or for the aviation from glint or glare.

9.0 Appropriate Assessment Screening.

- 9.1. The applicant carried out an AA screening exercise and (see appendix 1 to the NIS submitted) identified the European sites within a zone of influence of about 15kms. These European sites are listed table 3.1 and mapped on figure 3.1 in the screening report. The identified European SACs within the zone of influence are; Ballynafagh Lake SAC (001387) 6.8kms distant, Ballynafagh Bog SAC (000391) 7.5kms distant, The Long Derries Edenderry SAC (000925) 8.3kms, the River Boyne and River Blackwater SAC (002299) 10.8kms distant as the crow flies or 15.3m by water, Mouds Bog SAC (002331) 13.2kms distant. The identified SPA is the River Boyne and River Blackwater SPA (004232) 10.9kms distant.
- 9.2. The screening assessment concluded that due to the lack of connectivity between the European Sites and the proposed development, the nature of the Qualifying Interests and the extent and nature of the proposal, the absence of a source-pathway-receptor between the European sites and the application site it is reasonable to conclude that there are no potential impact on the Ballynafagh Lake SAC (001387), the Ballynafagh Bog SAC (000391), the Long Derries Edenderry SAC (000925) or the Mouds Bog SAC (002331).
- 9.3. It is reasonable to conclude on the basis of the information on the file, which I consider 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 Ballynafagh Lake SAC (001387), the Ballynafagh Bog SAC (000391), the Long Derries Edenderry SAC (000925) or the Mouds Bog SAC (002331) in view of the sites' Conservation Objectives, and a Stage 2 Appropriate Assessment (and submission of a NIS) is not therefore required in relation to these European sites.

9.4. The screening report concluded in relation to the remaining two European sites; the River Boyne and River Blackwater SAC (002299) and the River Boyne and River Blackwater SPA (004232) that it could not be excluded beyond reasonable scientific doubt, in view of best scientific knowledge on the basis of objective information and in light of the conservation objectives of the relevant European sites, that the combined (i.e. both the Solar Farm and the Substation and Grid Connection), individually or in combination with other plans and projects, would have a significant effect on these European sites.

9.5. Notwithstanding that the applicant's Screening Report combines consideration of both the larger solar farm development and the substation and grid connection in its decision that significant effects could not be ruled out I have concluded in relation to the grid connection and substation alone, having regard to their location within the surface water catchment of the Mulgeeth stream which provides a potential pathway to the River Boyne and River Blackwater SAC (002299) and the River Boyne and River Blackwater SPA (004232) that the potential for water pollution arising from the proposed works cannot be excluded. Therefore, it cannot be concluded that no impact would arise for these European sites and, therefore, submission of a NIS and carrying out of an appropriate assessment of the substation and grid connection is necessary.

9.6. **Appropriate Assessment**

9.7. The remaining sites with potential to be affected are the River Boyne and River Blackwater SAC (002299), and the River Boyne and River Blackwater SPA (004232).

9.8. The conservation objective for the River Boyne and River Blackwater SAC (002299) is to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected. The habitats are: Alkaline fens [7230] and Alluvial forests with *Alnus glutinosa* and

Fraxinus excelsior (Alno-Padion, *Alnion incanae*, *Salicion albae*), this latter is a priority habitat. The species are; *lampetra fluviatilis* (river lamprey) [1099], the *Salmo salar* (salmon) [1106], and *Lutra lutra* (otter) [1355].

9.9. The conservation objective for the River Boyne and River Blackwater SPA (004232) is to maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA which is the Kingfisher *Alcedo atthis*.

9.10. Since the application site is located outside any Natura 2000 site there are no direct impacts. There is potential for indirect impacts through surface water drainage through a single connection via the Mulgeeth River to the River Blackwater. A Construction Environmental Management Plan is included as Appendix 2 to the NIS. The measures² to prevent surface water contamination may be summarised as;

- No refuelling or overnight parking of vehicles near watercourses,
- Confinement of works close to water courses to dry weather,
- Restrictions on vehicle speeds within the site,
- Use of the existing entrance and rail lines for construction materials movements,
- Monitoring of water quality outflows.
- Separation of clean surface water and surface with silt/other contaminants and dedicated treatment for the latter,
- Buffer zones between working areas and surface water drains,
- Removal of any human waste off site for appropriate treatment.

² Detailed mitigation measures set out in the NIS and incorporated into the design of the proposed development are set out in the Construction Environmental Management Plan (CEMP), provided in Appendix 2 of the NIS, in Chapter 8 (Hydrology and Hydrogeology) of the EIAR and the Flood Risk Assessment submitted with the application.

