

EIAR FOR POWERSTOWN BIOENERGY

Volume 2: Main body of the EIAR

Chapter 1: Introduction

Prepared for:

Greengate Biogas 001 Ltd.



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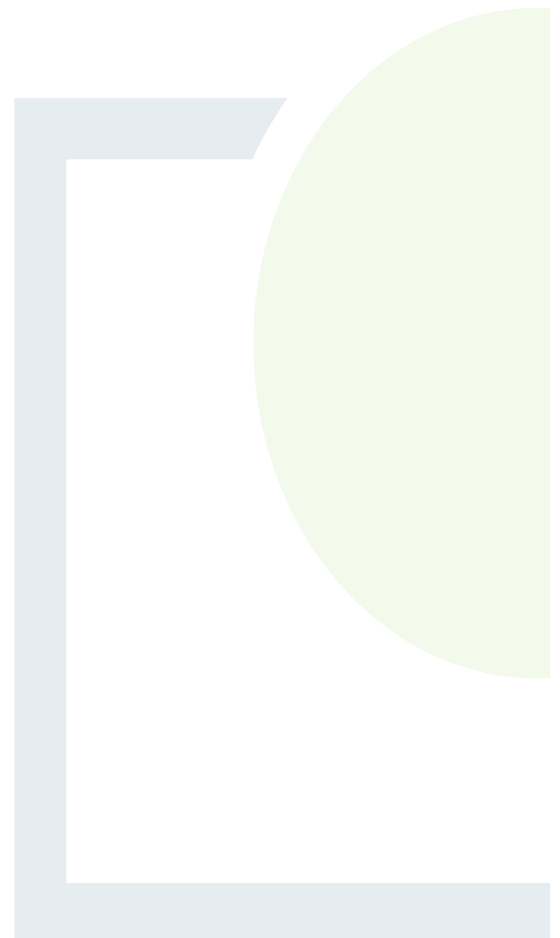


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1. INTRODUCTION

Fehily Timoney & Company (FT) has prepared this environmental impact assessment report (EIAR) on behalf of Greengate Biogas 001 Ltd. to accompany the statutory consent applications for the proposed development, Powerstown Bioenergy, at Powerstown, Milford, Co. Carlow.

Greengate Biogas 001 Limited is applying for consent for a commercial anaerobic digestion (AD) plant at Powerstown, County Carlow, referred to as the proposed development. The proposed development is designed to process up to 663,000 tonnes per annum (tpa) of agricultural residues including cattle and pig slurries, farmyard straw manures (e.g. cattle and horse) and poultry manure to produce biomethane, biogenic carbon dioxide (biogenic CO₂) and solid and liquid digestate (digestate). Greengate Biogas 001 Ltd. proposes to redevelop the site of a partially restored quarry, located in Powerstown, Milford, Co. Carlow, as Powerstown Bioenergy. A proposed gas pipeline to convey biomethane will connect Powerstown Bioenergy into the Gas Network Ireland (GNI) grid at Clogrennan, Co. Carlow. An assessment of the pipeline route is included in this EIAR for Powerstown Bioenergy. GNI will be responsible for obtaining development consent for the pipeline as a Statutory Undertaker.

The proposed development is covered by the provisions of the Renewable Energy Directive III (Directive 2023/2413) and the European Union (Planning and Development) (Renewable Energy) Regulations 2025 (as amended)

The proposed development, the proposed planning boundary and the proposed gas pipeline route are described in Chapter 3 of this EIAR.

1.1 The Applicant

The applicant for the proposed development is Greengate Biogas 001 Ltd.

Greengate Biogas 001 Ltd. is an Irish company that was established in 2024 and has been jointly developed by lead-investor Copenhagen Infrastructure Partners CI Advanced Bioenergy Fund, Atlas Renewables Limited and Energex Partners Ltd.

Ireland has a legally binding target under the Climate Action Plan (CAP) to generate 5.7 TWh of biomethane by 2030 as set out in the National Biomethane Strategy published in 2024. The proposed development will contribute 250 GWh of renewable biomethane into the national grid which is c. 4% of the national target.

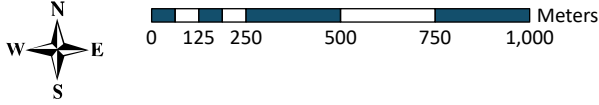
The proposed development will capture approximately 30,000 tonnes of biogenic CO₂ per annum, reducing CO₂ emissions from Irish agricultural industry.

1.2 The Site

The proposed development site, known as Mary Kelly's Pit, is located in the townland of Powerstown, Milford, County Carlow. The site covers an area of 9 hectares and is situated 2.5 kilometres north of Leighlinbridge, 6 kilometres north of Bagenalstown, approximately 2.5 kilometres northwest of Nurney village, 8.6 kilometres south of Carlow town, and 15 kilometres southwest of Tullow. A site location map is provided in Figure 1- 1. The approximate grid reference location for the centre of the site is ITM X:670572.6552 Y:668460.9604.



TITLE: Site Location Map	FIGURE NO: 1.1	
	CLIENT: Greengate Biogas	
PROJECT: Powerstown Biogas	SCALE: 1:20,000	REVISION: 0
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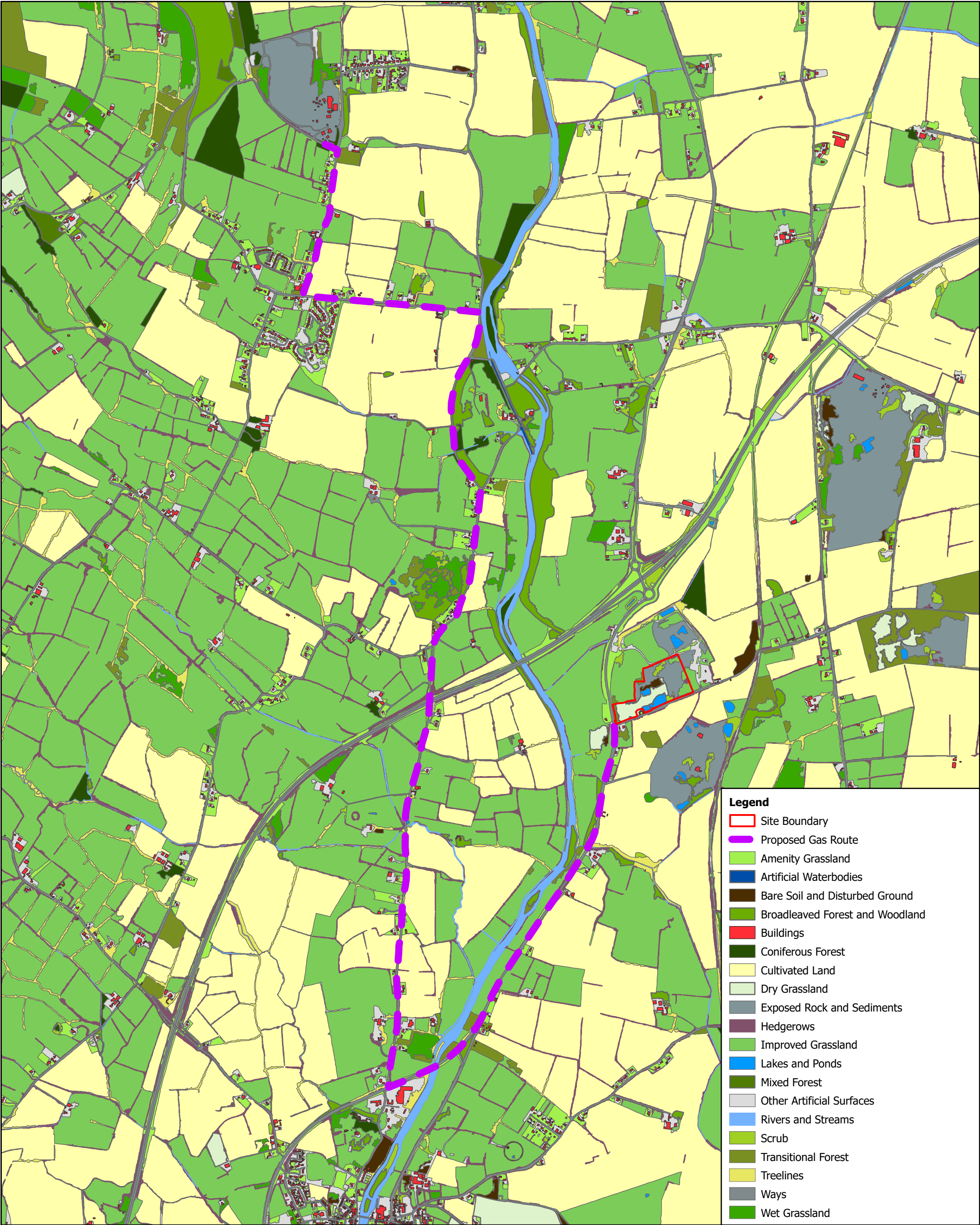


The site is operated as a quarry by Kilcarrig Quarries Ltd./Milford Quarries Ltd. and has undergone partial restoration. It has permission for the extraction of sand and gravel and import of soil and stone. There are currently low levels of activity on site, mainly reprofiling activities. The operator services small scale developers/builders. The site contains one small building and a groundwater well, with no other permanent infrastructure.

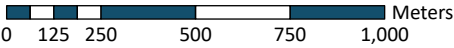
The site is located within a mixed-use landscape comprising agricultural, industrial and infrastructural activities. Figure 1-2 shows land use in the environment.

