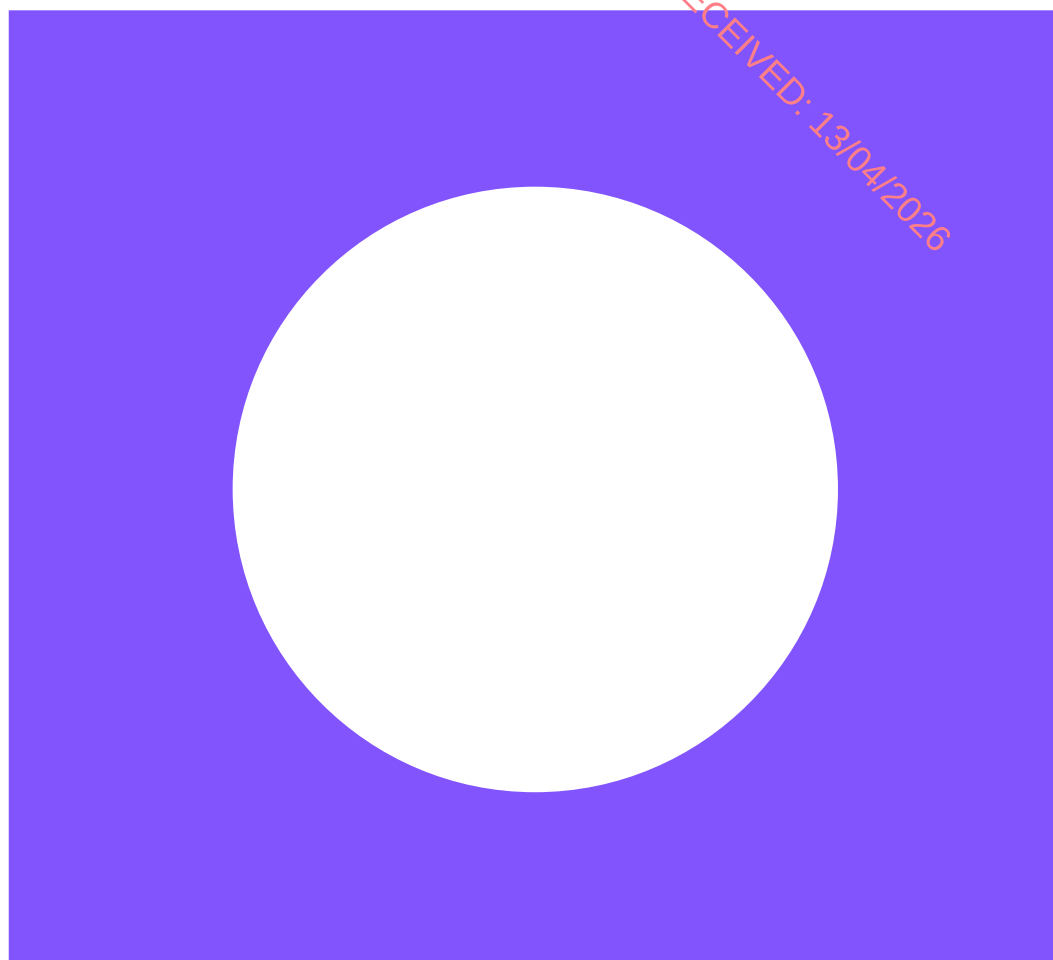


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Shelburne Energy Farm Environmental Impact Assessment Report

Non Technical Summary

April 2026

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Shelburne Energy Farm Environmental Impact Assessment Report

Non Technical Summary

April 2026

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1 Non-technical Summary

1.1 Introduction

An Environmental Impact Assessment Report (EIAR) has been prepared to accompany planning applications to the relevant planning authorities, by Gen7 Renewable Energy Limited; hereafter referred to as 'the Applicant'.

The Applicant appointed Mott MacDonald Ireland Limited to prepare the EIAR for lodgement with the planning application. This Non-Technical Summary forms Volume 1 of the overall EIAR, which comprises the following:

Volume 1 (this volume) Non-Technical Summary

Volume 2 Environmental Impact Assessment Report

Volume 3 EIAR Technical Appendices

Volume 4 Photomontages & Glint and Glare Report

The EIAR has been prepared in support of the planning application, in accordance with the requirements of Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment, as amended by Directive 2014/52/EU, together, referred to as the "EIA Directive".

This Non-Technical Summary summarises the assessment of environmental effects as a result of the project, as stated within the EIAR, and includes:

- An overview of the project, the scope of the environmental assessment completed,
- Alternatives considered; and
- Impacts associated with the development.

It uses, in so far as is possible, non-technical language to summarise the detailed assessments for each of the environmental topics contained within the EIAR.

1.1.1 Project Overview

Shelburne Energy Farm is a solar photovoltaic farm with an accompanying and co-located battery energy storage system. The solar farm will generate up to 92.68 MWp (peak [alternating current] generation under optimal conditions) of electricity while the battery energy storage system will provide 54.8MWac of electricity storage for a two-hour duration. The battery system will store the electricity generated by the solar farm. Shelburne Energy Farm is located within a circa 121.5 hectare site in the townlands of Ballygarvan, Cloonagh and Nash, Gusserane, County Wexford.

All utility scale energy generation projects require a connection to the national electricity grid. For Shelburne Energy Farm this will comprise a 220kV substation and an associated 220kV 2.9km cable connection to an existing transmission overhead line (Great Island - Lodgewood 220kV circuit) in the vicinity north of Shelburne Energy Farm.

Since the publication of the Climate Action Plan by the Government in 2019, and including the last three iterations (2023, 2024 and 2025) the national target for solar energy has been set at 8GW by the year to 2030. Within the Southern Regional Assembly area, which includes County Wexford, there is a prescribed target for the allocation of solar photovoltaic (PV) for the year to 2030 of 3302MW (equating to 43% of the national share by 2030).

1.1.2 Site Location

The Proposed Project is located in southwest County Wexford. The closest town is New Ross, located c.6.5km northwest of the Proposed Project; the village of Newbawn is located c.3km north-northeast of the Proposed Project. The Proposed Project occurs across three townlands to the north of the settlement of Gusserane as detailed herein;

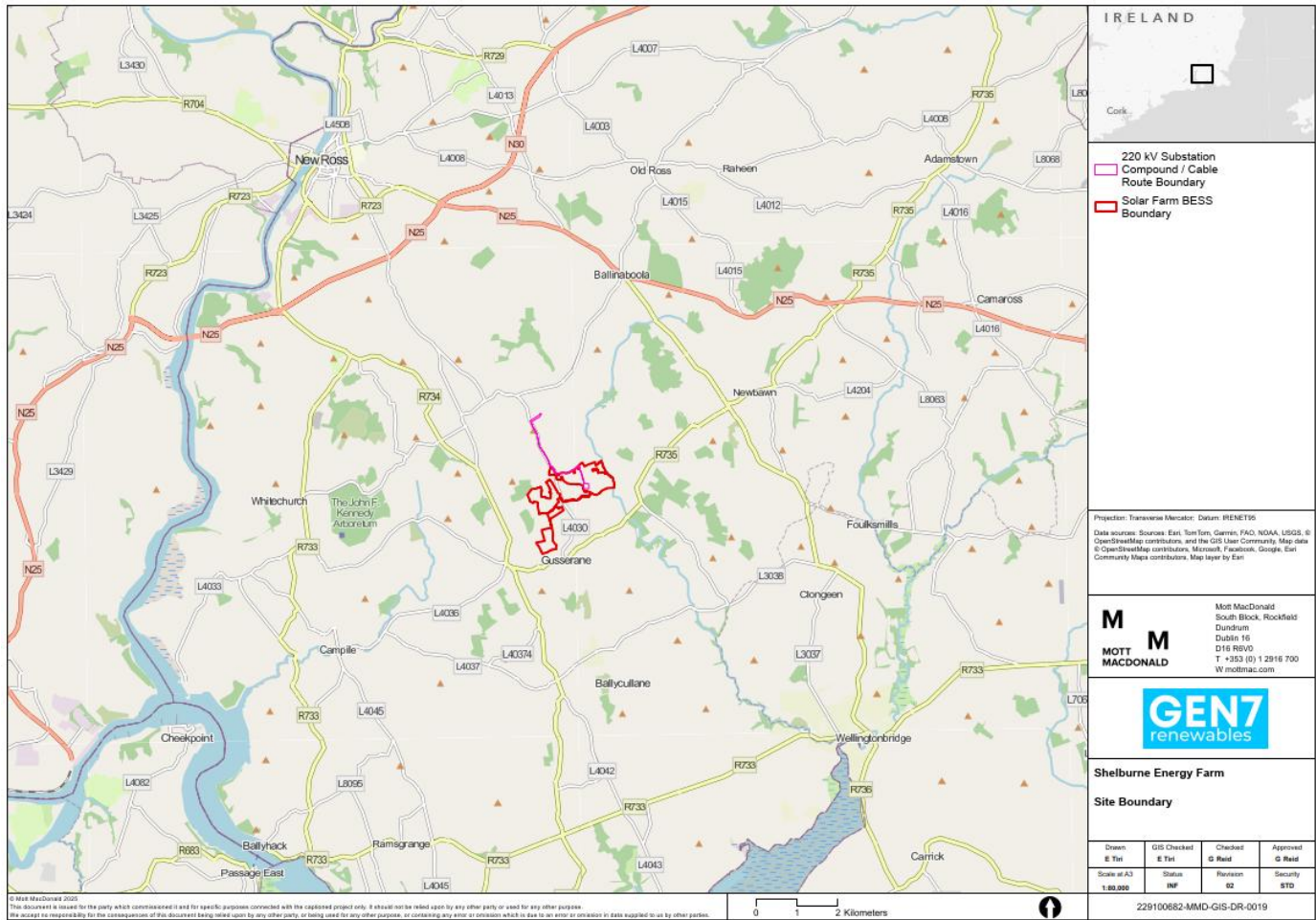
- The proposed solar farm is located across three townlands, Ballygarvan, Cloonagh and Nash.
- The proposed BESS is co-located with the solar farm and is located in the townland of Nash.
- The proposed 220kV grid connection is located in the townland of Nash.

