



Anaerobic Digestion

Manual of Consenting Procedures



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Sustainable Energy Authority of Ireland

SEAI is Ireland's national energy authority investing in, and delivering, appropriate, effective and sustainable solutions to help Ireland's transition to a clean energy future. We work with the public, businesses, communities and the Government to achieve this, through expertise, funding, educational programmes, policy advice, research and the development of new technologies.

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1 Introduction

1.1 Purpose of Manual

Sustainable Energy Authority of Ireland (SEAI) Single Point of Contract Renewable Energy has produced an accompanying manual to support the online tool. It provides a more detailed overview of specific technological, legislative, and regulatory information in relation to anaerobic digestion. This manual provides guidance and assists users in navigating which consents and licenses are required for the installation, operation, maintenance, and project end procedures for anaerobic digestion projects.

It is important to note, that an anaerobic digester is unlikely to be pursued on its own and is usually accompanied by other infrastructure to either consume or refine the produced gas. This may include a Combination Heat and Power (CHP) plant. Please consult other relevant Technology Specific Manuals where applicable.

1.2 An Introduction to Anaerobic Digestion

In the dynamic landscape of sustainable waste management and renewable energy generation in Ireland, anaerobic digesters have emerged as innovative solutions that offer both environmental benefits and energy production. Rooted in the principles of harnessing organic waste, these digesters utilise a natural process to break down organic matter in the absence of oxygen, converting it into biogas—a valuable source of renewable energy. In the Irish context, where agricultural practices and waste management are intertwined, anaerobic digesters hold significant potential to address organic waste challenges while contributing to Ireland's transition to a more sustainable energy future.

The concept of anaerobic digestion involves creating controlled (oxygen free) environments where microorganisms thrive, breaking down organic materials such as agricultural residues, food waste, and sewage sludge to produce methane rich gas and digested material. By capturing and utilising this biogas, anaerobic digesters not only reduce methane emissions but also generate a renewable energy source that can be harnessed for electricity/biogas generation and heat production. Furthermore, anaerobic digestion aligns with Ireland's commitment to waste reduction and the circular economy. By converting organic waste into valuable resources—biogas and nutrient-rich digestate used as fertilizers and soil conditioner—the country moves closer to achieving waste management goals and minimising the environmental impact of waste disposal. High-purity CO₂ may also be recovered as this is stripped out of the biogas during the upgrading process to produce biomethane using a refining process. This high-purity CO₂ may be recovered as a valuable by-product in pressurised and transportable gas cylinders to be used in various applications, such as in the food and drink industry, where it is economically viable.

In the Irish context, anaerobic digesters offer multifaceted advantages. The nation's agriculture sector produces substantial amounts of organic waste. Anaerobic digesters provide an avenue to manage these waste streams sustainably, minimising their environmental impact while simultaneously generating renewable energy, which could potentially become a valuable and diversified source of income for the agricultural industry. Additionally, the biogas produced can be utilised for on-farm energy needs or injected into the national gas grid, diversifying Ireland's energy sources and reducing dependency on fossil fuels.

Despite the considerable benefits, the implementation of anaerobic digesters comes with challenges. Technological considerations, operational efficiency, and the need for proper waste feedstock management require meticulous planning. Ensuring that these digesters are integrated into existing agricultural and waste management practices while adhering to environmental regulations is a priority for Irish stakeholders and any parties seeking to undertake the development of an anaerobic digestion facility.

2 Design and Construction Stage

During this stage, you will need to identify the relevant professional advisory team to support you in designing your project. Together you will need to consider the proposed site of the project, the technology you are interested in using, and the scale of your project and determine if the project you are proposing is feasible in that context. It is then important to develop a project plan that maps out all the stages needed to realise your project. The SEAI has published *Anaerobic Digestion for On-farm Uses – Overview*, available here, which outlines the process and may help to inform design decisions, with a focus on agricultural applications.

2.1 Feasibility and Design Phase

The design phase of an anaerobic digestion project will be guided primarily by the type of feedstock available and the available site. It is also worth considering the outcome that is desired from an anaerobic digestion installation, as the biogas produced can be used for heating purposes, electricity generation or a combination of the two (Combination Heat and Power Facility – CHP), which is typically the most common, seeing the gas combusted driving a generation plant, while capturing 'waste' heat for later use. Anaerobic digesters generally require the feedstock to be heated to accelerate the process, and thus the heat from the CHP can be used for this, enhancing efficiency, or used to heat other buildings on-site or for industrial applications.