The boundary of the proposed development is Powerstown Landfill (closed) directly north, while the Powerstown Recycling Centre is situated immediately to the east. Both facilities are co-located and are operated under EPA Waste Licence No. W0025-04 by Carlow County Council. The landfill is closed and has been capped and restored as required by the EPA licence. The recycling centre is open to the public. The southern boundary of the proposed development is local road L3045 and the western boundary is regional road R448.

Beyond these, the land is mainly agricultural. To the south, there is an agricultural field and beyond that the land is primarily used for mineral extraction, with active quarrying operations by Kilcarrig Quarries Ltd. There is a quarry operated by Dan Morrissey & Co. located north east of the landfill, the boundary of which is within one kilometre of the proposed development site. A railway line (Dublin–Waterford route) is located 420 m to the east, and the R448 Regional Road is located immediately to the west. The River Barrow and agricultural land sits between the R448 Regional Road and the M9 Dublin Waterford motorway.



TITLE:	Land Use Map		
	FIGURE NO:	1.2	
PROJECT:	CLIENT:	 Greengate Biogas	
	SCALE:	1:20,000	REVISION: 0
	DATE:	28/05/2026	PAGE SIZE: A3



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The wider area surrounding the site is characterised by extensive pastureland and arable fields in all directions. The site is depressed relative to the surrounding lands, typical of a quarry. It features steep slopes along the northern and eastern boundaries adjacent to the restored landfill. A landscaping berm exists along the western boundary, providing screening from the R448. The southern boundary rises upwards toward the L3045 local road. Internally, the site topography is defined by irregular stockpiles and infilling in the eastern portion, associated with the permitted soil recovery activity. The western portion of the site has been restored to grassland slopes gently from west to east, with the lowest point located centrally along the northern boundary.

The site is enclosed by perimeter fencing on the southern boundary, and tall slopes with hedge lines to the west and north and east. The site is accessed via two entrance points off the L3045, which connects to the R448 Regional Road. The western entrance, located approximately 100 metres from the R448 junction, was historically used for quarry operations. There is a property with associated out-buildings located adjacent to this entrance, within the boundary and ownership of the existing quarry. This will not be included within the proposed development boundary. This entrance is not used for current operational activities related to the quarry and soil recovery facility. The eastern entrance, located approximately 300 metres east of the western entrance, is the primary quarry operational access point. It is secured by fencing and a gate and includes a wheel wash facility.

Sensitive receptors in proximity to the site include residential properties and the River Barrow and River Nore Special Area of Conservation (SAC), the boundary of which lies approximately 20 meters west of the site. The River Barrow itself is located approximately 300 metres west. The site is adjacent to EPA-licensed facilities including the Powerstown Landfill and Recycling Centre (Waste Licence No. W0025-04) and is subject to planning and waste facility permit authorisations. There are no other known environmental or planning designations directly affecting the site. There are residential properties along the L3045 and the R448 which are sensitive receptors identified in Chapter 8 and Chapter 10 of this EIAR.

The quarry walls and existing vegetation provide natural screening, which will largely conceal the proposed development from surrounding viewpoints.

The EIAR also includes an assessment of the proposed gas pipeline route in the townlands of Powerstown, Orchard, Ballynaboley, Rathvinden, Glebe, Rathornan, Tomard Upper/Lower, Ballygowan, Ballinabranagh, Fonthill and Raheendoran all in County Carlow.

1.3 The Proposed Development

In accordance with Section 37E of the Planning and Development Act 2000 (as amended), Greengate Biogas 001 Ltd. gives notice of its intention to make an application to An Coimisiún Pleanála (the 'Commission') for permission for development comprising the construction and operation of an anaerobic digestion facility at Powerstown, Milford, Co. Carlow.

The proposed development is covered by the provisions of the Renewable Energy Directive III (Directive 2023/2413) and the planning application is subject to a completeness check under section 37JA of the Planning and Development Act 2000 (as amended). The proposal is considered a 'Renewable Energy Development' under the definition introduced by S.I. 274 of 2025 into Section 2 of the Planning and Development Act 2000, as amended. When a notice issues in accordance with section 37JA(b), the provisions of Article 26A of the Planning and Development Regulations 2001 to 2025 shall apply.



The proposed development is an anaerobic digestion facility for the production of 250 GWh per annum of renewable natural gas and biogenic liquefied carbon dioxide from agricultural residues, including liquid farmyard manures and solid farmyard manures, collectively referred to as 'feedstocks'. The application seeks a planning permission that has a duration of 10 years from the date of grant. The proposed development will consist of the following:

- 2 no. site entrances off L3045, and a Weighbridge and Weighbridge Office (Gross Floor Area {GFA} 20 sqm, 3.85 m high).
- Circulation Yard (33,000 sqm) including: a Liquids Reception Building (GFA 735 sqm, 9.25 m high); a Solids Reception Building (GFA 2,386 sqm, 14.25 m high); a Solid Digestate Building (GFA 1,160 sqm, 12.85 m high); an Administration Building (GFA 459 sqm, 5.45 m high with a roof access area at 7.15 m high); a Heating Centre (GFA 1,314 sqm, 15.45 m high), with an exhaust stack (20 m high); 2,200 sqm of roof mounted solar panels on the Heating Centre, Administration Building, Liquids Reception Building and Solids Reception Building; and an Odour Abatement System including a stack (651 sqm, stack 35 m high).
- Bunded Tank Farm (19,075 sqm) including: 6 no. Primary Digesters (28.3 m high); 3 no. Secondary Digesters (28.3 m high); 1 no. Tertiary Digester (18 m high); 1 no. Post Digestion Liquid Digestate Storage Tank (21 m high); 1 no. Liquid Pre-Storage Tank (21 m high); 1 no. Digestate Storage Tank (17.6 m high); 3 no. Pasteurisation Tanks (11.9 m high); and Tank Farm Building (GFA 410 sqm, 5.5 m high).
- Gas Upgrade Area including: a Desulphurisation Plant (10.75 m high); a Gas Upgrade Plant (24.0 m high); a CO₂ Liquefaction plant (13.9 m high); a Biomethane Network Entry Facility (147 sqm, containers 2.975 m high, infrastructure 5.175 m high); and 2 no. Gas Flares Units (11.1 m stack height).
- Drainage Infrastructure and a Storm Water Lagoon (5,733 sqm).
- 1 no. Digestate Loading Tank (3.5 m high); 2 no. Buffer Storage Tanks (5.75 m high); and 2 no. Process and Fire Water Storage Tanks (4.6 m high).
- 2 no. ESB Substations (20 kV substation and a 38 kV substation).
- Ancillary Infrastructure including Storage of Chemicals; Process and Fire Water Supply; Site Security; Lighting; Landscaping; and Car Parking (48 no. spaces).

An Environmental Impact Assessment Report (EIAR) and a Natura Impact Statement (NIS) have been prepared in relation to the project and accompany the planning application. The proposed development comprises an activity requiring an Industrial Emissions licence from the Environmental Protection Agency. The proposed development will be classified as a Lower Tier Control of Major Accident Hazards (COMAH) establishment and therefore falls under the scope of S.I. No. 209 of 2015 Chemicals Act (Control of Major Accident Hazards involving Dangerous Substances Regulations 2015).

The EIAR and NIS have been prepared in respect of the construction, operation and, decommissioning of the project, including a gas pipeline for which permission is not being sought. The gas pipeline route is 9.6 km from the anaerobic digestion facility (for which permission is being sought) to an existing Above Ground Installation at Clogrennanne Lime Works, in the townland of Raheendoran, Co. Carlow. The gas pipeline route traverses the following townlands: Powerstown, Orchard, Ballynaboley, Rathvinden, Glebe, Rathornan, Tomard Upper/Lower, Ballygowan, Ballinabranagh, Fonthill and Raheendoran, all of which are within Co. Carlow.



1.4 Planning History of Existing Development

The planning history of the site has been researched on Carlow County Council's planning portal with reference to the An Coimisiún Pleanála website. The available planning history dates from 2001 to 2024.

A review of the online planning records is described in the following sections. These records provide an overview of the sequential consented development for the site between 2001 and 2024.

Section 1.4.6 provides details on the waste authorisation for the site.

1.4.1 Planning Permission P01/300, ABP (PL01.129838) 2001 (9.19 ha)

Project: Extract and Process Sand and Gravel, Powerstown, Co. Carlow

Planning Ref.: P01/300, ACP (PL01.129838)

Authority: Carlow County Council and An Coimisiún Pleanála

Outcome: Carlow Co. Co. issued Notification of Decision to Grant dated 30th April 2002. On appeal An Coimisiún Pleanála (formerly An Bord Pleanála) granted permission subject to 31 no. conditions.

Description: Kilcarrig Quarries Ltd. applied for planning permission in May 2001 to extract and process sand and gravel on 9.19 ha of lands at Powerstown for a maximum period of 6 years. This application involved the creation of a new site access directly to Local Road, L3045. Carlow County Council issued a notification of its decision to grant permission dated 30th April 2002. In January 2003, following a third-party appeal the development was approved by An Coimisiún Pleanála subject to conditions. Condition 2 required the cessation of the use of the quarry pit within 5 years of the date of permission. Condition 3 required a restoration and landscaping plan prior to commencement. Condition 5 required all topsoil and overburden to be removed was to be spread over the work surface or backfilled. Condition 8 (1) Excluded the crushing of sand & gravel at the site. Condition 11 required no filling material to be imported on site.