The Project site boundary is shown in Figure 1.1.

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Figure 1.1: Location of Proposed Project



Source: Mott MacDonald Ireland Limited

1.1.3 EIAR Structure

The overall structure of the EIAR, with a further breakdown of the structure of this Volume (Volume 2) is provided in Table 1.1.

Table 1.1: EIAR Volume 2 Structure

Chapter	Chapter Title	Chapter Description
1	Introduction	Provides an overview of the purpose, structure and scope of the report.
2	Stakeholder Engagement	Details the informal consultation undertaken with stakeholders and their feedback on the proposed project.
3	EIA Methodology	Sets out the methodology undertaken in the EIAR.
4	Reasonable Alternatives Considered	Sets out the need for the Proposed Project. Describes and evaluates the reasonable alternatives studied by the developer. Sets out the justification for the option chosen with consideration of the effects of the Proposed Project on the environment.
5	Description of Development	Describes the design, scale and size of the Proposed Project. Provides an overview of the location and wider setting of the proposed project.
6	Population and Human Health	Provides an assessment of the receiving environment in terms of population and human health and potential impact on humans as a result of the proposed project.
7	Biodiversity	Describes the receiving environment in terms of existing species and habitats. Assesses potential impacts on biodiversity and proposes relevant mitigation measures.
8	Land, Soils & Hydrogeology	Provides a review of the land, soils and hydrogeology receiving environment and assesses potential impacts on soil and hydrogeology and impacts in relation to land take. Recommended mitigation measures are stated.
9	Surface water resources and Flooding	Describes the receiving water environment, the potential impact of the proposed Project on water quality and flooding; and recommends mitigation measures.
10	Air Quality	Provides an overview of the receiving air quality environment, describes the impacts on air quality related to the Proposed Project and recommends appropriate mitigation measures.
11	Noise and Vibration	Provides an assessment of the receiving noise environment and outlines sensitive receptors vulnerable to potential noise or vibration impacts that may arise as a result of the Proposed Project.
12	Landscape	Describes the receiving landscape and visual environment, potential impacts to the landscape character and viewpoints and recommends mitigation measures.
13	Archaeology, Architectural and Cultural Heritage	Provides an assessment of the Proposed Project, considering potential impacts to cultural heritage assets, such as architectural and archaeological heritage, and proposes mitigation measures.
14	Roads, Traffic and Transportation	Outlines the receiving traffic environment and describes potential impacts on local roads that may arise due to construction and operational traffic.
15	Material Assets and Waste Management	Describes existing services, waste and infrastructural service requirements by the Proposed Project. Describes potential impacts to utilities as a result of the Proposed Project.
16	Climate (Carbon and Resilience)	This chapter of the EIAR identifies, describes and presents an assessment of the eventual significant effects of the Proposed Project on climate. This chapter describes the receiving climatic environment, the vulnerability of the Proposed Project to climate

Chapter	Chapter Title	Chapter Description
		change and recommends resilience measures with regard to the Proposed Project.
17	Major Accidents and Disasters	Identifies and assesses the likelihood and potential impacts to the environment and population arising from the vulnerability of the Proposed Project to risks of major accidents and / or natural disasters.
18	Interactions of Effects	Provides an overview of potential interactions among environmental factors and their cumulative impact as a result of the Proposed Project.
19	Summary of Mitigation and Monitoring	Sets out the mitigation and monitoring measures proposed throughout the various chapters for ease of reference.

1.2 Stakeholder Engagement

Public participation and pre-application engagement with the local community has been an integral to the development of the Proposed Project and the EIA process. Table 1.2 below details the statutory and non-statutory stakeholder engagement activities undertaken for the Proposed Project.

Table 1.2: Statutory and non-statutory engagement

Consultee	Date	Details
Non-Statutory Stakeholder Engagement		
Affected Landowners	July 2023 – May 2025	Consultation with landowners directly affected by the Proposed Project.
Local community engagement including notification	June 2025	Letter drop to households whose properties by reason of topography and orientation would be potentially impacted by the Proposed solar farm and Battery Energy Storage System.
In person meetings	Between 16 July and 24-25 July 2025	Time slots of 30-minute duration were made available to individuals to discuss the Proposed Project with the Applicant and their planning team.
Follow-up engagement with adjacent neighbours	July and August 2025	Further discussions were held in July and August 2025 with those individuals within the local community whose residential properties are located immediately adjoining the Proposed Project site who wished to discuss potential impacts to their property.
Statutory Bodies Engagement		
Development Applications Unit	10 June 2025	Archaeology related observations were provided in their response dated 01 July 2025
Inland Fisheries Ireland	10 June 2025	No response on consultation
EirGrid	21 March 2023	During this discussion EirGrid informed the Applicant that there was no capacity on the 110kV electricity transmission system to cater for additional generation (from any generation source). EirGrid thereby advised that the Proposed Project will be required to provide a connection into the local 220kV transmission system.
Planning Authority Engagement		
Wexford County Council	12 November 2024 and 16 September 2025	A pre-application meeting was held in 2024 to discuss the proposed development of a solar farm, a second meeting was held to discuss the subsequent inclusion of BESS.
An Coimisiún Pleanála	31 July 2025	A pre-application consultation was held with the Commission as the grid connection element of the Proposed Project is considered to comprise Strategic Infrastructure Development

Consultee	Date	Details
		(SID) pursuant to Section 182A(1) of the Planning and Development Act 2000, as amended.

1.3 EIA Methodology

Environmental Impact Assessment (EIA) Directive 2011/92/EU on the assessment of the effects of certain public and private projects as amended by Directive 2014/52/EU (together, the “EIA Directive”) defines EIA as a process consisting of:

1. The preparation of an Environmental Impact Assessment Report (EIAR) by the developer;
2. The conducting of consultations;
3. The examination by the competent authority of the EIAR, any supplementary information provided by the developer (where necessary) and relevant information received through consultations with the public, prescribed bodies and any affected Member States;
4. The reasoned conclusion of the competent authority on the significant effects of the project on the environment; and
5. The integration of the competent authority’s reasoned conclusion into any development consent decision.

This definition provides for a clear distinction between the process of EIA to be carried out by the competent authority and the preparation by the developer of an EIAR.

The EIAR has been prepared in accordance with the EIA Directive and Environmental Protection Agency’s (EPA) Guidelines on the information to be contained in Environmental Impact Assessment Reports 2022 (hereafter referred to as the “EPA Guidelines 2022”).

The receiving environment for each environmental factor describes the existing state of environmental characteristics and conditions. This includes sensitivity and significance of those environmental factors that are likely to be significantly affected by the proposed development. As per the EIA Directive, the do-nothing effects are also considered i.e., state of future receiving environment in the absence of proposed development.

The effects are described in accordance with the EPA Guidelines 2022. The significance of a potential impacts is dependent on the sensitivity of the receiving environment and the character of the predicted impact, as shown in the EPA Guidelines 2022.

Professional judgement plays a key role where magnitude or significance of impacts cannot be quantified with certainty. Where significant adverse impacts are likely, mitigation measures are proposed to offset these impacts. The assessment of impacts is conducted for construction, operational and decommissioning phase.

Mitigation is proposed as per the EPA Guidelines 2022 and is divided into four strategies: avoidance, prevention, reduction, and offsetting. Residual impacts, that remain once mitigation has been implemented, are also identified and discussed in each chapter.

A key aspect of EIAR is assessment of cumulative effects. In each chapter, the nature and scale of other developments in the vicinity of the Proposed Project have been evaluated to identify potential for significant cumulative effects. There is no potential for transboundary effects as all proposed works are within Ireland.

The EIAR also includes assessment of interaction of effects that may arise due to the effects of the Proposed Project on various environmental factors.