2.1.1 Commercial Feasibility

The feasibility of an anaerobic digestion project is vital, as this will determine if the project should be pursued or not, regardless of whether it is a commercial or community-based endeavour. A potential site should be identified, taking into account matters such as land ownership and local planning restrictions, details of which can be found in the relevant local area Development Plan. Other high-level considerations such as the proximity to appropriate grid and gas network infrastructure and site access can help to inform site location considerations. In many cases, anaerobic digesters will be installed on land already owned and managed by the producer of the feedstock, however, this is not always the case.

Once a potentially suitable site has been identified, appropriate feasibility studies should be undertaken. You will need to identify the relevant professional advisory team to support you in conducting feasibility studies. The following items should be considered when examining the feasibility of an identified site:

- Site area;
- Availability and characteristics of available feedstock;
- Potential expense reductions (anaerobic digestion can offset waste disposal costs, heating, gas and/or electricity demand);
- Available land and land ownership status;
- Ground conditions;
- Existing and future grid infrastructure (including gas network if required);
- Community acceptance and buy-in;
- Public Road Access;
- Existing and planned anaerobic digestion projects in the area; and
- Proximity to sites that may be sensitive to the production or storage of combustible gas.

Local Authorities may have published information on the construction of anaerobic digestion developments in the area, which may impact planning decisions or serve as helpful guidance, however, generally there is little mention of the technology across planning legislation and guidelines.

Generally, a multi-disciplined team will be best placed to guide feasibility studies, across fields such as planning, engineering, financial consultants, developers, etc. It is then important to develop a project plan that maps out all the stages needed to realise your project moving toward design.

2.1.2 Enabling Tasks

After a potential project and site passes feasibility screening, enabling tasks must be undertaken to transition toward the planning and pre-construction phases. These tasks include:

- Land lease options / purchasing;
- Options to access the site;
- Community engagement; and
- Explore agreements for feedstock provision if required.

Some of these may take place in conjunction with the planning phase also. It is important to consider the need to community engagement early in the process. A proposed anaerobic digester in proximity to residential dwellings may encounter concerns from residents in the area for a number of reasons, including concerns about noise, impact on amenity, and odour, etc.

There may be valid concerns from residents that can then be addressed early in the process, which can help to avoid negative community interaction later in the process, as well as fostering community buy-in, and including the community in the process before any statutory requirements.

Often there can be misconceptions about anaerobic digestion, and early engagement can assist in resolving this discrepancy. This early engagement has been shown to improve the acceptance of other renewable developments in their respective surrounding areas. Identifying key public stakeholders and community leaders is an important task to undertake as early as practicable.

2.1.3 Design

In order to progress forward with a planning application to the relevant authority, sufficient design must take place. Designing an onshore wind installation will require a multidisciplinary team, including a planning consult, community liaison specialist, engineers, ecologists, among other positions, to ensure that the development is designed in way that is cognisant of the complexities of the undertaking. However, smaller projects may not require as large a team, as the development may not be as complex.

The design of an anaerobic digester should be guided by best practice. Local authorities may have guidance also; however, this is more uncommon.

2.2 Planning

With regards to anaerobic digesters and the planning system, there is no direct legislation covering their development. For this reason, the proposed development of an anaerobic digester of any size must be consented for by the Local Authority. There is no scale at which the project would qualify to be classed as a Strategic Infrastructure Development (SID) (which is consented for by An Bord Pleanála), however, there may be other aspects of a proposed development that may trigger an SID, such as exceeding 200 tonnes of gas storage on site, however this is unlikely to occur.

2.2 Grid Connection

2.3.1 Gas Networks Ireland

To supply natural gas, it is necessary to first apply for a Natural Gas Supply Licence using the Commission for the Regulation of Utilities (CRU) <u>application form</u> (refer to the <u>guidance document</u> for further information on the process). Information on fees can be found on the <u>CRU website</u>.

Prior to injecting biogas created from anaerobic digestion into Gas Network Irelands (GNI) gas network, the gas will first need to be refined to remove any gases (e.g., carbon dioxide (CO₂), ammonia (HH₃), hydrogen sulphide (H₂S), etc.,) other than the target methane produced. Only then may it be injected into the gas distribution network.