- 9.11. The site drains to the south east to the Mulgeeth River which is part of the Blackwater/Boyne system. The measures set out in the application, and in particular in the CEMP, will prevent at source (including proper management of foundation works for the substation and/or holes for pole sets or mast foundations) or break any surface water pathways which would allow a surface water connection between the site and the SAC or SPA which are 15kms surface water distance from the site. Where surface water contamination can be excluded the potential for impact on the habitats of the Kingfisher within the SAP can be excluded.
- 9.12. Furthermore having regard to the materials set out in Chapter 7 of the EIAR in relation to the hydrogeology of the site, the depth of excavations required for the proposed works, the nature and depth of subsoils on site and the measures to mitigate hydrocarbon releases within the application site I conclude that there is no real potential for ground water contamination which would provide a source or pathway for contaminants to reach the European sites.
- 9.13. The NIS provides a cumulative impact assessment of the substation/grid connection, referencing the Kildare County Development Plan, the Solar Farm (ABP305953-19, other recent planning applications in the wider area including the Drehid Waste Management Facility (ABP300506-17) and the Drehid Windfarm (ABP306500-20) and concludes that there are no potentially significant cumulative pollution between these projects. Furthermore, the grid connection and substation application site is within the Boyne catchment while the Drehid Waste Management Facility is within the Barrow catchment.
- 9.14. I consider it reasonable to conclude on the basis of the information on the file, which I consider adequate in order to carry out a Stage 2 Appropriate Assessment, that the proposed development, individually or in combination with other plans or projects would not adversely affect the integrity of the River Boyne and River Blackwater SAC (002299), and the River Boyne and River Blackwater SPA (004232) or any other European site, in view of the sites' Conservation Objectives.

10.0 Planning Assessment

- 10.1. The Planning Assessment will address the main planning issues in this case which are;

- compliance with planning policy,
- impact on residential amenity,
- water pollution,
- flooding,
- ecological impacts,
- traffic impacts,
- visual impact.

10.2. Planning Policy

The current planning policy framework flows from the **National Planning Framework 2018-2040 (NPF)** which encourages transition to a low carbon economy. National Policy Objective 55 seeks to promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a low carbon economy by 2050. The 2015 White Paper on Ireland’s transition to a low carbon economy sets the objective of reducing greenhouse gas emissions from the energy sector by between 80% and 95%, compared to 1990 levels, by 2050, and to zero or below by 2100. The Paper states that ‘solar photovoltaic (PV) technology is rapidly becoming cost competitive for electricity generation, not only compared with other renewables but also compared with conventional forms of generation. The deployment of solar energy in Ireland has the potential to increase energy security, contribute to our renewable energy targets, and support economic growth and jobs.

10.3. The **Eastern and Midland Regional Economic and Spatial Strategy 2019 to 2031** is the relevant regional strategy for the application site. A key principle of the RESS is “the need to enhance climate resilience and to accelerate a transition to a low carbon society recognising the role of natural capital and ecosystem services in achieving this”. Of the sixteen Regional Strategic Outcomes for the eastern and midlands region number 10 is to “identify, protect and enhance Green Infrastructure and ecosystem services in the Region and promote the sustainable management of

strategic natural assets such as our coastlines, farmlands, peatlands, uplands woodlands and wetlands”.

- 10.4. The **Kildare County Development Plan 2017-2023** (objective TN 11) seeks to ensure that additional infrastructure and/ or substation sites that are required to accommodate high voltage transmission power lines shall be detailed, including consideration of alternatives. Mitigation measures shall be outlined to minimise the visual impact of the multiplicity / convergence of overhead lines including any associated tie-ins at substations. Where there is a multiplicity and/or convergence of overhead lines the undergrounding of existing and/or proposed lines shall be investigated by applicants. The application has provided a rationale for the location of the proposed development as a link between the existing national electricity grid a new renewable energy project (ABP305953-19).
- 10.5. Having regard to the policy context of the application I conclude that there is robust policy support for the proposed development. The international context since the Kyoto protocol has seen a commitment by Ireland to share the responsibility assumed by the EU to reduce reliance of fossil fuels for energy and transport uses. The recent NPF has recommitted the state to this shift from fossil fuels to renewable sources of energy. The RESS specifically supports the sustainable management of peatlands and County Development Plan specifically notes the availability of previously developed and non-agricultural land as potential sites for renewable energy projects.
- 10.6. The development plan commits the planning authority to ensure the protection of environmental sensitive areas and in particular to prevent development that would adversely affect the integrity of any Natura 2000 site and promote favourable conservation status of habitats and protected species including those listed under the Birds Directive, the Wildlife Acts and the Habitats Directive. These objectives are not mutually exclusive, and the Development Plan sets out a set of criteria (including environmental, ecological, impacts on visual amenity and neighbouring uses) by which applications for renewable energy projects may be assessed.
- 10.7. Having regard to assessment of ecological impacts on receptors within and outside the site, the impacts on adjoining uses and road networks in the area set out elsewhere in this report I conclude that the proposed development complies with

national and local planning policies and objectives, is acceptable in terms of the criteria for assessment set out in the County Development Plan and will accord with the proper planning and sustainable development of the area.