The combined earthworks activities associated with the Proposed Project total 6.92 hectares, resulting in the exceedance of the 5 hectares threshold prescribed under the Planning and

Development Regulations 2001, as amended, Schedule 5, Part 2, Paragraph 1(a) [Agriculture, Silviculture and Aquaculture].

In this respect, the Proposed Project is of a project type listed in Schedule 5, Part 2, Paragraph 1(a) and the relevant threshold has been exceeded thereby requiring it to be subject to the preparation of an Environmental Impact Assessment Report.

Whilst the relevant Schedule 5, Part 2, Paragraph 1(a) has triggered the requirement for EIA, out of an abundance of caution this EIAR is an assessment of the **whole project** and not of the rural restructuring in-combination with the wider elements of the project.

1.4 Reasonable Alternatives Considered

The EPA Guidelines state that “It is generally sufficient to provide a broad description of each main alternative, and the key issues associated with each, showing how environmental considerations were taken into account in deciding on the selected option. A detailed assessment (or ‘mini-EIA’) of each alternative is not required” (p.33 EPA, 2022).

The EPA 2022 guidance also states that analysis of high-level or sectoral strategic alternatives cannot reasonably be expected within a project level EIAR.

Chapter 4 of the EIAR presents the alternatives that were considered by the Applicant during the design process.

1.4.1 Alternative Solar Sites

The Applicant was aware of the potential of lands suitable for solar generation development within the townlands of Ballygarvan, Cloonagh and Nash in County Wexford, due to the townlands being located in an area identified as having high solar generation potential based on the Sustainable Energy Authority Ireland’s (SEAI) digital mapping, which provides detailed information on solar irradiation and possible grid connection points.

There are several influencing factors related to site selection for solar farms, these are outlined within The Best Practice Guidance Report on Solar Energy Development for Applications and Planning Authorities¹ (Irish Solar Energy Association, 2023) and were considered during the feasibility phase. Project responses for the eight criteria are detailed in Table 1.3.

Table 1.3: Stage 1 Solar PV Site Selection Screening Assessment

Selection Criteria	Project response
Grid Connection	A fundamental consideration in the siting of solar farms is on the basis of the proximity to the existing transmission network, therefore the required grid connection is a key selection criteria, as the distance to existing transmission infrastructure is preferable and more advantageous in relation to reducing the distance of a required connection to the grid. An existing 110kV overhead transmission circuit runs within the Project site in the townland of Nash. An existing 220kV overhead transmission circuit runs along the north of the Project site. Options for the grid connection were considered and are discussed in more detail in section 4.3.3. below.
Land orientation and siting	Contours reviewed using OSI Discovery mapping range between 40m to 60m (Malin Head Ordnance datum) and were later confirmed with a topographical survey to be ranging between 32m and 63m. Variations in topography can reduce the usable land area and cause shading on solar panels, however, the gently undulating lands of the Project site are suitable for solar development.

¹ <https://www.seai.ie/documents/research-projects/RDD00651.pdf>

Selection Criteria	Project response
Planning Policy	The Project Site is located within an area designated as "Open for Consideration for Solar Farms, (Wexford County Development Plan 2022-2028, Volume 10, Energy Strategy, Map No.6 (Wexford County Council).
Adjacent Road Network / Site Access	There is a local public road network surrounding the site with direct access to the public road, with existing field entrances present and utilisable.
Landscape / Visual impact	The Wexford County Development Plan identifies the site as being located in the Lowlands Landscape Character Area which is noted as being categorised as Low to Moderate sensitivity landscapes. "Low sensitivity landscapes are more robust landscapes which are tolerant to change and have the ability to accommodate development without significant adverse impacts on the character of the landscape. These landscapes comprise the majority of the Lowlands." The areas of moderate sensitivity in the Lowlands are where it borders other landscape character units. It is noted that the Project site does not border any other landscape character units.
Conservation designations	Conservation sites refer to Special Protection Area, Special Area of Conservation, Natural Heritage Area, or proposed Natural Heritage Area (pNHA). There is one conservation designation within a 5km radius, Boley Fen pNHA (site code: 000699) is located ca. 1.0 km to the southwest and comprises intermediate fen with wet grassland and tall sedge (<i>Carex</i> spp.) communities with encroaching scrub, mainly willows (<i>Salix</i> spp.). It is noted as nationally important for the following rare species of Diptera (flies): <i>Anasimyia lunulata</i>, <i>Psacadina zernyi</i>, <i>Parhelophilus consimilis</i>, <i>Pteromicra angustipennis</i> and <i>Tetanocera punctifrons</i>. The development of the proposed solar farm would not impact this habitat or the species which inhabit the fen.
Flood risk	The SEAI Guidelines state that "Flooding is not seen as a hard constraint as solar farms can be built in areas of flood risk". Flood risk was identified in areas of land considered for solar development. It was a committed objective for the Project that only fencing or underground cabling would be located in Flood Zones A (high probability) and B (moderate probability) to ensure that the site would be future proofed against the potential effects of climate change, over the duration of its 40 year operational lifespan.
Potential Yield	The location of a solar farm is primarily based on areas known to achieve high solar irradiation. The Proposed Project is located in an area identified as an area within the State as having one of the greatest Annual Global Horizontal Radiation (measured as kWh/sqm). The Solar Atlas ² states that the Proposed Project is located in an area which can obtain irradiation levels of 978 – 992 kWh/sqm (this is the third highest irradiation, the highest achievable is 1027 – 1078 kWh/sqm).

A Stage 2 Constraints Mapping exercise was conducted to rationalise the potential available lands measuring 250 hectares, and refine the boundary for the proposed solar energy development.

It was recognised during the selection of the buildable areas that certain criterion would not result in discounting parcels of lands, as specific design criteria could be set to ensure that potential impacts to receptors could be avoided, reduced or mitigated through the design process. Such examples include;

- Proximity to residential properties - buffer separation distances and landscaping will be provided
- Hedgerows and trees - due to its rural setting these are present throughout the study area and will be protected through the application of buffer separation distances
- Watercourses – setback distances from the riparian corridor/floodplain will be applied

² <https://maps.seai.ie/apps/solarAtlas/>

The constraints mapping exercise reduced the areas considered to be suitable for constructing a solar farm to the parcels of land identified in the red line boundary in Figure 1.1.

1.4.2 Alternative Battery Energy Storage System sites

The selection of alternative sites for a BESS compound was not considered, this is due to the availability of the lands within the spatial extent of the proposed solar farm which are sizeable enough to accommodate the co-locating of a BESS compound. The siting of a BESS compound in lands outside of the solar farm was not considered a reasonable alternative as co-locating the BESS within the solar farm eliminates the need to provide further cabling within public roads to connect to the solar farm and subsequently a grid connection point. In addition, co-locating BESS with a renewable energy source increases the efficiency with which renewable energy can be transferred to the grid.

The favourability of local topography was used to inform the decision for the siting of the BESS compound, which occurs at a low point in the local topography to provide natural screening and maximisation of the separation distance to residential receptors.

Irrespective of the site chosen, recontouring of the land is required to ensure a level platform for the BESS and also to ensure appropriate mitigation measures in the event of fire.

1.4.3 Alternative Grid Connection

As previously stated, a viable grid connection point is a vital consideration in the siting of a solar farm.

A connection to the existing 38kV network was not a feasible option due to the predicted capacity which the proposed solar farm would be able to generate, which is above that suitable for a 38kV connection.

The Applicant was informed by EirGrid plc that the existing 110kV transmission circuit could not accommodate any additional generation capacity. EirGrid plc stated that a connection to the existing 220kV transmission circuit was the only feasible alternative for the Proposed Project to connection to the national grid. This discussion with EirGrid on the capacity of the existing transmission network in the locality was fundamental to the decision to connect to the 220kV transmission system.

A route optioneering process was initiated to determine the grid connection point for the solar farm. An assessment for a new underground cable connection direct to the existing 220kV Great Island substation was undertaken, which resulted in three potential route options. All routes were discarded through the assessment due to the length of the routes, the constraints within the public roads (including road width, co-location with existing utilities, etc.). In addition, the approach to Great Island substation is heavily congested, and there is no certainty as to the availability and allocation of a spare bay within the existing substation to facilitate the connection.

The co-location of a 220kV grid connection substation within the solar farm was then identified as the appropriate option. This comprises a loop-in connection to the existing 220kV Great Island - Lodgewood overhead transmission circuit and the construction of an 8-bay 220kV Gas Insulated Switchgear (GIS) EirGrid operated substation. This avoids a direct connection to the Great Island 220kV substation, and therefore avoids the congestion identified above.

1.4.4 Alternative Layouts

Solar farms by virtue of their nature utilise all available lands suitable for development (those under the ownership of the applicant or where necessary landowner consent has been obtained) to maximise the solar energy generated. In this regard, only localised changes occur

due to environmental factors, for example proximity to habitats, environmental features such as rivers or rock outcrops, recorded archaeology or properties.