This is an older application and mapping is not available online.

1.4.2 Planning Refusal P11/105 in 2011 3.93 ha

Project: Continuance of use of 3.93 ha of quarry including stockpiling, screening and washing plant and retention of existing entrance, wheelwash, haul route and settlement lagoon at Powerstown, Co. Carlow

Planning Ref.: P11/105

Authority: Carlow County Council

Outcome: Carlow Co. Co. issued Notification of Decision to Refuse dated 13th June 2011. Reason for refusal " it is considered that the proposed development comprising of the part retention of a scheme that is unauthorised in its entirety and for which permission cannot be granted in accordance with the terms of the European Court of Justice decision Case Number C-215/06 and Circular PD 6/08 and would constitute haphazard development, would seriously injure the amenities and be contrary to the proper planning and sustainable development of the area".



Figure 1-3: Planning Boundary P11/105

1.4.3 Planning Permission P11/206 in 2011 (2.41 ha)

Project: Retention of Extracted Quarry and Extraction of Sand and Gravel, Powerstown, Co. Carlow

Planning Ref.: P11/206

Authority: Carlow County Council

Outcome: Carlow Co. Co. issued Notification of Decision to Grant dated 17th January 2012 subject to 37 no. conditions.

Description: In August 2011, Kilcarrig Quarries Ltd. applied to Carlow County Council for planning for the retention of 0.26 ha of extracted quarry, previously authorised entrance, wheel wash, haul route and settlement lagoon. Planning permission was "also sought to extract sand and gravel in a 1.25 ha area, along with the relocation and erection and operation of previously authorised plant on a total site area of 2.41 ha".

The Assessment in the Planners Report dated 17/01/2012 as it pertains to 'Traffic' states the following: "Estimated traffic volumes are a maximum of 10 trips per day each way. Given the location of the entrance to the site on the L3045 road a distance (i.e. approx. 100m) from the Regional Route R448 (formerly N9), it is considered that the volume of traffic would be acceptable. In arriving at this conclusion, the road and traffic safety issues have been considered, and the Director of Services for Roads and Transportation has stated that he has no objections subject to the application of conditions and any observations or conditions by the Area Engineer. The area Engineer has reported no objections to the proposed development."

A key condition of planning (No. 27) required that the haulage of materials would be limited to the R448 and junction with L3045. Condition No. 27 states the following: "Any vehicle under the control and contracted to the developers, shall only access or exit the site from the R448 via the junction County Road L3045 between the site entrance and the R448. The developer shall include this stipulation, as a condition in all haulage, transport and construction contracts. Reason: It is considered appropriate that heavy goods vehicles use the junction with adequate signage, road markings and public lighting in the interest of traffic safety and the proper planning and development of the area."



On 17 January 2012, Carlow County Council granted planning permission subject to 37 no. conditions. The planning boundary is shown by the black line in the following figure.



Figure 1-4: Planning Boundary P11/206

1.4.4 Planning Permission P13/187 in 2013 (1.98 ha)

Project: Provide Internal Haul Route and Extract and Process Sand and Gravel, Powerstown, Co. Carlow

Planning Ref.: P13/187

Authority: Carlow County Council

Outcome: Carlow Co. Co. issued Notification of Decision to Grant dated 17th February 2014.

In July 2013, Kilcarrig Quarries Ltd. (Planning Ref.: P13/187) applied to Carlow County Council for planning permissions for an internal haul road, to extract sand and gravel with dry screening and to retain an existing wheel wash at a site (1.98 ha in area). The application sought permission "to carry out restoration work over most of the site (i.e., the 1.98-hectare site) and to re-shape and restore part of the overall 9.19-hectare site so that the ground levels over the 4.792-hectare infill area (i.e., the soil recovery facility) will be closer to the original ground levels".

On 17 February 2014, Carlow County Council granted planning permission, subject to 32 no. Conditions including the requirement for a waste facility permit (see Section 1.2.1.5). Permission was granted for excavation of sand and gravels with direct export off site (no mechanical screening, crushing or washing of material on site). At planning application stage, the extraction capacity was estimated by the applicant at 250,000m³/400,000 tonnes. The market estimate at the time (as per application) was c 80,000 tonnes per annum over 15 years. Based on information from the site operator, the current levels of extraction and import are much lower than permitted. This permission expires on 16th February 2029. The planning boundary is shown by the blue line in the following figure.



Figure 1-5: Planning Boundary P13/187

1.4.5 Planning Permission PL01.320180 2025 (4.84 ha)

Project: Change of Use from Quarry to Recovery Activities, Powerstown, Co. Carlow

Planning Ref.: 23/60263 (PL01.320180)

Authority: Carlow County Council

Outcome: Carlow Co. Co. issued Notification of Decision to Grant dated 9th July 2024. On appeal An Coimisiún Pleanála granted permission subject to conditions.

In November 2023, Milford Quarries Ltd. (Planning Ref.: 23/60263) applied to Carlow County Council for planning for the following, as outlined in the Planning Application cover letter (7 November 2023):

"Change of use from quarry to recovery activities, over a total area of 4.84-hectares, comprising:

- The infilling of lands as a soil recovery facility with inert waste consisting of suitable uncontaminated soil & stone and dredging spoil, to improve land for agricultural use (i.e., 4.792-hectare area, total net import of 199,500 tonnes over 8 years);
- An Administration Area (i.e., 0.048-hectare area), to include a site hut/site office and portable chemical toilet; and
- All associated site works and services required to facilitate the development.
- A Natura Impact Statement (NIS) has been prepared in respect of the proposed development and will be submitted with the application an internal haul road, to extract sand and gravel with dry screening and to retain an existing wheel wash at a site (1.98 ha in area)".

In July 2024, Carlow County Council granted planning permission subject to 26 no. Conditions. The case was appealed to An Coimisiún Pleanála and the board upheld the Carlow County Council decision on 19 May 2025 and granted permission with revised conditions. The applicant has not yet commenced development in accordance with this planning permission. The boundary is shown by the blue line in the following figure.



Figure 1-6: Planning Boundary 23/60263 (PL01.320180)

1.4.5.1 Incomplete planning applications

Between 2013 and 2023, there are 5 no. incomplete applications for planning consent (relating to Mary Kellys Pit) listed on Carlow County Council Planning viewer. For the record, they are:

- 13/155 July 2013
- 13/170 July 2013
- 23/27 February 2023
- 23/72 April 2023
- 23/174 October 2023

1.4.6 Waste Facility Permit (WFP) - Granted 2022

In April 2022, a Waste Facility Permit: WFP-CW-22-001-01, was granted by Carlow County Council in respect of site restoration activities at Mary Kelly's Pit in Powerstown. The permit is for:

- Class 5 recovery of excavation or dredge spoil, inert waste of <200,000 tonnes (dredging spoil 17 05 06 and soil and stones 17 05 04)
- Class 6 recovery of inert waste excluding above <50,000 tonnes (17 05 04 soil and stones)

The waste facility permit will expire on 6 April 2027. The total permitted import volume over the 5 year lifetime of the waste facility permit is 52,000 tonnes. The actual import volumes are lower than the limit imposed by the waste facility permit.

A revised waste facility permit will be required in respect of the latest planning permission (23/6023) if the operator wishes to invoke the permission.

The Applicant is seeking permission for a change of use, to cease quarrying and restoration works and to develop Powerstown Biogas on the site.



1.4.7 Wayleave

There is a right of way registered on the land folio for the proposed development site and this is shown in Drawing No. P24188-FT-XX-XXDR-CE-0101 Site Location Map in Volume 4 of this EIAR.

This right of way benefits lands now owned by Carlow County Council but has not been used for upwards of 26 years. This right of way is fenced off and no longer possible to be traversed for purpose of accessing the Carlow County Council lands due to the topography of the quarried land. The landowner's solicitor is currently liaising with Carlow County Council to have this burden removed from the Folio in light of fact that it is not used.

1.5 Application and EIA Process

1.5.1 Requirement for Competent Authority to Conduct an EIA

The European Union Directive 2014/52/EU (amending Directive 2011/92/EU) on the assessment of the effects of certain public and private projects on the environment, requires Member States to ensure that a competent authority carries out an appraisal of the environmental impacts of certain types of projects, as listed in the Directive, prior to development consent being given for the project. Throughout this EIAR, Directive 2011/92/EU, as amended by 2014/52/EU, on the assessment of the effects of certain public and private projects on the environment, shall be referred to collectively as “EIA Directive, as amended”.

With respect to waste-related projects, the EIA Directive, as amended, requires that an EIA is required in relation to applications for development consent. Article 4(2) of the EIA Directive, as amended, stipulates that Member States are responsible for setting applicable thresholds in respect of EIA.

The requirement for EIA of certain types of proposed development is transposed into Irish legislation under the Planning and Development Acts, 2000 to 2025 and the Planning and Development Regulations 2001 as amended (the “2001 Regulations”).

This EIAR was prepared to accompany a development consent application to An Coimisiún Pleanála under Section 37E of the Planning and Development Acts 2000 as amended. Powerstown Bioenergy is a development specified in the 7th Schedule of the Planning and Development Acts 2000 as amended and which satisfies conditions (a) and (b) of Section 37(A)2 of the same Acts, that is Strategic Infrastructure Development (SID). Under the Acts an EIAR must accompany the application.