10.8. **Residential Amenity**

- 10.9. There is extensive housing development on the road network in the area comprising the R402 to the northwest of the site, the Derrymahon road to the southwest of the site and the local road from Timahoe cross to Doogary to the northeast and these are mapped on figure 10.3 in Chapter 10 in the EIAR. The application site is set back 500m to 1km off Derrymahon road. EIAR (see 10.6.3.6.2) assesses the noise impacts which will be felt at 10 houses closest to the proposed development and concludes that there will be no significant long-term noise impact from the substation for these receptors. The EIAR predicts a slight temporary construction noise impact on the closest receptors but detailed mitigation measures are proposed to reduce this impact to acceptable levels. Noise mitigation will include appropriate location of construction equipment having regard to topography and screening, appropriate training for managers and operatives, limiting construction hours and sequencing construction works to avoid noise where possible. Plant will be chosen for its noise limiting characteristics and will be operated in accordance with the British Standard BS5228-1:2009 +A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Noise.
- 10.10. The planning authority's Environment Section (12th February 2019) commented that all the mitigation measures set out in chapter 10 in relation to noise and vibration should be implemented. The Environmental Health Officer (reported 11th February 2019) commented that part of the mitigation measures in relation to the generation of noise, dust and traffic congestion in the construction phase be a complaints line established by the developer to assist in dealing with complaints in relation to these matters. I note that such liaison is provided for in the CEMP submitted as part of the application.
- 10.11. Having regard to the material set out in the application, the nature of the proposed development as a substation set back from the public road and an overhead connection to the national grid, the intervening topography of soft land surfaces and trees/shrubs which will absorb sound, I conclude that the noise impact where it

occurs will be short term and properly mitigated and will not seriously injure the residential amenity of nearby property.

10.12. **Water pollution**

10.13. The application site is part of a larger landholding of Bord na Mona. The site drains via a network of drains to the Mulgeeth stream which itself is part of the River Boyne catchment. This system of drains is proposed for improvements under the associated solar farm.

10.14. The application identified the main sources of water pollution as;

- Drainage and seepage water resulting from substation/grid connection related excavations.
- Stockpiled excavated material providing a point source of exposed sediment.
- Erosion of sediment from emplaced drainage channels relating to substation and grid connection construction works.

10.15. Mitigation against water pollution will be achieved through controlling silt by distinguishing between clean surface water and silt laden water. The first will be allowed to enter the drainage system unimpeded. The second, surface water carrying silt, will be contained by way of buffer zones between streams and working areas, maintaining vegetation strips to trap silt before it reaches water courses augmented by swales and collector drains. Settlement ponds will allow silt to drop out of surface water before release to the wider surface water system. Works likely to release silt will be limited to dry periods.

10.16. In relation to release of hydrocarbons (fuels and lubricating oil) this potential source of contamination will be mitigated through good on-site management of these products, limiting on-site refuelling, providing properly bunded areas where these products are stored, provision of spill equipment in the event of accidents and where soils do become contaminated the soil will be removed for the site and properly disposed of.

10.17. Effluent from staff sanitary facilities will be collected in sealed tanks and removed off site. The planning authority's Water Services Section (see report dated 14/12/2018) noted the sanitary arrangements and had no additional comment to make.

10.18. In relation to the risk of ground water contamination the application makes the point that the works are relatively shallow and that the overburden between the ground surface and water table will break the pathway for contaminants. This factor and the other mitigation measures set out in the application, including distance from domestic wells and public water supplies are enough to conclude that no real threat to groundwater quality arises from the proposed development.

10.19. The planning authority's Environment Section reported (see report dated 15th February 2019 submitted with the planning authority's comments in this case) and commented that all the mitigation measures set out in chapter 8 in relation to water should be implemented.

10.20. Having regard to the material set out in the application, the observations of the planning authority and the factors set out above I conclude that the proposed development will not give rise to pollution of ground or surface water bodies.

10.21. Flooding.

10.22. Appendix 8-2 provides a joint FRA for the substation/grid connection and solar farm. I have provided an synopsis of the overall FRA as it applies to the Bord na Mona landholding and an assessment of the flood risks affecting the site in the report on ABP305953-19 and consider that it is not necessary to repeat that material here given the very small area of this application (about 15ha) against the 800ha of the overall site.

10.23. Figure 8.5 of the EIAR illustrates the likely impact of pluvial and fluvial flooding in a 100-year return event. Fluvial flooding (blue) is most likely along the main northwest to south east drainage channel into which the open drains, originally constructed to drain the bog in preparation for peat harvesting, flow. Other areas are subject to pluvial (yellow) flooding and one such area is relatively close to the Darrymahon road either within or very close to the substation. There are no areas of pluvial or fluvial flooding in the area of the pole sets and masts associated with the grid connection.

10.24. The FRA provides a justification test for the proposed development as required by the Flood Risk Management Guidelines for Planning Authorities (DOEHLG 2009). The justification test set out in the guidelines requires, in summary, that;

- the site has been zoned or otherwise designated for the type of development in a development plan,
- it can be demonstrated that the development will not increase flood risk elsewhere,
- the development proposal includes measures to minimise flood risk to people, property, the economy and the environment,
- The development proposed includes measures to ensure that residual risks to the area and/or development can be managed to an acceptable level.

10.25. Having regard to the brownfield nature of the application site, the planning authority's policies in the county development plan to support renewable energy projects on cut-away bogs and connection to the national electricity grid I conclude that the site has been designated for this type of development. The FRA makes the point that the ESB substation is the vulnerable element of this proposed development and it has a finished level of 80.5mOD equivalent to a 1,000-year return flood with climate change factored in. Having regard to the finished OD level of the substation I conclude that this element of the application is unlikely to be at real risk of flooding. Furthermore, having regard to the relatively minor area subject to this application in the context of the larger Bord na Mona landholding of which it forms part I conclude that the proposed development will not exacerbate flood risk outside that landholding.