The layout of the solar farm was designed cognisant of environmental factors and refined to ensure the minimisation of potential impacts to sensitive receptors. Solar panels are the main infrastructural component of a solar farm, and thus all available land is used to ensure maximisation of solar generation, and as per standard practice panels positioned at an angle of between 25 - 30 degrees from the ground facing southwards (in the northern hemisphere) to capture the most sunlight possible.

The substation compound is of a standard configuration as dictated by EirGrid technical specifications ³.

The configuration of the BESS compound is a typical standard arrangement.

1.4.5 Alternative technologies

The objective of the Project is to provide a renewable energy development accompanied by battery storage to ensure that the maximum utilisation of the solar energy development is provided in line with the national renewable energy targets.

1.4.5.1 Renewable Technology Types

The site of the Proposed Project is not deemed suitable for any other renewable technology, i.e. onshore wind development, as the guidelines⁴ for onshore wind recommend that a setback distance from occupied dwellings of four times the tip height from a turbine. This recommended setback distance would not facilitate the development of any wind turbines within the boundary of the Project site. Thus, solar technology is considered the appropriate renewable technology to be used.

Solar equipment technologies, sizes and materials are continually evolving, and the specific type and configuration to be installed will be determined during the detailed design phase, based on the latest technology available.

1.4.5.2 Battery Energy Storage System Types

The use of storage co-located with a renewable energy source ensures that the maximum utilisation of the renewable energy development is provided in line with the national renewable energy targets and decarbonisation goals. Containerised modular battery energy storage is considered the appropriate technology as compared to other storage options due to the modular nature and its ease of installation, scalable design, and flexible connection to the grid. The modular nature allows for correct-sizing of the compound based on the anticipated energy yield of the co-located renewable energy source, and BESS technologies also allow for additional support to grid stability and more predictable energy flows, contributing to lower curtailment rates.

1.4.5.3 Substation and Grid Connection Types

GIS technology has been chosen over Air Insulated Switchgear (AIS) for the 220kV EirGrid operated substation due to the reduced space requirements for GIS substation. The substation

³ Technical Standards for Customer Connections - <https://www.eirgrid.ie/grid/transmission-policies-and-standards>

⁴ Draft Guidelines and the 'Best Practice Guidelines for the Irish Wind Energy Industry (Department of Housing Environment, Local Government, 2019)

footprint has been based on the existing EirGrid standards and technical specification drawings which are publicly available on the EirGrid website⁵.

The customer operated 220kV substation will be AIS as only a single bay is required for connection and the only switchgear within the substation will be cable sealing ends, current and voltage transformers, and an AIS disconnecter. There will also be a power transformer and 33kV switchgear housed within a control building. The outdoor 220kV disconnecter is required in line with EirGrid busbar policy⁶ and connection requirements.

The loop-in connection to the existing 220kV Great Island – Lodgewood will be realised through underground cable. The use of overhead line for the connection is a technology option which was discounted at an early stage due to the increased visual and amenity impact that such a connection would incur. It was also discounted due to the wayleave requirements, exclusion zones for building other infrastructure, and also the potential for shading of the solar panels and therefore reducing the energy yield. The substation and grid connection will be the subject of a future planning application to An Coimisiún Pleanála.

1.5 Description of Development

The Proposed Project will comprise of the following development.

A solar energy farm consisting of

- Photovoltaic (PV) panels on ground mounted frames, fixed in place using earth screws or driven mini-piles, with a maximum height of 4m above ground level, and a minimum ground clearance of 1.0m above ground level, across three separate land parcels referred to as Array Areas A, B and C providing 92.68 MWp (peak electricity generation under optimal conditions)
- Inverter units incorporated into the PV support structures;
- 17 no. transformer centres each measuring approximately 6.1m L x 2.5m W x 3.1m H;
- Underground electrical cable ducting between solar array areas A, B and C, connecting to the future proposed 220kV substation, including underground connections across local roads and 2no. wooden overhead electric poles, one placed on either side of the Tellarought River to facilitate its crossing;
- 4no. meteorological stations.

A Battery Energy Storage System (BESS) providing 54.8MWac of electricity storage for a two-hour duration, secured with 2.6m high palisade fencing and gates, and containing:

- 79no. of containerised battery storage modules (measuring approximately 6.82m length, 2.44m wide and 2.89m high);
- 19no. of containerised transformer and Power Conditioning Units (measuring approximately 6.82m length, 2.44m wide and 2.89m high) and ancillary equipment;
- 8.5m high acoustic barrier for noise attenuation around the BESS compound;
- Well and pump house to supply 2no. fire fighting tanks for Battery Energy Storage System compound and
- **All associated development** including widening of existing field entrance from local road L - 8059-1 to serve the solar array and BESS in Area A and vegetation clearance at all other existing site entrances to provide sight lines, temporary construction compounds (one in each solar array area), 2m high perimeter fencing fitted with mammal passes and security

⁵ Technical Standards for Customer Connections - <https://www.eirgrid.ie/grid/transmission-policies-and-standards>

⁶ https://cms.eirgrid.ie/sites/default/files/publications/Policy_Statement_3_Busbar_Configuration_v4.pdf

gates, pole mounted CCTV system, lighting, site drainage, fire water tanks, use of existing field entrances for access for construction and operation, internal access tracks, recontouring of land and landscaping, and all other works required to facilitate the proposed development.

The proposed 220kV substation compound and grid connection will be the subject of a separate planning application to An Coimisiún Pleanála under section 182A of the Planning and Development Act 2000 as amended. This associated development will consist of:

- A substation compound measuring an area of approximately 1.0 hectare which will accommodate the following:
 - 1no. Air Insulated Switchgear (AIS) securely fenced compound, which includes 1no. control building (9m L x 7.5m W x 4m H), 1no. transformers, cable sealing ends and associated AIS equipment;
 - 1no. Gas Insulated Switchgear (GIS) securely fenced compound, which includes a 220kV GIS building (49m L x 18.5m W x 17m H) housing GIS equipment;
- A grid cable connection from the GIS building to the existing 220kV overhead line circuit to Great Island, comprising 2no. 220kV underground cable circuits measuring approximately 2.9km in length;
- 2no. Line Cable Interface Masts (LCIMs) and stringing of new conductor to connect to an existing 220kV overhead line circuit to Great Island; and,
- All associated development including lighting, substation compound site drainage, effluent holding tank, well water supply for substation, internal access circulation area, lightning rods, lighting, dismantling and removal of 1no. existing 220kV overhead line tower and all other works required to facilitate the proposed development.

A detailed description of each element of the Proposed Project is detailed in Chapter 5 of the EIAR.

The following biodiversity enhancement measures will be implemented as part of the Proposed Project:

- 2.01 hectares of existing wet grassland and scrub mix to be conserved and managed to protect existing habitats.
- 2.64 hectares of existing marsh and scrub mix to be conserved and managed to protect existing habitats.
- 5.33 hectares of existing marsh, wet grassland, and scrub mix to be conserved and managed to protect existing habitats.
- Retention of 0.73 hectares including an existing building and bat roost to be left undisturbed.
- Retention of 1.45 hectares of mixed woodland.
- 3.66 hectares of former agricultural pasture and tillage land is to be planted with native woodland; Alder and Oak on lower lying ground adjacent streams and flood prone areas and Hazel and Oak woodland on drier ground.
- Additional mitigation planting adjoining dwellings will consist of dense native woodland and shrub planting and provides a cumulative area of 1.03 hectares.
- Replanting of degraded hedgerows over and a cumulative area of 1.35 hectares.

1.5.1 Construction Phase

A detailed description of the construction activities required to construct the Proposed Project is detailed within Chapter 5 of the EIAR.

1.5.1.1 Construction Schedule

It is anticipated that there will be overlapping construction programmes for each of the four main elements which comprise the Proposed Project. It is anticipated that the entire construction phase will last between 21 and 23 months. The commencement of the construction works will be subject to obtaining planning approval for the relevant planning authorities (Wexford County Council and An Coimisiún Pleanála). The indicative construction timeline is illustrated below.

Table 1.4: Construction Timeline

Construction Programme	Year 1				Year 2			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Substation compound								
220kV Cable connection								
Solar farm								
BESS								

1.5.1.2 Hours of Construction

Construction activities will be undertaken during 07:00 – 19:00 Monday to Friday and 08:00 – 14:00 on Saturday, subject to agreement with Wexford County Council and An Coimisiún Pleanála respectively.

No construction works will take place outside these hours, unless such work:

- is required under exceptional circumstances; or
- is carried out with the prior written approval of the planning authority.

1.5.1.3 Temporary Construction Compound/Laydown Area

A temporary construction compound is proposed in each Array Area – A, B and C, as illustrated within the site layout (refer to Appendix 5.1). The main temporary construction compound and laydown area will be located in Array Area A and will include the construction staff parking area. This temporary construction compound will be utilised during all stages of the construction programme for the Proposed Project.

The appointed contractor(s) will be responsible for organising site compounds in consultation with the Environmental Manager or Ecological Clerk of Works (ECoW).

In areas where the potential temporary construction compounds are not currently hardstanding, the ground will be stripped and levelled and replaced with hardstanding. The ground will be reinstated to its original condition following the proposed works.