The EPA is also a competent authority for EIA. For Integrated Pollution Control (IPC), Industrial Emissions (IE) and Waste licence applications, where the activity is also a project which requires EIA, the Agency must conduct an assessment of the application for the purposes of EIA as respects the matters that come within the functions of the Agency. For this reason, this EIAR accompanies the IE licence application for the proposed development.

The requirement for the EPA as a competent authority to undertake EIA for relevant developments is further detailed under the European Union (Environmental Impact Assessment) (Environmental Protection Agency Act 1992) (Amendment) Regulations 2020:

“5. Section 83(2A) of the Act of 1992 is amended –

(b) by the insertion of the following paragraphs after paragraph (b):



(ba) Where the Agency receives an application for a licence in respect of an activity relating to development or proposed development referred to in paragraph (c)(ii) the Agency shall require the applicant for a licence to provide it with information on the characteristics of the activity and its likely significant effects on the environment.

(bb) Where an applicant is subject to a requirement by the Agency under paragraph (ba) it shall -

(i) provide the information specified in Annex IIA to the EIA Directive, and

(ii) where relevant, take into account the available results of other relevant assessments of the effects on the environment carried out pursuant to any Act or under European Union legislation (other than the EIA Directive)."

1.5.2 Appropriate Assessment

In compliance with the provisions of Article 6 of the Habitats Directive, as implemented by Part XAB of the 2000 Planning Act, in circumstances where a proposed plan or project is likely to have a significant effect on a European (or Natura 2000) site, either individually or in combination with other plans or projects, an Appropriate Assessment (AA) must be Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive) provides legal protection for habitats and species of European importance. The Directive requires that where a plan or project is likely to have a significant effect on a European site, while not directly connected with or necessary to the nature conservation management of the site, it will be subject to 'Appropriate Assessment' to identify any implications for the European site in view of the site's Conservation Objectives.

The provisions of Article 6 (3) do not apply where the proposed plan or project is 'connected with or necessary to the management of the site'. In this case, the project is not directly connected with or necessary to the management of any European site(s) and as such as assessment as to whether the project would be likely to have significant effects on European sites must be carried out.

The 'Screening for Appropriate Assessment' in the transposing national legislation: Part XAB of the Planning and Development Act, 2000 as amended and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 293/2021) as amended, concluded that in the absence of mitigation measures (which have not been considered at the screening stage), likely significant effects on the qualifying interests and special conservation interests of European sites cannot be excluded beyond reasonable scientific doubt and on the basis of objective scientific information and in light of the conservation objectives of the relevant European sites. A Natura Impact Statement has been completed in respect of the Project which assesses the potential for adverse effects on the integrity of:

- River Barrow and River Nore SAC (002162)

The assessment presented in the accompanying NIS has determined that the Project will not cause significant adverse effects on the integrity of European sites under the mitigation scenario. An evaluation of plans and projects within the ZoI shows that this Project will not contribute to any adverse effects to the River Barrow and River Nore SAC when considered alongside other plans or projects.

Therefore under the mitigated scenario, in the light of the best scientific knowledge in the field, and considering all aspects of the Project by itself and in combination with other plans or projects, it is concluded that the Project does not pose a risk of, directly or indirectly, adversely affecting the conservation objectives that support QI habitats and species of River Barrow and River Nore SAC on its own or in combination with plans or projects and will not impair the integrity of any European site. An accompanying NIS has been prepared.



1.5.3 IE Licence Application

The proposed development activity falls within the remit of the Industrial Emissions (IE) Directive (2010/75/EU), as implemented by the European Union (Industrial Emissions) Regulations (S.I. 138 of 2013), which amend the First Schedule of the 1992 EPA Act. As such, the applicant will submit an Industrial Emissions Directive (IE) licence application to the Environmental Protection Agency (EPA) in accordance with Activity Class 11.4(b)(i) of the First Schedule of the Environmental Protection Act 1992, as amended, for the anaerobic digestion of non-hazardous waste where the recovery activity has the capacity exceeding 100 tonnes per day. There is further detail in Chapter 2, Section 2.7 to support this.

1.5.4 Animal by-product consent

Stage 1 approval from the Department of Agriculture, Food and the Marine under the European Union (Animal By-Products) Regulations 2014 is required for the proposed development. An application was submitted on 27 March 2026. A stage 2 approval will be required to commence operations at the proposed development. Animal slurries are animal by-products under the above regulations.

1.5.5 Gas Safety Regulation

In accordance with the Chemicals Act (Control of Major Accidents Involving Dangerous Substances) Regulations 2015 (COMAH), which implement the Seveso III Directive, a Seveso lower tier site notification to the Health Safety Authority (HSA) for the storage of ≥ 50 t of natural gas is required. A land use planning assessment is being submitted with the planning application to An Coimisiún Pleanála who will then refer it to the HSA.

1.5.6 EIAR Methodology and Structure

An EIAR presents relevant information such that an environmental impact assessment (EIA) can be undertaken to assess the potential effects of certain development projects on the environment. The EIA process is undertaken by the relevant Competent Authority, in this case An Coimisiún Pleanála (ACP).

The primary objective of an EIA is to ensure that projects which are likely to have significant effects on the environment are assessed and impacts avoided or reduced, where possible. This assessment process aims to achieve the most sustainable and environmentally friendly integration of a development with the local environment.

Subsequent sections deal with specific environmental topics, for example, population, human health, air, water, noise, etc. These sections may involve specialist studies and evaluations. The methodology applied during these specific environmental assessments is a systematic analysis of the proposed development in relation to the existing environment.

The broad methodology framework for these assessments is outlined below and is designed to be clear and concise and allow the reader to logically follow the assessment process through each environmental topic. In some instances, more specific topic related methodologies are outlined in the relevant sections of the EIAR.



The broad format used to carry out impact assessment under each environmental topic is as follows:

- Introduction
- Assessment Methodology
- Receiving Environment
- Potential Effects
- Mitigation Measures
- Residual Effects
- Interactions
- References

The advantage of using this structure is that it is easy to investigate each environmental topic and it facilitates easy cross-reference to specialist studies undertaken in the preparation of the EIAR.

The EIAR has been prepared in accordance with guidelines listed hereunder except where specific sectoral guidance was used:

- Environmental Impact Assessment of Projects - Guidance on the preparation of the Environmental Impact Assessment Report (Directive 2011/92/EU as amended by 2014/52/EU) (European Commission, 2017)
- Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA, 2022)

Where specific sectoral guidance was used, this guidance will be listed in the relevant sections of the EIAR.

1.5.7 EIAR Methodology

The main aim of this EIAR is to provide information on the project to the public, prescribed bodies and the Competent Authority. To this end, Article 3(1) of the EIA Directive, as amended requires that significant effects are identified, assessed and described in an 'appropriate manner'. Art 3(!) states "The environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of a project on the following factors: a) population and human health; b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC; c) land, soil, water, air and climate; d) material assets, cultural heritage and the landscape; e) the interaction between the factors referred to in points (a) to (d)".

Article 5(1) sets the form – the information should be presented in an EIA Report that enables stakeholders and authorities to form opinions and to take decisions regarding the project. While there are no formal requirements concerning the format and the presentation of the report, this EIAR clearly sets out the methodological considerations and the reasoning behind the identification and assessment of significant effects.



Article 5(1) sets out what must be included as a minimum in the EIAR. Annex IV to the Directive, expands on these requirements. In short, this includes the following:

- "a description of the proposed development comprising information on the site, design, size and other relevant features of the proposed development;
- a description of the likely significant effects of the proposed development on the environment
- a description of any features of the proposed development and of any measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment
- a description of the reasonable alternatives studied by the developer, as the case may be, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the proposed development on the environment
- a non-technical summary of the information referred to in subparagraphs (i) to (iv)
- any additional information specified in Annex IV that is relevant to the specific characteristics of the particular proposed development or type of proposed development and to the environmental features likely to be affected

and

(c) takes into account the available results of other relevant assessments carried out pursuant to any Act of the Oireachtas or under European Union legislation with a view to avoiding duplication of assessments.

The additional information where relevant to the proposed development as required by Annex IV of the EIA Directive comprises the following:

1. Description of the project, including in particular:

(a) a description of the location of the project

(b) a description of the physical characteristics of the whole project, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases

(c) a description of the main characteristics of the operational phase of the project (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used

(d) an estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation) and quantities and types of waste produced during the construction and operation phases

2. A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects

3. A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the project as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge



4. A description of the factors specified in Article 3(1) likely to be significantly affected by the project: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape.

5. A description of the likely significant effects of the project on the environment resulting from, inter alia:

- a) the construction and existence of the project, including, where relevant, demolition works
- b) the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resource
- c) the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste
- d) the risks to human health, cultural heritage or the environment (for example due to accidents or disasters)
- e) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources
- f) the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change
- g) the technologies and the substances used

The description of the likely significant effects on the factors specified in Article 3(1) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the project. This description should take into account the environmental protection objectives established at Union or Member State level which are relevant to the project.

6. A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.

7. A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases.

8. A description of the expected significant adverse effects of the project on the environment deriving from the vulnerability of the project to risks of major accidents and/or disasters which are relevant to the project concerned. Relevant information available and obtained through risk assessments pursuant to Union legislation such as Directive 2012/18/EU of the European Parliament and of the Council (1) or Council Directive 2009/71/Euratom (2) or relevant assessments carried out pursuant to national legislation may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.