10.26. The planning authority's Water Services Section reported (see report dated 14/12/2018 attached to the planning authority's observation submitted to the Board). The Section commented in relation to surface water management that there would not be any additional problems caused by the proposed works as they are minimal in area and in any case the surface water is already being discharged to a natural bog land attenuation system. The Water Services Section also reviewed the FRA and comments that the works are elevated above the calculated storm level event and that flood risk have been properly reduced or eliminated.

10.27. I conclude that the substation/grid connection meets the justification test required by the Flood Risk Management Guidelines and that the application site is an appropriate location for the proposed development and that proposed development

will not give rise to unreasonable risk of flooding within the application site or to areas outside the application site.

10.28. Ecological impacts.

10.29. The nationally designated Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs) within a zone of influence of 15kms, are listed in table 6.4 and are mapped in figure 6.1a in chapter 6 of the EIAR. The NHAs are Hodgestown Bog NHA, Carbury Bog NHA, Molerick Bog NHA, Blackcastel Bog NHA. The pNHAs are Royal Canal pNHA, Grand Canal pNHA, Donadea Wood pNHA, Ballynafagh Lake pNHA, Ballina Bog pNHA, The Long Derries Edenderry pNHA, Ballynabarny Fen pNHA, Rathmoylan Esker pNHA and Mounds Bog pNHA.

10.30. The EIAR chose a 15kms zone of influence because that is the distance recommended by the NPWS in its AA Guidance. While this is not definitive, I agree that in the absence of any indicators that longer pathways exist between potential sources of impact and potential receptors that this distance is reasonable. Furthermore, the EIAR concludes that there will be no impact on these areas because there is no hydrological connectivity between the designated sites and otherwise no complete source-pathway-receptor identified, the separation distances between the NHAs/pNHAs and the site of the substation/grid connection and the nature of the NHAs/pNHAs as terrestrial habitats.

10.31. Having regard to the material set out in the application and EIAR, to the nature of the proposed development and the likely emissions therefrom, the nature of the application site as a brownfield site previously subject to industrial peat harvesting I conclude that the proposed development will not impact on these the NHAs/pNHAs.

10.32. The EIAR distinguishes between **habitats**, **species** and **European sites** and assesses the impact of the substation and grid connection separately in relation to all three.

10.33. Habitats are mapped in figure 6.3a of the EIAR and in the area of the proposed substation and grid connection may be described as a mix of bare peat, pioneer dry heath with grassland and birch scrub, bog woodland, the access road/railway line. There is no significant difference between north of the railway line (the substation) and south (the grid connection). There will be some loss of this habitat necessitated by the proposed development (access roads/hard standing/fencing, digging post

holes and the foundations for the angle lattice masts). There is no loss or damage to remnants of high bog from the proposed substation/grid connection. There will be a loss of woodland but this is identified as a slight negligible effect because there is replacement planting of about 46ha of replacement woodland in the overall site of the grid connection/solar farm.

10.34. In relation fauna/birds the EIAR makes the point that the site is of County Importance for breeding water birds, mainly because of snipe but that the substation and grid connection are located outside the wetland areas where the majority of the breeding water birds were recorded. There are no such breeding areas within or adjacent to the proposed site and little suitable habitat. There were only two breeding territories along the grid connection route for mallard and snipe and it is unlikely that the construction of an overhead line will result in the loss or degradation of habitat for breeding water birds. The substation will result in the loss of an area of 2 ha of woodland and scrub that provides good quality breeding habitat for a range of passerine and songbird species. This is a very small percentage of the available habitat in the study area and thus there is a slight effect in the context of the overall study area. The EIAR concludes that following mitigation measures there will be a slight negative impact on some bird species of local importance higher level.

10.35. Fish and other aquatic species are at risk of water pollution. The construction phase related works have the potential, in the absence of mitigation, to give rise to short term negative impacts due to the release silt and hydrocarbons. Detailed mitigation measures to prevent this impact are set out in chapter 8. There are no likely operational phase water pollution impacts and therefore no likely significant impacts on aquatic species.

10.36. There were no bat roosting sites identified within the substation/grid connection site, the site is not used by a large population of bats and no effects on roosting bats are predicted. The operation phase will give rise to an imperceptible negative effect because of a rise in general human activity.

10.37. No badgers or red squirrels were recorded within the site and the loss of a small amount of habitat in the context of a much larger bog will not give rise to significant impact on these species.

10.38. Impacts will be mitigated through;

- Designing out or minimising impacts on the key ecological receptors identified in the site and wider area.
- Designing out/avoiding any direct, in-direct or residual adverse effects on European Sites or other designated sites for nature conservation.
- Avoiding/minimising effects on the cutaway bog habitats and breeding wetland birds,
- Maximising the potential for rewetting the areas are outside the footprint of the proposed development.
- the substation and grid connection will be constructed and operated in accordance with best industry practice to avoid any significant effects outside the site including the prevention of impacts on watercourses. A detailed construction methodology is set out in the CEMP submitted with the application.