The Contractor's Environmental Manager will be responsible for the management of the site compounds in accordance with the CEMP. The contractor's compounds will be used for storage of construction materials, as well as construction equipment and machinery.

The contractor will ensure that the proposed compound is secured, either with existing hedgerows/treelines, or new palisade fencing.

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1.5.1.4 Access during the Construction Phase

All construction traffic will arrive via the regional roads R735 and R754 and the local tertiary roads to the north (L4030 and L40232), east, (L4030 and L4023) and south (L-8141-1 and L-8141-2).

The main construction access for the Proposed Project to the main temporary construction compound is via site access number 3 providing access to Array Area A via the L40232. Construction site access will not be undertaken to the east of site access no.3 to ensure that construction traffic does not use the L-80591-1. In order to access field 9 located in the north eastern corner of the Project site a temporary construction access will be provided in parcel 8 to provide direct access to site.

The local tertiary road network will then be used to access Array Area B and C.

1.5.2 Operation and Maintenance Phase

The typical operation and maintenance activities for all elements of the Proposed Project are detailed below.

1.5.2.1 Solar Farm

During operations, the proposed solar farm will be monitored and operated remotely by a management team and will be visited regularly by security and/or maintenance personnel.

Maintenance activities associated with the solar farm will comprise the following:

- Supplementary grass cutting (only in identified areas where sheep grazing has not ensured that vegetation growth has been maintained)
- Preventative inspections and maintenance inspections (i.e. identification of damage, where identified further visits will be undertaken, cleaning of panels as when required)
- Electricity meter readings
- Maintenance of drains, attenuation pond and security fencing
- Maintenance of access tracks, including grading, weed control, and surface repairs to maintain safe vehicle access
- Maintenance of hedgerows (where there is an obstruction of solar panels)

There is no waste generation or wastewater (foul) generation during the operational phase, as such there is no waste/wastewater collection required for the solar farm.

This will typically result on average of two visits every six months.

1.5.2.2 Battery Energy Storage System

During operations, maintenance of BESS follows a similar approach, but oriented to the particularities of BESS equipment, comprising the following activities;

- Preventative inspections and maintenance checks (e.g. visual inspection of battery containers, PCS units, HVAC systems, and fire suppression equipment; follow-up visits for cleaning filters or replacing worn components as needed). Particularly, regular checks for corrosion, structural damage, door seals, and ventilation grilles to ensure weatherproofing and thermal performance.
- Energy meter readings and system performance logging (including verification of state-of-charge, round-trip efficiency, capacity and degradation, and inverter output)
- Clearing of vegetation or debris near air intakes, exhausts, and cooling units (to maintain thermal performance and prevent overheating risks)

- Grounding and earthing system verification: Periodic testing of grounding connections for all containers to maintain electrical safety and reduce fault risks.
- Maintenance of drains, attenuation pond and security fencing
- Maintenance of access tracks, including grading, weed control, and surface repairs to maintain safe vehicle access

1.5.2.3 Grid Connection

The GIS substation compound is expected to be operated remotely by EirGrid and maintained by ESB. Welfare facilities will be provided in the GIS substation for ESB personnel attending the site. Monthly attendance by a team of ESB technicians is anticipated. The GIS substation will require the maintenance of the foul holding tank.

The AIS substation compound will also be operated remotely and will require infrequent visits, which will be conducted on average once every six months.

There is no required maintenance activities related to the 220kV cable connection.

1.5.3 Decommissioning

Subject to the granting of statutory approval, the Shelburne Energy Farm and grid connections will form part of the national electrical grid infrastructure. The design life of the PV Solar Farm and BESS is 30 years and 20 years respectively, where the planning permission for the operational life span of the Proposed Project overall is 40 years. The Shelburne Energy Farm is to be decommissioned in line with the Decommissioning and Land Restoration Plan, contained in Appendix 3.1, Volume 3 of this EIAR.

1.5.3.1 It is expected that the 220kV Grid Connection will remain a permanent part of the national electricity transmission network and will be refurbished and / or redeveloped as required rather than be decommissioned.Solar Farm

The decommissioning of the solar array areas involves ceasing all electrical output. All electrical works will be disconnected before the removal of any site equipment.

The site decommissioning and restoration plan will be executed in line with the environmental conditions of the Planning Permission.

Given the nature of the solar farm development and the small amount of infrastructure required, it is considered highly unlikely that any adverse effects would occur as a result of decommissioning works.

Following the decommissioning of the site the agricultural land will be restored to its original state. Should the access tracks be removed, the affected areas will be regraded, covered with topsoil, and seeded with an appropriate grass mixture.

1.5.3.2 Battery Energy Storage System

The decommissioning of the BESS site involves the safe cessation of all electrical output and the isolation of both AC and DC systems. All electrical works, including disconnection of grid interfaces, battery modules, and power conversion systems, will be completed prior to the removal of any equipment. A comprehensive lockout-tagout (LOTO) procedure will be followed to ensure safety during dismantling.

The site decommissioning and restoration plan will be conducted in accordance with the environmental conditions set out in the Planning Permission and relevant regulations in place at the time. Given the modular and containerised nature of BESS infrastructure, and the controlled

handling of hazardous components such as lithium-ion batteries and fire suppression systems, no environmental impacts are expected to result from decommissioning activities.

Following the removal of all containers, cabling, and ancillary infrastructure, the site will be restored to its original condition. Where access tracks are removed, the affected areas will be regraded, covered with topsoil, and seeded with an appropriate grass mixture.

All battery modules will be transported to licensed recycling or treatment facilities, with documentation retained to demonstrate compliance with end-of-life obligations.

1.5.3.3 Grid Connection

The design life of the GIS substation is approximately 40 years. It is expected that the substation site will remain a permanent part of the national electricity transmission network and will be refurbished and / or redeveloped as required rather than be decommissioned.

The AIS substation is expected to have a design life of 40 years. Where decommissioning takes place, all above-ground components associated with the substation will be disassembled and removed from the site and effects are likely to be similar or of a lesser magnitude than the construction effects.

1.6 Population and Human Health

Chapter 6 of the EIAR, Volume 2, presents an assessment of the likely and significant impacts arising from the Proposed Project on population and human health. The assessment is based on the Proposed Project as described in Chapter 5 of Volume 2 of the EIAR.

The sensitive receptors are identified based on the potential to be affected by the construction or operation of the Proposed Project. The assessment methodology includes determining the sensitivity of receptors and the magnitude of impacts experienced by these receptors. A combination of the sensitivity of receptor and the magnitude of impact in relation to the receptor has been used to assess the significance of potential effects.

In accordance with the Environmental Protection Agency (EPA) Guidelines 2022, this assessment has considered effects on community receptors arising as a result of the construction, operation and maintenance and decommissioning of the Proposed Project. The assessment considers both direct and indirect effects on receptors arising as a result of the Proposed Project, in particular, effects on:

- Land use and social considerations
- Economic activity (including tourism)
- Human health

During the construction phase, no significant effects are anticipated on land use and social considerations, and economic activity. For human health, effects due to temporary disruption to community receptors and temporary changes in Non-motorised user (NMU) amenity are considered significant. Any temporary disruption to community receptors as a result of road closures will result in moderate adverse effects. The temporary changes in NMU amenity due to increased Heavy Goods Vehicles (HGV) traffic will result in major adverse effects.

No significant effects are anticipated during the operational phase.

There are no significant residual population and human health effects predicted during the construction and operational phases. It is acknowledged that inconvenience will be caused in some areas due to road closures and the presence of HGV traffic, however, effects will be temporary and appropriately mitigated.

1.7 Biodiversity

Chapter 7 of the EIAR, Volume 2, presents an assessment of the likely and significant impacts arising from the Proposed Project on Biodiversity. The assessment is based on the Proposed Project as described in Chapter 5 of Volume 2 of the EIAR.

The Proposed Project has been designed as far as possible to avoid Important Ecological Features (IEF) identified during the field surveys to inform the biodiversity impact assessment. These IEF include the Owenduff and Tellerought Rivers and bankside riparian habitats (woodland and marsh), dense hedgerow network in particular on the western side of the site and areas of unimproved wet grassland, scrub and marsh.

During the construction phase the vast majority of works will be in farmland of low ecological value. There is potential for localised impacts to hedgerows, wet grassland and woodland habitats. Mitigation has been identified including a site Ecological clerk of works to minimise impacts. Post construction significant woodland planting and habitat management is proposed. Potential pollution risks to the Owenduff and Tellerought Rivers and potentially Bannan Bay SAC/SPA will be mitigated by appropriate soil water runoff controls.

The operational land use impacts will result in mainly imperceptible effects. Mitigation is outlined for appropriate land management to retain wet grassland and marsh habitats within the site. In addition, extensive areas of new and retained woodland planting will ensure > 15% of the site will be retained for specific biodiversity purposes. Additional areas including the soil water interceptor pond will be managed as a wetland/ biodiversity feature which will further increase areas of biodiversity value locally on the site.