9. A non-technical summary of the information provided under points 1 to 8.

10. A reference list detailing the sources used for the descriptions and assessments included in the report.”



1.5.7.1 *Assessment Methodology*

Specific topic related methodologies are outlined in each Chapter. This includes the methodology used in describing the existing environment and assessing effects. The study area may vary for each specific topic and is therefore set out in each individual chapter.

1.5.7.2 *Mitigation Measures*

A schedule of commitments is included as Chapter 18 of this EIAR. It includes all the mitigation measures outlined in this EIAR.

1.5.7.3 *References*

Reports and data sources referenced in the preparation of this EIAR are listed in each chapter.

1.5.8 EIAR Structure

The EIAR has been structured in accordance with the European Commission's Guidance (European Commission, 2017).

Accordingly, the EIAR comprises four volumes:

- Volume 1: Non-Technical Summary
- Volume 2: Main Report
- Volume 3: Appendices
- Volume 4: Drawings

The following topics and related chapters are presented in this EIAR:

- Chapter 1: Introduction
- Chapter 2: Need for the Development and Reasonable Alternatives Considered
- Chapter 3: Description of the Existing and Proposed Development
- Chapter 4: Planning and Policy
- Chapter 5: Scoping and Consultation
- Chapter 6: Traffic and Transportation
- Chapter 7: Population and Human Health
- Chapter 8: Air Quality
- Chapter 9: Climate
- Chapter 10: Noise and Vibration
- Chapter 11: Biodiversity
- Chapter 12: Soils, Geology and Hydrogeology
- Chapter 13: Surface Water and Hydrology
- Chapter 14: Materials Assets
- Chapter 15: Archaeological, Architectural and Cultural Heritage



- Chapter 16: Landscape and Visual Impact
- Chapter 17: Interactions and Interrelationships
- Chapter 18: Schedule of Commitments

1.5.9 Assessment of Effects – Evaluation Criteria

The assessment of effects has been undertaken in accordance with best practice, legislation and guidance notes. The evaluation of significance considers the magnitude of the change and the sensitivity of the resource or receptor. Unless otherwise stated, this approach has been adopted throughout the EIAR.

The criteria for determining the significance of impacts and the effects are set out in Figure 1-7 taken from the Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA, 2022). The types of effects and their qualities are outlined in Table 1-1.

Definitions of impact, as outlined in Table 3.3 of the guidance (EPA, 2022) are included below and apply throughout this EIAR unless otherwise stated within a specific chapter.

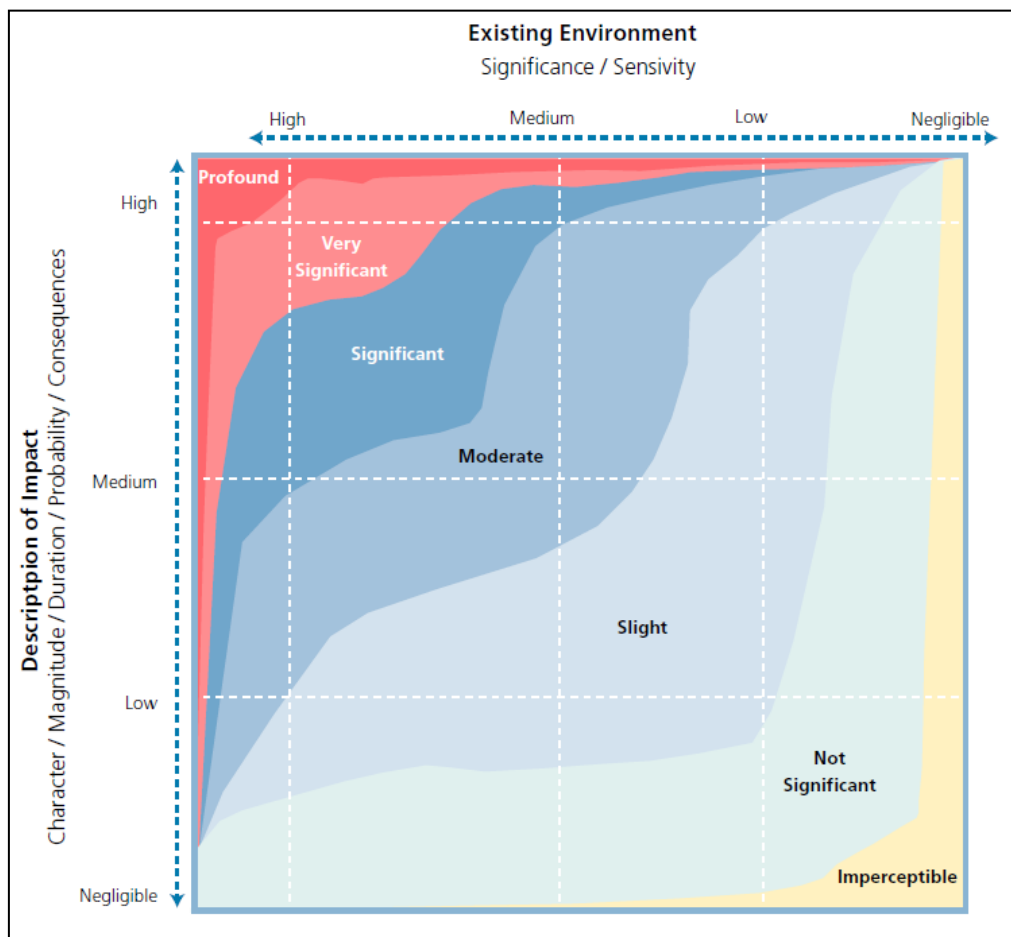


Figure 1-7: Description of Impacts (EPA, 2022)

Table 1-1 defines the quality of effects from positive to negative on the environment.



Table 1-1: Quality of Effect

Type of Effect	Quality of Effect
Positive Effects	A change which improves the quality of the environment.
Neutral Effects	No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
Negative / adverse Effects	A change which reduces the quality of the environment.

Table 1-2 outlines the descriptions of significance of effects which range from imperceptible to profound effects.

Table 1-2: Describing the Significance of Effects

Classification	Criteria
Imperceptible	An effect capable of measurement but without significant consequences.
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences.
Slight Effects	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
Moderate Effects	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baselines trends.
Significant Effects	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.
Very Significant	An effect which, by its character, magnitude, duration or intensity significantly most of a sensitive aspect of the environment.
Profound Effects	An effect which obliterates sensitive characteristics.

Table 1-3 describes the terminology used to discuss the extent and context of effects.

Table 1-3: Describing the extent and context of Effects

Magnitude	Description
Extent	Describe the size of the area, the number of sites, and the proportion of a population affected by an effect.
Context	Describe whether the extent, duration, or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?).



Table 1-4 shows how likely an impact is to occur.

Table 1-4: Describing Probability of Effect

Probability	Description
Likely Effects	The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.
Unlikely Effects	The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.

Table 1-5 discusses the duration and frequency of effects. Momentary effects lasting from seconds to minutes will often be less concerning than long term and permanent effects, depending on their severity.

Table 1-5: Describing Duration and Frequency of Effects

Duration	Description
Momentary Effects	Effects lasting from seconds to minutes.
Brief Effects	Effects lasting less than a day.
Temporary Effects	Effects lasting less than a year.
Short-term Effects	Effects lasting one to seven years.
Medium-term Effects	Effects lasting seven to fifteen years.
Long-term Effects	Effects lasting fifteen to sixty years.
Permanent Effects	Effects lasting over sixty years.
Reversible Effects	Effects that can be undone, for example through remediation or restoration.
Frequency of Effects	Describe how often the effect can occur. (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually).

Table 1-6 defines the types of effects that can potentially occur.

Table 1-6: Describing Types of Effects

Types	Description
Indirect / Secondary Effects	Impacts on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway.
Cumulative Effects	The addition of many minor or significant effects, including effects of other projects, to create larger, more significant effects.
Do-Nothing Effects	The environment as it would be in the future should the subject project not be carried out.
‘Worst case’ Effects	The effects arising from a project in the case where mitigation measures substantially fail.
Indirect/Secondary Effects	Impacts on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway.



Types	Description
Indeterminable Effects	When the full consequences of a change in the environment cannot be described.
Irreversible Effects	When the character, distinctiveness, diversity or reproductive capacity of an environment is permanently lost.
Residual Effects	The degree of environmental change that will occur after the proposed mitigation measures have taken effect.
Synergistic Effects	Where the resultant effects are of greater significance than the sum of its constituents.

1.6 Cumulative Assessment

Cumulative assessment is an assessment of the changes to the environment that are caused by activities/projects in combination with other activities/projects. The potential impact of the proposed development is assessed in conjunction with other existing or proposed developments located nearby or in the vicinity of the development in question. The potential combined environmental impacts can be accurately assessed in the event of the proposed development proceeding.

Cumulative effects are changes to the environment that are caused by an action in combination with other actions and can arise from:

- the interaction between all of the different Projects in the same area
- the interaction between the various impacts within a single Project

The co-existence of impacts may increase or decrease their combined impact. Impacts that are not considered to be significant when assessed individually, may become significant when combined with other impacts.

The requirement for cumulative assessment derives from the EIA Directive, as amended, where Annex IV requires that the EIAR should describe:

“the likely significant effects of the project on the environment resulting from... the cumulation of effects with other existing and/or approved projects taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources”.

In the context of an EIAR, cumulative effects can relate to two different aspects of a development.

Firstly, the various impacts of a particular project can interact in a manner which causes additional effects, which when taken together are greater than they appear when documented under separate topic headings.

Secondly, a project may magnify impacts already associated with other built development.