10.39. The small skipper butterfly has been recorded in the grassland north of the disused railway line and the applicant makes the point that the proposed development will not impact on this area. The planning authority's submission to the Board (see page 27 of that submission) makes the point that the substation has the potential to impact on the small skipper butterfly. This matter was addressed in the further information submitted by the applicant in ABP306953-19³ in a detailed lepidoptera management plan which set mitigation measures such as amendment the location of the site access road by 3m, fencing off of suitable habitats during construction phase and removal of encroaching scrub will adequately mitigate impacts on this species. Additionally the drawing number PE604-002-001-004 Proposed OHL connection for the Timahoe North Solar Farm submitted with this grid connection application illustrates that the site of the substation is set back from the access track and the overhead lines will not impact on the ground level vegetation/habitats.

10.40. Having regard to the material set out application and the foregoing assessment I conclude that the proposed development will not have any unacceptable ecological impacts on the application site or wider area.

³ See page 8/9 of the FI submission received by the PA on 12th August 2019 on ABP306953-19.

10.41. **Traffic impacts.**

10.42. The site is located, generally, within a triangle of routes; the R402 Johnstown Bridge to Carbury regional route to the northwest of the application site, the Derrymahon road from a junction with the R402 in the northwest to the existing/proposed site entrance and another county level road from Timahoe cross roads back north towards Johnstown Bridge. The construction phase delivery route will be the R402 regional route from the M4 to the junction with the Derrymahon road and from this junction to the site entrance. The planning authority's submission to the Board (see page 30 - Access and Transportation) makes the point that the applicants should carry out an assessment of the condition of the road to be used as construction traffic route to allow for the impacts of construction traffic and that a programme of works referencing the construction phase impacts with the adjoining windfarm and Drehid Waste Management facility. The applicant makes the point in ABP305943-19 that in the case of an application for a 10-year permission that a survey of road condition is better carried out closer to the actual commencement of development and that the applicant has agreed this approach with the roads authority's engineers. I agree with the applicant on the point and recommend a condition requiring the timing and details of such a survey be agreed with the planning authority prior to commencement of development.

10.43. In relation to the potential for cumulative construction impacts arising from Drehid wind farm application, the Drehid waste management facility, for the solar farm and this application the applicant makes the point that there is potential for short term traffic impact on the road network in the unlikely event of all these projects being under construction simultaneously.

10.44. I consider that this is a matter which is reasonably left to be managed by way of a condition requiring the submission of a construction environmental management plan through which a sequencing approach can be agreed between the planning authority and the applicants in these cases (not all cases have the same applicants but the windfarm, solar farm and grid connection do). It may be noted that in relation to the solar farm the planning authority's transport departments (second report dated 17th October 2019) reported no objections subject to conditions including a bond for the maintenance and repair of roads serving the proposed development.

- 10.45. Overall in relation to road capacity it may be noted that the area is served by the M4 motorway, a good regional route (the R402) and the Derrymahon road. The regional route and the Derrymahon road are part of a well-developed network of non-national routes which serve a network of towns and villages (especially Carbury and Johnstown), farming and industrial uses. Whereas there will be a rise in construction related traffic this is, in a sense, the point of a road system.
- 10.46. I conclude that the proposed development will not endanger public safety by reason of traffic hazard.
- 10.47. **Visual impact.**
- 10.48. The site is located in the “western bog lands” in the landscape character assessment carried out by the planning authority and incorporated into the Kildare County Development Plan. This designation is described in the County Development Plan as an area with “reduced capacity to accommodate uses without significant adverse effects on the appearance or character of the landscape having regard to prevalent sensitivity factors.” The County Development Plan estimates the compatibility for solar development is characterised as ‘medium’. The grid connection has a maximum height of 24m.
- 10.49. The County Development Plan designates a number of scenic routes within the County that are of special amenity value which it is necessary to preserve. Table 11.7 lists the scenic route in the vicinity of the application site, and these are mapped in figure 11.3 of the EIAR. The EIAR identifies only scenic route 28 with views from county roads (L5017 & L26) of Carbury Castle and Hill and Teelough road junction with the R402 and the upland area at Mylerstown as being the route most likely to be impacted by the proposed development. Additionally, there are walking routes, cycleways and tourism trails in the area that are mapped on figure 11.3.
- 10.50. The visual effects of the proposed development are assessed from nine vantage points covering the scenic routes, the walking routes and the wider landscape and are mapped in figure 11.5. Of the 9 vantage points the substation and grid connection will not be visible from 8 and only at a single location (viewpoint 6 close to the site entrance on Derrymahon Road) will substation and grid connection be visible and the impact will be slight.