The residual effects following mitigation are assessed as imperceptible for construction and operational phase.

1.8 Land, Soils and Hydrogeology

Chapter 8 of the EIAR, Volume 2, presents an assessment of the likely and significant impacts arising from the Proposed Project on land, soils and hydrogeology. The assessment is based on the Proposed Project as described in Chapter 5 of Volume 2 of the EIAR.

During construction of solar array and cable route component of Proposed Project, imperceptible effects are anticipated on land use. During the construction of BESS and the substation, slight effects are anticipated on land use.

The land and soils effects during construction of the solar array and cable route are anticipated to be imperceptible, and for construction of BESS and the substation the effects will be slight/moderate. An imperceptible effect on land and soils is noted for vegetation clearance required for all design elements of the Proposed Project.

For soils and geology, the construction of BESS and substation will result in significant effects due to exposure to radon and imperceptible effects due to loss of bedrock. The construction of solar array and cable route will not result in significant effects due to exposure to radon, however imperceptible effects are noted due to loss of bedrock. The use of concrete, and spills from construction vehicles will result in imperceptible effects during construction phase.

The construction phase impacts on hydrogeology include migration of residual agricultural contaminants to groundwater, migration of contamination along piled foundations, groundwater contamination from silt and stockpile runoff, potential for groundwater abstraction and accidental leakages and spills which will result in imperceptible effects. The construction of the solar farm will also result in slight/moderate effects on hydrogeology due to dewatering and preferential flow pathway through dewatering wells.

The operational land use impacts will result in imperceptible effects for solar array and cable route, and slight effects for BESS and substation. The operational impacts on land and soils are assessed as imperceptible. For exposure to radon during operation, BESS and substation will result in significant effects. No effects are anticipated for solar farm and cable routes. The impact on groundwater flow and site water discharges during operation will be imperceptible. The impact on groundwater levels due to groundwater abstraction for the operation of BESS and substation are likely to be slight/moderate.

A groundwater screening assessment is also presented in Chapter 8. The small scale of the Proposed Project relative to the magnitude of the Water Framework Directive (WFD) waterbody is deemed to pose very low risk to the delivery of long term WFD no deterioration and status objectives, such that no further (additional) assessment is required.

The residual effects following mitigation are assessed as imperceptible for construction and operational phase.

1.9 Surface Water Resources and Flooding

Chapter 9 of the EIAR, Volume 2, presents an assessment of the likely and significant impacts arising from the Proposed Project on surface water resources and flooding. The assessment is based on the Proposed Project as described in Chapter 5 of Volume 2 of the EIAR.

This chapter considers potential impacts during construction, operation and decommissioning phases associated with:

- Surface waterbodies;
- Water supply and wastewater discharge (including drinking water supply network, foul water and the drainage network);
- Water Framework Directive (WFD) surface water objectives; and
- Flood risk.

During construction phase, no significant effects are anticipated. A moderate adverse impact of temporary duration is assessed on surface water quality. The impacts on water or wastewater utility infrastructure are anticipated to be of short-term and imperceptible. The impacts on flood risk will also be of short-term and imperceptible.

During the operation phase, no significant effects are anticipated. A long-term but imperceptible impact is anticipated on surface water quality. The Flood Risk Assessment contained in Appendix 9.1 of Volume 3 of the EIAR concludes that the impact on flood risk will be negligible during the operation phase.

The residual effects on surface water quality, water or wastewater utility infrastructure and flood risk will be imperceptible.

A Water Framework Directive Assessment was also carried out for the Proposed Project, which concluded that the Proposed Project is fully compliant with WFD and therefore does not require assessment under Article 4.7 of the WFD.

1.10 Air Quality

Chapter 10 of the EIAR, Volume 2, presents an assessment of the likely and significant impacts arising from the Proposed Project on local air quality. The assessment is based on the Proposed Project as described in Chapter 5 of Volume 2 of the EIAR.

For the construction phase, the study area covers human health receptors and ecologically designated sites within 250m of the construction site boundary and within 50m of the routes used by construction vehicles on the public highway, up to 250m from the site entrances.

Representative monitoring was taken from two air quality monitoring stations, Paddy Browne's Road, County Waterford, closest to the Proposed Project, which records NO₂, PM₁₀, PM_{2.5}, and ozone, and the second station Kilkitt, County Monaghan, which is more representative of the rural setting of the Proposed Project, and which monitors NO₂, sulphur dioxide and ozone.

During the construction phase there will be potential for dust arisings due to earthworks activities. Dust soiling effects are 'Medium' to 'High' risk and PM₁₀ effects are 'Low' risk without mitigation. Dust and particulate matter emissions produced during construction activities and emissions from site plant will be controlled through the implementation of good practice measures set out within the Construction Environmental Management Plan which forms part of this EIAR. These mitigation measures are identified as good practice within the Institute of Air Quality Management's (IAQM) 'Guidance on the assessment of dust from demolition and construction', January 2024.

Given the frequency of maintenance, the effects of operation road traffic contributions from the Proposed Project are considered low and not significant. On this basis, no further consideration has been given to the effects of construction road traffic on ambient air quality.

The impact of the decommissioning phase on air quality will be no worse than the construction dust risk and construction traffic movements similar or less than those presented in this chapter. These effects are therefore considered to be not significant if the mitigation measures.

With the successful incorporation of best practice mitigation as detailed in the CEMP which accompanies the application, the residual impacts on dust emissions from construction activities will be negligible.

There are therefore no significant impacts predicted during the construction and operational phases for air quality with the successful incorporation of best practice mitigation.

1.11 Noise and Vibration

Chapter 11 of the EIAR, Volume 2, presents an assessment of the likely and significant impacts arising from the Proposed Project on noise and vibration. The assessment is based on the Proposed Project as described in Chapter 5 of Volume 2 of the EIAR.

An assessment of predicted noise and vibration impacts arising during the construction and operation of the Proposed Project has been undertaken. This has been informed by the prediction of impacts using theoretical and empirical models and the results of background noise survey conducted between July and August 2025.

The study area was chosen to represent the nearest receptors most likely to be impacted by the noise levels of the proposed plant as part of the BESS and substation compounds.

Due to the existing low background levels, as confirmed by the noise survey, the significance of impact during the construction phase has been assessed against lower cut-off values of 65 dB, 55 dB and 45 dB LAeq, T from site noise alone, for the daytime, evening and night-time periods, respectively.

The results of the calculations for construction noise indicate that predicted noise levels at the NSLs due to the construction of the Proposed Project are below the daytime criterion of 65 dB LAeq and evening criterion of 55 dB LAeq. Therefore, it is concluded that construction noise will result in no significant effects.

In terms of vibration from construction activities more residential receptors are located at significant distance away from the construction area and will not be impacted by vibration as a result of the construction activities. However, two receptors are located approximately 15-20 metres away from the Proposed Project boundary.

In the assessment of noise generated by construction traffic, For the assessment, the level of road traffic noise due to links with flows of less than 1,000 vehicles cannot be calculated using the CRTN methodology and have been disregarded. Furthermore, traffic noise from these roads is not likely to result significant impacts because the absolute level of road traffic noise will be relatively low. However, the overall traffic flows including the construction vehicles will not give rise to high noise levels and therefore the impacts are likely less significant as expected by magnitude of change alone.

On regional roads, R733, R734 and R735, additional movements are calculated to result in an increase in the basic noise level of between 0.1 to 0.5 dB. The L4023 road between N25 Junction and the L4030 Nash Junction is predicted to have an increase of 1.7 dB. This will have a temporary significant noise impact on the dwellings located alongside this road.

The assessment of operational noise implements the procedures of ISO 9613-29 using a three-dimensional acoustic model developed using DataKustik CadnaA software.

The predicted operational noise levels do not exceed the noise criteria given in the NG4 guidance of 45 dB LAeq daytime, 40 dB LAeq evening and 35 dB LAeq night-time at all locations.

Currently, the background noise levels are 25 dB LA90 or lower. The predicted noise levels as a result of the operation of the Proposed Project are between 28 to 35 dB LAeq,T at night. Although these noise levels are in some cases over 10 dB higher than the existing background sound levels, these are still sufficiently low not to exceed sleep disturbance threshold values indoors even with open windows.

Therefore, it is considered that with the proposed mitigation there will not be a significant operational noise impact on the nearest sensitive locations.

In accordance with best practice, noise emissions should be minimised at source to minimise the exposure site personnel to noise from construction. Mitigation measures will be included in the Construction Environmental Management Plan;

- setting limits for the control of noise and vibration from construction activities
- the provision of mitigation measures required whilst adopting best practicable means
- noise or vibration monitoring where disturbance is reported as required.

The Proposed Project is expected to generate noise during both the construction and operational stages.

The assessment has considered the likelihood of significant effects based on predictions of noise where the noise emissions of construction and operational plant have been assumed.

The likelihood of significant effects during construction are considered unlikely.

Construction traffic noise will likely not have significant impact on major roads.