This may mean that, when a development is proposed at a greenfield location which is devoid of other significant built development, its impact is acceptable. By contrast, where it is proposed in conjunction with other development, the cumulative effect may be much greater. In some cases, the impacts of these multiple developments collectively may exceed that which is tolerable.



In terms of assessing the potential for cumulative effects in this EIAR, a review of “reasonably foreseeable” actions (EPA, 2022), approved projects and existing or approved operations was carried out. The range and nature of existing or approved projects is topic specific. The material for the cumulative assessment was gathered through a search of the following listed source. Relevant EIA documents, planning application details and planning drawings were reviewed, which served to identify the locations of existing and approved projects and projects pending a decision from the planning authority, or An Coimisiún Pleanála. The relevance of the projects was considered on a case-by-case basis in each chapter as necessary depending on the interaction and likelihood of in combination impacts.

- Carlow County Development Plan (Carlow County Council 2022)
- An Coimisiún Pleanála website and database (<https://pleanala.ie>)
- Department of Housing, Planning, and Local Government's EIAR Portal
- National Development Plan 2021-2030 (Department of Public Expenditure, NDP Delivery and Reform, 2021)
- EPA licensed facilities www.epamaps.ie

There are no existing or proposed anaerobic digestion facilities within 10 km of the proposed development boundary.

The following activities were identified for consideration in the cumulative assessment, as follows :

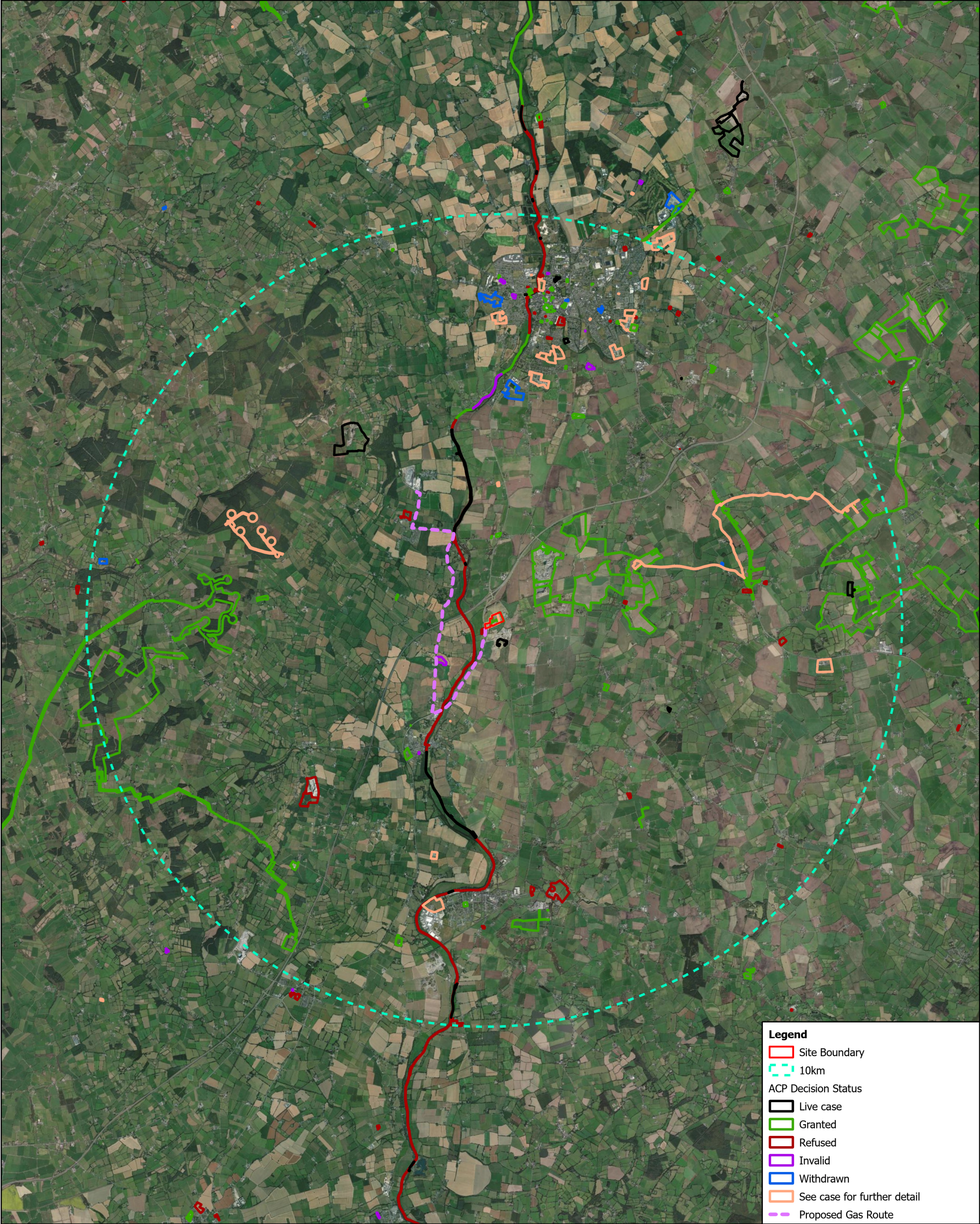
- Existing Operational Developments
 - The existing site known as Mary Kelly's Pit Kilcarrig Quarries/Milford Quarries, Powerstown EPA extractive register QS0660
 - Powerstown Landfill (closed and restored) and Recycling Centre (operational) immediately north and east EPA Licence 20025-02
 - Kilcarrig Quarries Ltd., (Ovington) Powerstown, operational quarry 300 m south and accessed off Regional Road R448 EPA extractive industries register no. QS0472. Case Reference PL01.500902, 3rd party appeal on planning authority case reference 2560436 for retention of a rock splitter and associated ancillary works.
 - Clogrennanne Lime Ltd., lime processing facility, 3.5 km north west of proposed development in Clogrennanne Co. Carlow.
 - Redrock Quarries, Clogrennan, 6km north east EPA extractive industries register no. QS0473
 - Dan Morrissey and Company, Clonmelsh 81 ha operational quarry 1 km north east and east of proposed development accessed off Local Road L3050 EPA extractive industries register no. QS0651, planning ref LQ0001 (substitute consent) /Receivers Grant Thornton, ACP planning ref 300034 (substitute consent) for quarry a Clonmelsh and Garryhundon, Nurney, Co. Carlow
 - Kilcarrig Quarries, Bagenalstown, 7.5 km south west, EPA extractive register QS0481
 - Dan Morrissey Ltd. Fenniscourt, Bagenalstown, 8km south east EPA extractive register QS0479
 - Old Leighlin Quarry, Kilkenny Limestone (Stone Developments Ltd. Sisk Group) Co. Carlow (6km), EPA extractive register no. QS0678 (also has Section 4 discharge licence DL/S4/2016/1-2)
 - Existing local road L3049, regional road R448 and junction 6 of M9 motorway 420 m north
- Consented Developments (not operational)



- Bilboa Wind Farm (5 turbines) at Boolyvannanan & Coolnakisha, Bilboa, Co. Carlow. ACP PL01.318271 grant to Boolyvannanan Renewable Energy Ltd. in 2023. Grant permission with revised conditions in 2024 (planning ref 318295). Open case on a point of detail ACP planning ref) 323639
- White Hill Wind Farm (7 wind turbines) granted by ACP (planning ref 315365) and permission for electrical substation and 8.8 km of underground electricity line granted in 2025 by ACP (planning ref 322078), approximately 7 km south west of proposed development.
- Connection of Seskin Wind Farm to the national electricity grid by an underground cable. First party appeal by EDF Renewables to ACP granted 2025 (322225) and Seskin Wind Farm for 7 wind turbines permission granted to EDF Renewables following 1st Party appeal to ACP (320354)
- Seskin Wind Farm by EDF Renewables Ireland Ltd. 7 wind turbines and all associated works in the townlands of Ridge, Agharue, Coolnakisha and Seskinrea, Co. Carlow. First Party appeal to ACP (ACP ref PL01.320453) granted November 2025.
- 100 MV battery energy storage at Kellistown East, Co. Carlow, ACP Ref 303821, Engie Developments Ireland Ltd.
- Proposed 110kV electrical substation and grid connection located within the townlands of Friarstown, Grangeford Old, Grangeford, Moanalow, Glenoge, Rathnashannagh, Inchisland Or Moatalusha, Rathtoe, Kellistown East, Ballycurragh and Kellistown West, County Carlow. Prt Solar Limited
- Ballyloo Solar Farm c 192 ha In the townlands of Ballybar Upper Ballyloo Ballyryan , Garryhundon and Linkardstown, County Carlow granted by ACP Ref 322347 September 2025. >1km from proposed development boundary to eastern boundary of solar farm.
- Solar farm at Kilcarrig, Bagenalstown granted in 2024 by ACP (planning ref 318306) to EEPV8 following a 1st party appeal. 7 km south east of proposed development
- Solar Farm at Garreenleen , Bendinstown Tinnaclash and , Ardbearn, Co Carlow by Terra Solar Ltd. 1st party appeal to ACP granted (planning ref 307891). 10 km east of the proposed development
- Electrical substation permission granted by ACP for Garreenleen Solar Farm Ltd. in townlands of Bendinstown, Gilbertstown, Kellistown East, Kellistown West, Ballycurragh, Ardbearn and Ballynunnery, Co. Carlow. Granted 2022. C 10 km east of proposed development
- Solar Farm, Ballon, Co. Carlow. 1st party appeal to ACP granted to Orsted Onshore Ireland Midco Ltd in 2026. 10 km from proposed development and adjacent to Terra Solar Ltd. consented development.
- Proposed development along the N80 known as Leagh Bends in In the Townlands of Graiguenaspiddogue, Castletown, Leagh, Ballybeg, Kilballyhue and Kilcoole, County Carlow. ACP grant 2025 (ref 321416). This is road improvement works by Carlow County Council .
- Tinyrland WWTP Planning Ref 2460332, granted 2025, demolition of old structures and construction of new and a rising main along L1023 and N80
- Elgin Energy Services Ltd., Friarstown, Co. Carlow 17.6ha solar farm, planning ref 2138, granted 2022
- Elgin Energy Services Ltd., Friarstown, Co. Carlow 68.8ha solar farm, planning ref 2149 granted 2023
- Downings, Tullow Planning Ref 2366, granted