- 10.51. This chapter of the EIAR provides a cumulative visual impact assessment with the solar farm and concludes that there are no residual impacts arising from the combined development (solar farm/substation and grid connection) and no significant cumulative impacts with other local development. In response to a request for additional information in the solar farm case (ABP305953) the applicant submitted a revised visual impact analysis which included an cumulative assessment of the Drehid wind farm (ABP306500) with the substitution/grid connection and solar farm and illustrated this combination of visual impact in a set of photomontages (see volume 2 Photomontages Booklet RFI Revisions received by the PA on 12 August 2019 for ABP306953-19).
- 10.52. The planning authority commented in relation to the visual and landscape impact of the proposed development and commented that the proposed development will be only partially visible close to the site and overall, the visual and landscape impacts are acceptable.
- 10.53. I have reviewed the material submitted with the substation/grid connection application and the solar gram, conducted a site inspection of the application site and surrounding area and consider that photomontages are a reasonable reflection of the anticipated visual impacts arising from the solar farm, substation/grid connection and wind farm. I conclude that the visual impact is acceptable.
- 10.54. **Archaeology.**
- 10.55. The planning authority's submission to the Board includes a letter from the Department of Culture, Heritage and the Gaeltacht which raises the of archaeological impact. I am satisfied that the recorded monument (KD008-025) is not within this application site and has been dealt with more appropriately and adequately in the additional information submitted with the solar farm and assessed separately under ABP305953-19.
- 10.56. The condition set out below in the draft order will allow for assessment of hitherto undiscovered archaeological remains should any become apparent in the course of development works.

11.0 Recommendation

11.1. I recommend a grant of planning permission.

12.0 Reasons and Considerations

Having regard to:

- the nature, scale and extent of the proposed development,
- the decisions made in respect of an appropriate assessment,
- the national targets for renewable energy contribution of 40% gross electricity consumption by 2020
- national and local policy support for developing renewable energy, in particular the:-
 - Government's Strategy for Renewable Energy, 2012-2020,
 - National Planning Framework, 2018,
 - Delivering a Sustainable Energy Future for Ireland - the Energy Policy Framework, 2007-2020,
 - Government Policy Statement on the Strategic Importance of Transmission and Other Energy Infrastructure 2012,
 - Eastern and Midland Regional Economic and Spatial Strategy 2019 to 2031,
 - The objectives in relation to renewable energy and connections to the national grid set out in the Kildare County Development Plan, 2017-2023,
- the location of the proposed development within brownfield site in the Western Boglands as set out in the Kildare County Development Plan,
- the distance to dwellings or other sensitive receptors from the proposed development
- the planning history of the application site and its relationship with the adjoining solar farm development,
- the submissions on file including that from the Planning Authority
- the documentation submitted with the application, including the Appropriate Assessment Screening Statement, Natura Impact Statement and the EIAR,
- the report of the Planning Inspector

- the likely consequences for the environment and the proper planning and sustainable development of the area in which it is proposed to carry out the proposed development and the likely significant effects of the proposed development on European Sites.

The Board considered that the proposed development, subject to compliance with the conditions set out below, would:

- not have an unacceptable impact on the character of the landscape or on the cultural or archaeological heritage,
- not seriously injure the visual and residential amenities of the area,
- be acceptable in terms of public health, traffic safety and convenience,
- not have an unacceptable impact on the ecology,
- make a positive contribution to Ireland's requirements for renewable energy, and
- be in accordance with:-
 - Government's Strategy for Renewable Energy, 2012-2020,
 - the National Planning Framework, 2018 and
 - Objective TN11 of the Kildare County Development Plan, 2017-2023.

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

12.1. Environmental Impact Assessment

The Board completed an Environmental Impact Assessment of the proposed development. The Board considered that the environmental impact assessment report, supported by the documentation submitted by the applicant, adequately considers alternatives to the proposed development and identifies and describes adequately the direct, indirect, secondary and cumulative effects of the proposed development on the environment.

The Board agreed with the examination, set out in the Inspector's report, of the information contained in the environmental impact assessment report and associated documentation submitted by the applicant and submissions made in the course of the application.

The Board considered, and agreed with the Inspectors reasoned conclusions, that the main significant direct and indirect effects of the proposed development on the environment are as follows:

- Impacts on biodiversity are likely to arise during construction works due to the removal of shrub/tree and peat cover in preparation for the construction of the substation and grid connection on about 15ha. It is noted, however that these areas are brownfield areas which have been subject to anthropogenic activity (in particular drainage ditches and peat harvesting) are the less ecologically important areas within the applicant's landholding of about 800ha and the proposed development have been located away from wetlands or raised bog habitats in order to minimise the ecological impacts. The impacts arising from the removal of habitat and disturbance would be mitigated by minimising the removal of existing vegetation and reinstatement of vegetation and following best practice and procedures during the construction phase.
- Potential impacts on water quality are considered under the relevant headings. The site drains to the Mulgeeth stream. The watercourses adjoining the application site are unsuitable for sensitive species (salmon, lamprey or trout) and the measures to prevent the release of sediments or hydrocarbons set out in the EIAR are specific and practicable. The proposed development, therefore, will not give rise to water pollution in the water courses within the site, in the Mulreeth stream or in the wider Blackwater/Boyne catchment and it is concluded that significant impacts are not likely to arise.
- Impacts on greenhouse gas emissions (in particular CO₂) will be positive because the proposed development facilitates the transition from fossil fuel dependent energy sources to renewable sources by connecting a solar farm to the national grid.
- The EIAR has reasonably identified construction traffic related noise as having potential impact on residential amenity. Construction phase impacts in the form of short term increases in the traffic (private cars and HGVs) on the local road network are recognised, addressed in the EIRA and, specifically in the construction and environment management plan (appendix 4-5 of the EIAR). The noise and vibration mitigation measures, such as the limiting of

construction hours, the use of plant with low potential of noise and / or vibration, the use of noise barriers and locating plant away from noise sensitive receptors are reasonable and practicable. Noise and vibration levels would be within acceptable emissions limits during normal operation.