Without prior notification, vibration from compaction has the potential to have a significant impact on the receptors closest to the site in terms of disturbance. However, this will be temporary for short periods of time and with the proposed mitigation (large width drum and lower magnitude vibration), the risk can be reduced to not significant.

The BESS compound will be fitted with absorptive barriers suitable to mitigate the noise impact on the nearby receptors. Therefore, the residual operational effects are not considered significant.

1.12 Landscape

Chapter 12 of the EIAR, Volume 2, presents the Landscape and Visual Impact Assessment (LVIA) to assesses the likely landscape and visual impacts of the Proposed Project on the receiving environment. The assessment is based on the Proposed Project as described in Chapter 5 of Volume 2 of the EIAR.

A study area of 5km has typically been used for solar projects in Ireland, Northern Ireland and Great Britain and this approach has been deemed acceptable by multiple planning authorities including Wexford County Council.

A computer-generated Zone of Theoretical Visibility (ZTV) map has been prepared to illustrate where the Proposed Project is potentially visible from. The ZTV map is based solely on terrain data (bare ground visibility), and ignores features such as trees, hedges or buildings, which may screen views. The proposed solar arrays would be visible from approximately 50-60% of the study area.

A Digital Surface Model based ZTV map, which relies on a Digital Surface Model ("DSM"), which also accounts for terrestrial land cover elements, such as hedgerows and buildings was also prepared, in this model the majority of the locations where visibility is predicted would experience partial views of 1-20% of the solar arrays (within a 1km radius of the Proposed Project).

Visual Impacts were assessed at 19 viewpoints throughout the immediate and wider landscape context, representing various viewing distances, angles and receptor types. At the vast majority of these viewpoints (12 out of 19) both the pre-mitigation and residual visual effect is deemed to be in the lower range of Slight to Imperceptible, which belies the overall extent of the solar array and highlights how readily it is visually absorbed within the well vegetated and relatively flat landscape.

VP6 and VP10 (for winter views) are the only representative viewpoints classified with a residual significance of visual effect of Moderate-slight, with all other residual visual effect classified as Slight or lower. The proposed project will result in a notable truncation of views from this local context, most notably from the adjacent dwelling. Nevertheless, the proposed mitigation screen planting will full screen the view of panels here, whilst this dwelling still benefits from open views across the wider surrounding landscape to the west, which is the principal aspect of visual amenity at this dwelling.

All other representative viewpoints were classified as Slight or less, and in most cases, this is as a result of close and clear views of the proposed solar array in adjacent fields being fully or substantially screened by proposed mitigation screen planting at the road side of the nearest fields. Only the containment of the view by this planting results in the negative residual effect, but it is preferable to the close and unobstructed view of the panels. It should be noted that in all of these instances only a fraction of the overall array is actually visible prior to mitigation screen planting establishment.

It should be noted that mitigation screen planting is much more effective for close views of the proposed solar array than medium and long distance views of it. This occurs because any views of the solar array from mid to long distances tends to be on sloping ground where sections of it rise above intervening vegetation. That same characteristic renders screen planting around the perimeter of those sloping fields less effective.

Overall, the Proposed Project, whilst sizeable, is considered to be well sited in a robust part of County Wexford that is not regarded as highly rare or sensitive at a regional or national level. Indeed, the overall scale and extent of the project will never be fully perceived by surrounding receptors, due to the dispersed nature of the layout combined with the high degree of intervening vegetation. Some of the largest built structures forming part of the proposed project are set well back from the nearest surrounding visual receptors and will be barely discernible, as evidenced in the visual impact appraisal. In this regard, the proposed project is not considered to be at odds with landscape and visual policy set out in the current Wexford County Development Plan 2022-2028.

1.13 Archaeology, Architecture and Cultural Heritage

Chapter 13 of the EIAR, Volume 2, presents the findings of an archaeological and cultural heritage impact assessment on the site of the Proposed Project. The assessment is based on the Proposed Project as described in Chapter 5 of Volume 2 of the EIAR.

There are no recorded archaeological monuments within the site; the zone of notification associated with a ringfort - rath (WX040-004----) extends within the boundary of the Project site, where the MV cable traverses on its route to Array Area A.

The site was subject to archaeological assessment previously, this was in the form of a geophysical survey carried out by Donald Murphy of Archaeological Consultancy Services Unit (ACSU), under licence no. 23R0080 (refer to Appendix 13.3, Volume 3). No clear anomalies of archaeological significance were detected; however, anomalies of archaeological potential, including potential monuments (Anomalies M1–M6) were recorded that require further assessment.

This assessment includes tangible cultural heritage assets, intangible cultural heritage associations (such as folklore) as well as archaeology and built heritage.

The proposed (underground) MV cable route traverses the zone of notification associated with RMP ringfort – rath WX040-004---- (CHR13), with an indirect, negligible effect on the monument predicted due to the location of the cable trench away from the monument and the presence of an already existing farmers' lane adjacent to the monument.

Should previously unknown archaeological features be present within the site, the Proposed Project will have a direct, negative, permanent and profound or very significant effect on such remains.

There will be no effects, direct or indirect, on recorded architectural heritage as no Protected Structures or sites listed within the National Inventory of Architectural Heritage (NIAH) are located within the site.

The introduction of the Proposed Project to the area will result in no effect on the setting of any Protected Structures as none are present within the site, however the proposed MV cable route traverses the zone of notification associated with a Recorded Monument, a ringfort - rath (WX040-004----; CHR13); however, following the implementation of archaeological mitigation measures and on the completion of the construction phase, the ground will be reinstated, hence there will be no indirect/visual effect.

Archaeological test trenching was conducted by Deirdre Murphy of Archaeological Consultancy Services Unit Ltd (ACSU) under excavation licence 26E0034 with the use of metal detector licence 26R0054, issued by the Department of Housing, Local Government and Heritage in consultation with the National Museum of Ireland.

A total of 90 trenches were excavated down to natural. In total, 1,260m of linear trenches were excavated. The test trenches targeted anomalies identified during the geophysical survey 23R0080 (Murphy Donald 2025). The natural was exposed at an average depth of 0.3m and was primarily an orangish yellow sandy boulder clay, though various colour variations of this sandy boulder clay were observed.

Seven features of low significance were recorded during the testing and corresponded with modern infilled field boundary ditches or other agricultural-related activity.

No features of archaeological significance were exposed, and as a result, the proposed development will have no known archaeological impact.

A potential direct effect on previously unknown archaeological heritage lies in the uncovering of sub-surface remains. Accordingly, the following mitigation measures will be carried out subject to the approval of the National Monuments Service (NMS) of the Department of Housing, Local Government and Heritage (DHLGH), and further mitigation may be sought by the NMS:

- Archaeological monitoring of groundworks will be undertaken by an experienced, licence-eligible archaeologist working under licence from the DHLGH. Accordingly, no ground disturbance will take place in the absence of the Archaeologist without his/her express consent. Should any significant archaeological features be discovered, further archaeological mitigation may be required, such as preservation by record. Any further mitigation will require approval from the NMS.
- Adequate time and resources will be provided by the developer for the resolution of any archaeology identified within the development site during the construction phase and which will be directly impacted by groundworks. Time and resources will also be allowed for any post-excavation work and specialist analysis necessary following any archaeological excavation that takes place.
- A report is required to be compiled on completion of any archaeological monitoring and/or excavation and will be submitted to the relevant authorities.

The residual impacts are likely to be neutral and none to imperceptible if the mitigation measures are implemented.

1.14 Roads, Traffic and Transportation

Chapter 14 of the EIAR, Volume 2, presents an assessment of the likely roads, traffic and transportation effects of the Proposed Project. The assessment is based on the Proposed Project as described in Chapter 5 of Volume 2 of the EIAR.

This chapter sets out the existing conditions of the receiving environment and details the traffic that is likely to be generated during the construction phase of the Proposed Project, including the movements of construction materials, equipment and personnel to and from site. The assessment considers the effects upon the local, regional and national road network, and identifies measures to reduce network disruption.

The daily HGV movements will vary across the construction programme, for the purposes of undertaking the assessment of likely significant effects, the worse-case level of daily construction movements has been assumed. This equates to 26 HGVs accessing the site over a 12-hour period (07:00 to 19:00), which would generate an additional 52 HGV movements on the road network accounting for two-way trips. The forecast average daily HGVs across the construction phase is 14 HGVs (28 two-way HGV movements).

The L4030 between the L40232 and the L4023 will be locally closed (with a rolling road closure) to through traffic for a period unlikely to exceed seven weeks during the civil works (cabling works for the grid connection). It would remain open for local or emergency access.

Consequently, planned diversion routes due to the temporary closure of the L4030 are detailed and will result in a 7.1km diversion route. The additional length of the diversion route would add approximately nine minutes of travel time onto journeys using the temporarily closed section of the L4030.

The L40232 between the L4030 and Array Area A access will be locally closed (with a rolling road closure) to through traffic for a period unlikely to exceed three weeks during the civil works (cabling works for the grid connection). The additional length of the diversion route would be up to 11km and would add approximately 13 minutes travel time onto journeys previously using the L40232 (between the L4030 and Array Area A access).