- Developments awaiting decisions on planning consent
 - Milford Quarries Ltd. substitute consent application for a quarry in Clogrennane Co. Carlow ACP Ref FD01.324015 and ACP Ref QD01.324014. This application is in respect of Redrock Quarries (see existing operational developments) c 6 km north east of the proposed development.
 - Battery Energy Storage System, Orsted Onshore Ireland Midco Limited. First Party Appeal ACP Ref PL01.501034
 - Application to ACP for an electrical substation by Ballyloo Solar Farm Ltd. in townlands of Ballyloo, Knockbower, Linkardstown, Kilballyhue, Graiguenspiddoge, Castletown, Moyle Big, Leagh or Ballybeg, Kellistown West & Kellistown East, County Carlow. ACP Ref 45849.
 - Third Party Appeal to ACP for maintenance and repair works to The River Barrow navigation by Waterways Ireland Planning Ref PL01.322059
- Nearest Seveso Site c.7 km south Royal Oak Distillery, Bagenalstown (Lower Tier)
- IE and IPPC licenced sites located within 10km of the proposed development
 - EPA Licence 20025-02 as referenced above (adjacent)
 - EPA Licence P0400-03 Clongrennane Lime, Balinabranna, Carlow (3.5km)
 - EPA Licence P0825-01 Pig rearing unit, Moanmore, Bagenalstown, Carlow (8km)
 - EPA Licence W0284 O'Toole Composting, Fenagh, Carlow (8km)
 - EPA Licence P0222 Irish Sugar (restoration and aftercare), Carlow Town (10km)
 - EPA Licence P0185 Fair Oak Foods Ltd. Royal Oak Bagenalstown, Co. Carlow (demolished factory) (8km)
- Licensed Discharges Surface Water (Section 4)
 - Royal Oak Distillery, Section 4 Discharge DL/S4/2018/01, Bagenalstown, Co. Carlow (7km)
 - Section 4 Discharge Old Leighlin Quarry, Kilkenny Limestone DL/S4/2016/1-2, Co. Carlow (6km), EPA extractive register no. QS0678
 - Section 4 RPS04 Morrissys Quarry Clonmelsh, Co. Carlow (2km)
- Waste Facility Permits
 - WFP-CW-17-005-02 (Kilcarrig Quarries, Kilrea, Bagenalstown and EPA extractive register QS0695)



TITLE:	Planning Application within 10km of the Site			FIGURE NO:	1.3	
				CLIENT:	 Greengate Biogas	
PROJECT:	Powerstown Bioenergy			SCALE:	1:85,000	REVISION: 0
				DATE:	22/06/2026	PAGE SIZE: A3



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1.7 Contributors to the EIAR

Fehily Timoney and Company (FT) is a consultancy based in Cork, Carlow and Dublin, specialising in civil and environmental engineering, and environmental science. FT is well established as a leading consultancy in waste management in Ireland. The company has established a professional team specialising in waste management infrastructure development, particularly landfill. This team has the support of many in-house engineers and scientists.

FT has been retained by the applicant to prepare the statutory consent applications for the proposed development.

The contributors and competent experts involved in the preparation of the EIAR are referenced in each chapter as relevant. A CV for each competent expert is included in Appendix 1.1 in Volume 3 of this EIAR.

This chapter was prepared by Tanya Ruddy.

1.8 Difficulties Encountered

There were no particular difficulties such as technical deficiencies or lack of knowledge or sources of information encountered in compiling this EIAR.

1.9 Glossary

Key Term	Definition
Above Ground Installation (AGI)	AGIs are critical nodes on the network that reduce and control the pressure of the gas required at any given site where a gas pipeline enters or exits the network. As well as pressure regulators and assisted heat/temperature control, AGIs also contain specialised equipment such as filters (for gas quality), meters (for measuring usage) and control systems (for safety) making them a key asset in the delivery of gas to Irish homes and businesses (www.gasnetworks.ie).
Baseline	Existing status of the receiving environment within the Study Area.
Brownfield Site	Land that has been previously developed.
Carbon Dioxide equivalent (CO ₂ eq)	Carbon Dioxide equivalent is a metric measure used to compare the emissions from various greenhouse gases on the basis of their global-warming potential (GWP), by converting amounts of other gases to the equivalent amount of carbon dioxide with the same global warming potential
Chartered Institute of Ecology and Environmental Management (CIEEM)	The Chartered Institute of Ecology and Environmental Management is the professional membership body representing and supporting Ecologists and Environmental professionals in the UK, Ireland and abroad. Previously known as Institute of Ecology and Environmental Management (IEEM).



Key Term	Definition
Chartered Institution of Water and Environmental Management (CIWEM)	The Chartered Institution of Water and Environmental Management is an independent professional body in the United Kingdom that works internationally to advance the science and practice of water resource management and environmental resource management for sustainability.
Clogrennan, Clogrennane, Clogrenan Different spellings in various sources referenced within the EIAR	Clogrennan townland (OSI) Clogrennane Limeworks (company name) Clogrenan Formation (GSI) Also spelled with a 'h' in some sources.
Construction Phase	The phase during which the construction of the proposed scheme is taking place.
Conceptual Site Model	Represents the characteristics of a site and shows possible relationships between contaminants, pathways and receptors.
Cumulative Impact	The impact associated with more than one development
The Council	Refers to Carlow County Council
Department of Agriculture, Food and the Marine (DAFM)	The Irish government department responsible for agriculture, food and the marine.
Department of Environment, Climate and Communications (DECC) Name changed in 2025 to Climate, Energy and the Environment (DCEE)	The Irish government department responsible for the telecommunications and broadcasting sectors and regulates, protects and develops the natural resources of Ireland. The department must ensure that all of its policies are in line with EU and global obligations.
Department of Housing, Planning, and Local Government (DHPLG)	The Irish government department responsible for housing, planning and local government.
The Proposed Development Powerstown Bioenergy	Refers to all elements of the proposed development within the red line boundary
Environmental Impact Assessment (EIA)	A systematic means of assessing a development projects likely significant effects undertaken in accordance with the EIA Directive (Directive 2011/92/EU as amended by Directive 2014/52/EU). It is an assessment carried out by the Competent Authority.
Environmental Impact Assessment Report (EIAR)	A report describing the likely significant effects of a project and submitted with an application for Development Consent.
Environmental Protection Agency (EPA)	National agency responsible for protecting and improving the environment of Ireland.
European Commission (EC)	The executive body of the European Union responsible for proposing legislation, enforcing European law, setting objectives and priorities for action, negotiating trade agreements and managing implementing European Union policies and the budget.



Key Term	Definition
European Directive	A "directive" is a legislative act that sets out a goal that all EU countries must achieve. However, it is up to the individual countries to devise their own laws on how to reach these goals. One example is the EU Consumer Rights Directive (Directive 2011/83/EU), which strengthens rights for consumers across the EU, for example by eliminating hidden charges and costs on the internet and extending the period under which consumers can withdraw from a sales contract.
farmyard manure	means a mixture of bedding material and animal excreta in solid form arising from the housing of cattle, sheep and other livestock excluding poultry
Geographical Information System (GIS)	A digital system that captures, stores, analyses, manages and presents data linked to geographic location. It links spatial information to a digital database.
Greenfield Site	Land that has not been previously developed or built upon.
Landscape and Visual impact assessment	A tool used to identify and assess the likely significant effects of change resulting from a project on the landscape as an environmental resource in its own right and on views and Visual Amenity experienced by human and other receptors.
National Parks and Wildlife Service (NPWS)	The National Parks and Wildlife Service manages the Irish State's nature conservation responsibilities. The activities of the NPWS include the designation and protection of Natural Heritage Areas, Special Areas of Conservation and Special Protection Areas.
Movement (Traffic term)	Movement in one direction, i.e. in to or out of the study area by foot cycle or vehicle (see Trip)
National Strategic Outcomes (NSO)	These are goals set by the National Planning Framework (Department of Housing, 2018).
Natura Impact Statement (NIS)	This is a report prepared to inform Appropriate Assessment (AA) of projects as required under the EU Habitats Directive which presents information on the assessment of, and the process of collating data on, a project and its potential significant effects on Natura 2000 site(s) (also referred to as European Sites).
Natura 2000 sites	Sites both onshore and offshore which are designated for conservation and protection under the EU Habitats Directive and Bird Directive.
Nitrates Regulations	European Union (Good Agricultural Practice for Protection of Waters)(Amendment) Regulations 2026 - S.I. No. 119 of 2026
Operational Phase	The period over which the proposed scheme will operate, and any works are for maintenance purposes.
Ramsar site	A wetland site designated to be of international importance under the Convention on Wetlands, known as the Ramsar Convention.
Receptor	Environmental component that may be affected, adversely or beneficially, by a project / the proposed scheme.