- The site is a relatively flat brownfield site which is not prominent in views from a wide area. Landscape and visual impacts will be mitigated by existing and proposed screening and screen planting. No impacts will arise for residential uses in the area or for the aviation from glint or glare.

The Board concluded that, subject to the implementation of the mitigation measures set out in the environmental impact assessment report and, subject to compliance with the conditions set out below, the effects on the environment of the proposed development, by itself and in combination with other development in the vicinity, would be acceptable. In doing so, the Board adopted the report and conclusions of the Inspector.

12.2. Appropriate Assessment Stage 1

- 12.3. The Board considered the Screening Report for Appropriate Assessment, and all other relevant submissions and carried out an appropriate assessment screening exercise and an appropriate assessment in relation to the potential effects of the proposed development on designated European sites. The Board noted that the proposed development is not directly connected with or necessary for the management of a European Site and considered the nature, scale and location of the proposed development, as well as the report of the Inspector.
- 12.4. The Board agreed with the screening report submitted with the application and with the screening exercise carried out by the Inspector. The Board concluded that, having regard to the qualifying interests for which the sites were designated and in the absence of a hydrological connection between the application site and the European Sites that Ballynafagh Lake SAC (001387), the Ballynafagh Bog SAC (000391), the Long Derries Edenderry SAC (000925) or the Mouds Bog SAC (002331) could be screened out from the further consideration and that the proposed development,

individually or in combination with other plans or projects would not be likely to have a significant effects on these European Sites or any other European Sites in views of the sites conservation objectives and that a Stage 2 appropriate assessment is therefore not required in relation to these European Sites.

12.5. Appropriate Assessment Stage 2

12.6. The Board considered the Natura Impact Statement and all other relevant submissions and carried out an appropriate assessment of the implications of the proposed development for the River Boyne and River Blackwater SAC (002299), and the River Boyne and River Blackwater SPA (004232) in view of the sites' conservation objectives. The Board considered that the information before it was adequate to allow the carrying out of an Appropriate Assessment.

12.7. In completing the assessment, the Board considered the likely direct and indirect impacts arising from the proposed development both individually or in combination with other plans or projects, the mitigation measures which are included as part of the current proposal and the Conservation Objectives for this European Site. In completing the Appropriate Assessment, the Board accepted and adopted the Appropriate Assessment carried out in the Inspector's report in respect of the potential effects of the proposed development on the aforementioned European Site, having regard to the sites' Conservation Objectives.

12.8. In overall conclusion, the Board was satisfied that the proposed development would not adversely affect the integrity of the the River Boyne and River Blackwater SAC (002299), and the River Boyne and River Blackwater SPA (004232) or any other European Site in view of the sites' Conservation Objectives.

13.0 Conditions

1. The development shall be carried out and completed in accordance with the plans and particulars including the mitigation measures specified in the Environmental Impact Assessment Report, lodged with the application, except as may otherwise be required in order to comply with the following conditions. Where such conditions require points of detail to be agreed with the planning authority, these matters shall be the subject of written agreement and shall be implemented in accordance with the agreed particulars. In default of agreement, the matter(s) in dispute shall be referred to An Bord Pleanála for determination.

Reason: In the interest of clarity.

2. The period during which the development hereby permitted may be carried out shall be 10 years from the date of this Order.

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

3. All of the environmental, construction and ecological mitigation measures set out in the Environmental Impact Assessment Report and the Natura Impact Statement, and other particulars submitted with the application shall be implemented by the developer in conjunction with the timelines set out therein, except as may otherwise be required in order to comply with the conditions of this order.

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

4. a) The permission shall be for a period of 35 years from the date of the commissioning of the Drehid Solar Farm (An Bord Pleanála Reference 305953-19 (Kildare County Council Planning Reg Ref 18/1514). The substation and related ancillary structures shall then be removed unless, prior to the end of the period, planning permission shall have been granted for their retention for a further period.

- b) Prior to commencement of development, a detailed restoration plan, including a timescale for its implementation, providing for the removal of the substation and all related ancillary structures, including all foundations, CCTV cameras and fencing to a specific timescale, shall be submitted to, and agreed in writing with, the planning authority.
- c) On full or partial decommissioning of the Rosspile Solar Farm, the substation and all related ancillary structures and equipment, shall be dismantled and removed permanently from the site. The site shall be restored in accordance with this plan and all decommissioned structures shall be removed within three months of decommissioning.

Reason: To enable the planning authority to review the operation of the solar farm over the stated time period, having regard to the circumstances then prevailing, and in the interest of orderly development

- 5. a) No additional artificial lighting shall be installed or operated on site unless authorised by a prior grant of planning permission.
- b) CCTV cameras shall be fixed and angled to face into the site and shall not be directed towards adjoining property or the road. Their location within the compound shall be agreed with the Planning Authority prior to commencement of work on site.
- a) Cables within the site shall be located underground.
- b) The substation and all related ancillary structures shall be dark green in colour.