Cabling and joint bay works on the L4030 and L40232 as well as cabling between the array areas on the L4030, L80591 and the L81411-1 will require road closures.

The L80591 will be subject to cabling works linking areas in Array Area A across the L80591 carriageway width. These works will likely be undertaken in less than one day.

These road sections all feature low existing traffic volumes and as such show a relatively large proportional increase which would represent a significant effect. Section 3.20 of the IEMA Guidelines (2023) states that driver delay is only likely to be significant when traffic on the network surrounding the development is at, or close to capacity. All road sections and adjoining roads operate below capacity. Therefore, the impact of the Proposed Project on driver delay at the above road sections is assessed to be at worst minor and therefore not significant in terms of the EPA Guidelines (2022).

Driver journey times will be affected due to the temporary rolling road closures of L4030, L40232 and Unclassified Road and diversion routes will be required. Driver journey times would also be affected by a temporary road closure on L80591. The driver delay resultant from the above road closure ranges between 4 minutes and 13 minutes.

Potential roads, traffic and transportation related environmental effects during the *operational* phase of the Proposed Project have also been considered. Due to the negligible volume of road traffic associated with the operation and maintenance phase of the Proposed Project, no significant effects are anticipated as a result. Consistent with advice set out in Section 2 of the Transport Infrastructure Ireland (TII) Traffic and Transport Assessment Guidelines (May 2014) a full Traffic and Transport Assessment (TTA) is therefore not warranted in respect of the operational phase.

Cumulative effects associated with committed projects which are likely to generate traffic movements on the public road sections within the Proposed Project study area at the same time as traffic generated by the Proposed Project have also been assessed. These effects are assessed as having a Minor (Not Significant) to Major (Significant) impact. A Construction Traffic Management Plan has been prepared and is included as an appendix to the Construction Environmental Management Plan (refer to Appendix B of the CEMP, Volume 3 of the EIAR). In the context of the IEMA Guidelines (2023) and EPA Guidelines (2022) there are no significant residual roads, traffic and transportation effects predicted during the construction phase following incorporation of measures described within the Construction Traffic Management Plan.

1.15 Material Assets and Waste Management

Chapter 15 of the EIAR, Volume 2, presents an assessment of the likely and significant impacts arising from the Proposed Project on material assets and waste management. The assessment is based on the Proposed Project as described in Chapter 5 of Volume 2 of the EIAR.

During construction phase, no significant impacts are likely to utility services and utility use within the study area.

There will be no significant impacts on the availability of material assets during construction phase of the Proposed Project. For hazardous waste, the construction phase impact will be slight and not significant. For non-hazardous waste, the construction phase impact will be profound and significant.

During operational phase, no significant adverse impacts are anticipated on utility services. Due to minimal use and volumes of potable water and power required during operational phase, the impacts on utility use are considered as imperceptible.

The operational phase impacts on material assets for the solar/BESS infrastructure will be slight and not significant. The impacts on waste arisings and management during operational phase are also considered to be slight and not significant.

The decommissioning phase impacts for waste arisings and management, and material assets would be slight and not significant.

Following mitigation, the residual impacts for material assets and waste management will be slight and not significant.

1.16 Climate

Chapter 16 of the EIAR, Volume 2, presents the potential effects of the Proposed Project in relation to climate change. The assessment is based on the Proposed Project as described in Chapter 5 of Volume 2 of the EIAR.

This chapter considers two aspects:

- The effects of the Proposed Project on the climate, or contribution to climate change and;
- The resilience of the Proposed Project to future weather and climate conditions due to climate change.

In relation to the contribution to climate change, the chapter presents a quantitative assessment of the anticipated greenhouse gas (GHG) emissions associated with the Proposed Project and outlines recommended mitigation measures aimed at minimising adverse impacts.

Assessing the resilience of the Proposed Project to climate change is fundamentally different to the remainder of the EIAR assessment and topic chapters, as it assesses the impact of climate change on the Proposed Project receptors, as opposed to the impact of the Proposed Project on the environment. A qualitative assessment of the potential physical climate change risks to the Proposed Project has been undertaken.

Based on the carbon assessment results, the Greenhouse gas (GHG) emissions from the Proposed Project are higher during construction phase than in the operation and maintenance and decommissioning phases.

The Proposed Project's emissions are approximately 0.109% of Ireland's GHG emissions in 2024 and 0.81% of GHG emissions in 2024 from the Irish energy sector. It was calculated from the GHG assessment that a total of 58,341 tCO₂-e would be generated during the construction phase. During the operation and maintenance phase this is estimated as 2488 tCO₂-e, reducing during the decommissioning phase to 1012 tCO₂-e.

Climate resilience during construction has been scoped out of the assessment as it is considered that changes to climate in the construction period will be negligible relative to the

historical weather baseline. The construction phase is currently programmed for 2027-2030, and climate is not anticipated to have noticeably changed from the current day.

An assessment of climate resilience during the operation and maintenance phase. This assessment determines the resilience of the Proposed Project to future climate change up to its operational lifetime post-construction of 40 years, to 2070. These changes in climate may result in a range of impacts on the operation and maintenance of the Proposed Project. This assessment reviewed 13 climatic risk scenarios, with the likelihood of their occurrence ranging from very low to medium and all scenario received a significance rating of not significant. Therefore, additional design measures to enhance resilience are not required.

1.17 Major Accidents and Disasters

Chapter 17 of the EIAR, Volume 2, considers the potential for significant adverse effects of the Proposed Project on the environment deriving from vulnerability of the Proposed Project to the risks of relevant major accidents and/or disasters. This chapter considers:

- Major accidents and / or disasters that the Proposed Project may be vulnerable to;
- Whether a major accident and / or disaster occurring could result in likely significant adverse environmental impacts, and if so, what these would be; and
- Existing and proposed mitigation measures to prevent or mitigate the likely significant adverse impacts of such events on the environment.

Major accidents or natural disasters are hazards which have the potential to affect the Proposed Project and consequently have potential impacts on the environment. These include accidents during construction and operation caused by operational failure and/or natural hazards. The assessment of the risk of major accidents and/or disaster considers all factors defined in the EIA Directive that have been considered in this EIAR.

A desk-study has been completed to establish the baseline environment for which the proposed risk assessment is being carried out. This will influence both the likelihood and the impact of a major accident or natural disaster. Local context has been established prior to undertaking the risk assessment to develop an understanding of the vulnerability and resilience of the area to emergency situations. Further detail on the baseline environment is provided in Section 17.4 of Chapter 17 of this EIAR, Volume 2.

No element of the Proposed Project is an industrial activity which is subject to licencing under the Industrial Emission Directive or Environmental Protection Agency Act 1992, as amended, or recognised as a source of pollution. Similarly, the Proposed Project is not regulated, connected with or close to any site regulated under the Control of Major Accident Hazards Involving Dangerous Substances Regulations i.e., SEVESO sites.

Sources of pollution with the potential to cause significant environmental pollution are very limited due to the development type, and there is an inherent low level of environmental risk associated with major accident or natural disaster impacting the Proposed Project and causing environmental damage.

As detailed in Table 17.4 of Chapter 17, Volume 2, due to the type of development which comprises the Proposed Project, the distance from any industrial activities, the likelihood of the events occurring and embedded mitigation within the design, there is no medium or high-risk accidents or disaster which are predicted to occur during the construction or operation and maintenance phases. All potential likely accident or disasters scenarios were assessed as having an overall risk rating of Low.

It is considered that due to the embedded design and when all mitigation detailed in the EIAR, as summarised in Chapter 18, is implemented, there will not be significant residual effect(s) associated with the construction, operation and decommissioning of the Proposed Project.

1.18 Interactions of Effects

The technical Chapters 6 to 17 of the EIAR, Volume 2, identify the potential significant environmental effects that may occur in terms of the following, as a result of the Proposed Project, as described in Chapter 5 *Description of Development* of this EIAR, Volume 2.

- Population and Human Health,
- Biodiversity
- Land, Soils and Hydrogeology
- Surface water resources and Flooding
- Air Quality
- Noise and Vibration
- Landscape
- Archaeological, Architectural and Cultural Heritage
- Roads, traffic and transportation
- Material Assets and Waste Management
- Climate
- Major Accidents and Disasters

All of the potential significant effects of the Proposed Project and the measures proposed to mitigate them have been outlined in the preceding chapters of this EIAR. Mitigation measures and best practice measures for the construction, operation and decommissioning of the Proposed Project are detailed in the accompanying Construction and Environmental Management Plan (CEMP). However, for any development with the potential for significant environmental effects there is also the potential for interaction between these potential significant effects. The result of interactive effects may exacerbate the magnitude of the effects or ameliorate them or have a neutral effect.

Where any potential negative effects have been identified during the assessment process, these impacts have been avoided or reduced by design and the proposed mitigations measures, as presented throughout the EIAR.

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