Key Term	Definition
River Basin Management Plan	A national plan that sets out the actions (Programme of Measures and Areas for Action) that Ireland will take to improve water quality and achieve 'good' ecological status.
Special Area of Conservation (SAC)	Areas defined in the European Union's Habitats Directive (92/43/EEC) for protection of one or more special habitats and/or species terrestrial or marine.
Special Protection Area (SPA)	Sites classified in accordance with Article 4 of the EC Birds Directive (2009/147/EC). They are classified for rare and vulnerable birds (as listed on Annex 1 of the Directive), and for regularly occurring migratory species.
Species	A group of interbreeding organisms that seldom or never interbreed with individuals in other such groups, under natural conditions; most species are made up of subspecies or populations.
Statutory Undertaker	"statutory undertaker" means a person, for the time being, authorised by or under any enactment or instrument under an enactment to – (a) construct or operate a railway, canal, inland navigation, dock, harbour or airport, (b) provide, or carry out works for the provision of, gas, electricity or telecommunications services, or (c) provide services connected with, or carry out works for the purposes of the carrying on of the activities of, any public undertaking (Planning and Development Act 2000 as amended). i.e. a statutory undertaker is any public utility body who performs obligations under statutory powers, for example, ESB or GNI
t CO ₂ e /Tonnes of Carbon Dioxide equivalent	Metric measure used to compare the emissions from various greenhouse gases on the basis of their global warming potential (GWP), by converting amounts of other gases to the equivalent amount of carbon dioxide with the same global warming potential (Government of Ireland, 2025)
Trackout	The soil, dust or debris that gets carried out of a construction site on wheels or tracks of vehicles.
Trip (Traffic term)	One movement, in or out of the study area by foot, cycle or vehicle.
Uisce Éireann	Formerly 'Irish Water', Uisce Éireann are Ireland's national regulated water utility.
Water body	A discrete and significant element of surface water such as a lake, a reservoir, a stream, river or canal, part of a stream, river or canal, a transitional water or a stretch of coastal water, designated for the purposes of implementing the Water Framework Directive (WFD).
Water Framework Directive (WFD)	The Water Framework Directive 2000/60/EC is an EU Directive which commits European Union member states to achieve good qualitative and quantitative status of all water bodies.
Zone of Influence (ZOI)	The area of the receiving environment which may experience positive or negative effects as a result of a project.



1.10 Abbreviations

Abbreviation	Meaning
AA	Appropriate Assessment
AADT	Average Annual Daily Traffic Movements
AAP	Areas of Archaeological Potential
ACA	Architectural Conservation Areas
ACP	An Coimisiún Pleanála (previously An Bord Pleanála until 18th June, 2025)
AGI	Above Ground Installation
AIPP	All Ireland Pollinator Plan
AMOC	Atlantic Meridional Overturning Circulation
AOD	Above Ordnance Datum
APIS	Air Pollution Information System (
ATC	Automatic Traffic Counter
BGL	Below Ground Level
BNEF	biomethane network entry facility
BSI	British Standards Institution
CA	Competent Authority
CAFE Directive	Clean Air For Europe Directive
CAP	Climate Action Plan
C&D	Construction and Demolition
CCC	Carlow County Council
CCRA	Climate Change Risk Assessment
CDP	County Development Plan
CEMP	Construction Environmental Management Plan
CESCP	Construction Erosion and Sediment Control Plan
CGS	County Geological Sites
CH	Cultural Heritage
CIA	Cumulative Impact Assessment
CIEEM	Chartered Institute of Ecology and Environmental Management
CIViC	Critical Infrastructure Vulnerability to Climate Change
CIWEM	Chartered Institution of Water and Environmental Management
CIWM	Chartered Institution of Wastes Management
CO ₂	Carbon Dioxide
t CO ₂ e	Tonnes of Carbon Dioxide equivalent
CP	Cable Percussion



Abbreviation	Meaning
CPR	Construction Products Regulation
CPT	Cone Penetration Testing
CREAM	Calculator for Road Emissions of Ammonia
cSAC	candidate Special Area of Conservation
CTMP	Construction Traffic Management Plan
CSM	Conceptual Site Model
DAFM	Department of Agriculture, Food and the Marine
dB	Decibel
DECC DCEE	Department of the Environment, Climate and Communications Renamed in June 2025 as Department of Climate, Energy and the Environment
DEHLG	The Department of Housing, Local Government and Heritage
DM	Do Minimum
DMP	Dust Management Plan
DMRB	Design Manual for Roads and Bridges
DHLGH	Department of Housing, Local Government and Heritage, formerly Department of Housing, Planning, and Local Government
DoT	Department of Transport
DoD	Department of Defence
Drg	Drawing
DS	Do Something
DTTaS	Department of Transport, Tourism, and Sport
EC	European Commission
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EOP	Environmental Operating Plan
EPA	Environmental Protection Agency
ESB	Electricity Supply Board
ETS	Emissions Trading System
EU	European Union
EUDCF	EU Data Collection Framework
EUNIS	European Nature Information System
EVs	Electric Vehicles
FPO	Flora Protection Order
FRA	Flood Risk Assessment



Abbreviation	Meaning
FT	Fehily Timoney and Company
FYM	Farmyard Manures
GHG	Greenhouse Gas
GHGA	Greenhouse Gas Assessment
GIR	Ground Investigation Report
GIS	Geographic Information System
GNI	Gas Networks Ireland
GPS	Global Positioning Systems
GSI	Geological Survey Ireland
Gully	A ravine formed by the action of water
GWh	Giga watt hours
GWB	Groundwater Body
GWP	Global Warming Potential
GWS	Group Water Scheme
HA	Hydrometric Area
HDV	Heavy Duty Vehicles
HGFYM	High Grade Farmyard Manures
HGV	Heavy Goods Vehicles
HVO	Hydrotreated Vegetable Oil
IAQM	Institute of Air Quality Management
IEEM	Institute of Ecology and Environmental Management
IEMA	Institute of Environmental Management and Assessment
IFI	Inland Fisheries Ireland
INNS	Invasive and Non-Native Species
IPCC	Intergovernmental Panel on Climate Change
IROPI	Imperative Reasons of Overriding Public Interest
IUCN	International Union for Conservation of Nature
IWeBs	Irish Wetland Bird Survey
IWT	Irish Wildlife Trust
JNCC	Joint Nature Conservation Committee
KER	Key Ecological Receptors
Km	Kilometre
kV	Kilo Volts
KWh	Kilo watt hours



Abbreviation	Meaning
LCA	Landscape Character Area
LCT	Landscape Character Type
LGV	Light Goods Vehicles
LDV	Light Duty Vehicles
LFYM	Liquid farm yard manure
LSE	Likely Significant Effects
LCIA	Landscape and Visual Impact Assessment
LULUCF	Land Use, Land Use Change and Forestry
LVIA	Landscape and Visual Impact Assessment
MCIWM	Member of the Chartered Institution of Wastes Management
MCA	Multi Criteria Analysis
MMP	Materials Management Plan
MW	Megawatts
Million Standard Axles (MSA)	Million Standard Axles (MSA)
MV	Medium Volt
NBAP	National Biodiversity Action Plan
NBDC	National Biodiversity Data Centre
NCCAF	National Climate Change Adaptation Framework
NDC	Nationally Determined Contributions
NDP	National Development Plan
NFCS	National Framework for Climate Services
NGO	Non-government Organisation
NHA	Natural Heritage Area
NIAH	National Inventory of Architectural Heritage
NIS	Natura Impact Statement
NMP	Nutrient Management Plan
NMS	National Monuments Service
NMVOC	Non Methane Volatile Organic Compounds
NPF	National Planning Framework
NPWS	National Parks and Wildlife Services
NRA	National Roads Authority
NREAP	National Renewable Energy Action Plan
NSL	Noise Sensitive Location
NTA	National Transport Authority



Abbreviation	Meaning
O&M	Operation and Maintenance
OPW	Office of Public Works
PCZ	Pathway Consideration Zone
P&D	Planning and Development Act 2000
PHOLED	Phosphorescent organic light-emitting diode
pNHA	proposed Natural Heritage Areas
PWS	Public Water Scheme
RC	Rotary Cored
RCPs	Representative Concentration Pathways
REM	Road Emissions Model
RHAT	River Hydromorphology Assessment Technique
RNG	Renewable Natural Gas
RMP	Record of Monuments and Places
RPS	Record of Protected Structures
RSES	Regional, Spatial, and Economic Strategy
RWMP	Resource Waste Management Plan
SAAO	Special Area Amenity Order
SAC	Special Area of Conservation
SDG	Sustainable Development Goals
SEAI	Sustainable Energy Authority of Ireland
SID	Strategic Infrastructure Development
SIP	Strategic Investment Priorities
SMR	Sites and Monuments Record
SPA	Special Protection Area
SPM	Suspended Particulate Matter
SuDS	Sustainable Urban Drainage System
TII	Transport Infrastructure Ireland
TWh	Terra Watt hours
UN	United Nations
UNECE	United Nations Economic Commission for Europe
UKEA	United Kingdom Environment Agency
WFD	Water Framework Directive
WHO	World Health Organisation
WWTP	Wastewater Treatment Plan



Abbreviation	Meaning
Zol	Zone of Influence



1.11 Bibliography

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