Reason: In the interests of clarity, and of visual and residential amenity

- 6. Prior to the commencement of development, the developer shall submit a finalised Invasive Species Management Plan for the written agreement of the Planning Authority. This plan shall include updated details of invasive species surveys, the location of such species, and the proposed method of managing these species during the construction and operational phase of the development.

Reason: To ensure that the spread of invasive species is minimised.

7. The developer shall facilitate the archaeological appraisal of the site and shall provide for the preservation, recording and protection of archaeological materials or features which may exist within the site. In this regard, the developer shall:
- a) notify the planning authority in writing at least four weeks prior to the commencement of any site operation (including hydrological and geotechnical investigations) relating to the proposed development, and
 - b) employ a suitably-qualified archaeologist prior to the commencement of development. The archaeologist shall assess the site and monitor all site development works.

The assessment shall address the following issues:

- a) the nature and location of archaeological material on the site, and
- b) 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.

8. Water supply and drainage arrangements, including the attenuation and disposal of surface water, shall comply with the requirements of the planning authority for such works and services.

Reason: In the interest of public health.

9. All landscaping shall be planted to the written satisfaction of the planning authority prior to commencement of development. Any trees or hedgerow that are removed, die or become seriously damaged or diseased during the

operative period of the solar farm as set out by this permission, shall be replaced within the next planting season by trees or hedging of similar size and species, unless otherwise agreed in writing with the planning authority.

Reason: In the interests of biodiversity, the visual amenities of the area, and the residential amenities of property in the vicinity.

10. The applicant shall appoint a suitably qualified ecologist to monitor and ensure that all avoidance/mitigation measures relating to the protection of flora and fauna are carried out in accordance with best ecological practice and to liaise with consultants, the site contractor, the NPWS and Inland Fisheries Ireland. A report on the implementation of these measures shall be submitted to the planning authority and retained on file as a matter of public record.

Reason: To protect the environmental and natural heritage of the area.

11. The construction of the development shall be managed in accordance with a Construction Management Plan, which shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. This plan shall provide details of intended construction practice for the development, including:
 - a) location of the site and materials compound(s) including area(s) identified for the storage of construction refuse
 - b) location of areas for construction site offices and staff facilities
 - c) details of site security fencing and hoardings
 - d) details of on-site car parking facilities for site workers during the course of construction
 - e) details of the timing and routing of construction traffic to and from the construction site and associated directional signage, to include proposals to facilitate the delivery of abnormal loads to the site,
 - f) measures to obviate queuing of construction traffic on the adjoining road network,
 - g) measures to prevent the spillage or deposit of clay, rubble or other debris on the public road network,

- h) details of appropriate mitigation measures for noise, dust and vibration, and monitoring of such levels,
- i) containment of all construction-related fuel and oil within specially constructed bunds to ensure that fuel spillages are fully contained; such bunds shall be roofed to exclude rainwater,
- j) off-site disposal of construction / demolition waste and details of how it is proposed to manage excavated soil
- k) details of on-site re-fuelling arrangements, including use of drip trays,
- l) details of how it is proposed to manage excavated soil,
- m) means to ensure that surface water run-off is controlled such that no deleterious levels of silt or other pollutants enter local surface water drains or watercourses.

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, amenities, public health and safety.

12. a) During the operational phase of the proposed development, the noise level arising from the development, as measured at the nearest noise sensitive location shall not exceed:
- (i) An LAeqT value of 55 dB(A) during the period 0800 to 2200 hours from Monday to Saturday inclusive. [The T value shall be one hour.]
 - (ii) An LAeqT value of 45 dB(A) at any other time. [The T value shall be 15 minutes]. The noise at such time shall not contain a tonal component.

At no time shall the noise generated on site result in an increase in noise level of more than 10 dB(A) above background levels at the boundary of the site.

- b) All sound measurement shall be carried out in accordance with ISO Recommendation R 1996 "Assessment of Noise with respect of Community Response" as amended by ISO Recommendations R 1996

1, 2 or 3 “Description and Measurement of Environmental Noise” as applicable.

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

13. All road surfaces, culverts, watercourses, verges and public lands shall be protected during construction and, in the case of any damage occurring, shall be reinstated to the satisfaction of the planning authority. Prior to commencement of development, a road condition survey shall be taken to provide a basis for reinstatement works. Details in this regard shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development.

Reason: In order to ensure a satisfactory standard of development.

14. 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 planning authority, to secure the satisfactory reinstatement of the site on cessation of the project coupled with an agreement empowering the 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 planning authority and the developer or, in default of agreement, shall be referred to An Bord Pleanála for determination.

Reason: To ensure satisfactory reinstatement of the site

15. Prior to the commencement of development, the community gain proposals shall be submitted to planning authority for their written agreement.

Reason: In the interest of the proper planning and sustainable development of the area

16. The developer shall pay to the planning authority a financial contribution in respect of public infrastructure and facilities benefiting development in the area of the planning authority that is provided or Intended to be provided by or on behalf of the authority in accordance with the terms of the Development Contribution Scheme made under section 48 of the Planning and Development Act 2000, as amended. The contribution shall be paid prior to 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 An Bord Pleanála 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.

Hugh Mannion

Senior Planning Inspector

3rd June 2020