To connect to the GNI for any potential gas generation projects contact the GNI at: renewablegas@gasnetworks.ie, and an enquiry form obtained, completed and returned. GNI will then assess the feasibility of the application, over a six-to-eight-week period. After this assessment, if the project is deemed viable the proposer will need to submit a formal application with a Planning reference and pay a charge (currently €10,000 (+ VAT) to get connection to the gas network formally approved.

2.3.2 EirGrid

Depending on the scale of your project, one or more of the following Grid Connection Offers / Electrical Licences (**Sections: 0 to 2.3.2.13**) will be required from EirGrid (the Transmission System Operator). Prior to construction, a Grid Connection Offer must be obtained, which will allow for a generator to be connected to the national grid, to supply energy. It is important to note that to secure a grid connection offer, a project requires planning permission in advance of submitting a Grid Connection Application.

2.3.2.1 Mini-Generation Grid Connection Offer

Mini-Generation grid connections are for small scale electricity generation primarily for self-consumption and is defined as a source of inverter connected electrical energy and all associated equipment, in the following ranges:

- Greater than 25 A up to and including 72 A 1 at low voltage [230 V] (2), when the Distribution System Operator (DSO) network connection is single-phase; and
- Greater than 16 A up to and including 72 A at low voltage [230 V/400 V] (3), when the DSO network connection is three-phase.

Where multiple generating sources [of the same or varied technologies] are on the same site and share access to the same DSO network connection point, the aggregate rating shall not exceed:

- 72 A 4 single-phase at low voltage, when the DSO network connection is single-phase; and
- 72 A per phase at low voltage, when the DSO network connection is three-phase.

The Mini-Generation process shall require an application for connection to ESB Networks (the DSO), whereupon a network study shall be carried out locally by ESB networks and the conditions for connection advised in the Connection Offer. For installations in existing premises, the customer shall complete the Mini-Generation installation application form (Form: NC7) and provide with the application form, a Type Test Certificate from a recognised laboratory confirming compliance with I.S. EN 50549-1 for the proposed Mini-Generator and confirming the appropriate Interface Protections have been applied (see section 2.2 of ESB networks conditions).

Following receipt of application and application fee, ESB Networks shall assess the network for the proposed connection and contact the customer with any associated connection limitations or costs (where requested). No works shall progress until the conditions in the Connection Offer have been met and any ESB Networks construction work has been completed.

After installation, the installer shall carry out any relevant on-site commissioning tests to ensure satisfactory operation of the generator. Once confirmation of the installation has been received by ESB Networks (email to <u>dsominigeneration@esb.ie</u>) the connection on the DSO system can be completed. Until confirmation of the installation has been received by ESB Networks, the offered Maximum Export Capacity (MEC)¹ (and Export Limiting Scheme (ELS)², if applicable) shall not become active. The period of validity of the Connection Offer(s) shall be as stated in the Connection Offer.

¹ The Maximum Export Capacity (MEC) is the maximum capacity that you can export to the Electricity Distribution System. MIC and MEC are measured in kilo Volt Amperes (kVA). 1kVA is roughly equivalent to 1 kW in most circumstances.

² The export limitation scheme must reduce the exported Active Power to a value that is equal to, or less than, the Maximum Export Capacity within 5s; The system must be fail-safe.

2.3.2.2 Small Scale Grid Connection Offer

For Small Scale Generation connections, the Installed Generation Capacity is not permitted to be greater than the Maximum Import Capacity (MIC), and consequently the MEC cannot be greater than the MIC. If you wish for ESB Networks to assess the connection for the MEC level proposed, but where no reinforcements apply, please email: dsosmallscalegeneration@esb.ie. The MEC level proposed will be assessed and a quotation issued for the costs of any reinforcements proposed.

To make a small scale Grid Connection, an application must be made to ESB networks completing a NC8 form for inverter³ connections or a NC5 form for synchronous⁴ connections. Once the forms are emailed to dsosmallscalegeneration@esb.ie along with all required documentation (ESB networks small scale information for further detail). This will be verified for completeness, accuracy and compliance, and an invoice will then be issued for the relevant application fee. Once the invoice is paid the application can be deemed complete.

ESB Networks will then need to carry out a full technical assessment of a connection point prior to issuing a connection offer in order to ensure connection capacity is not exceeded and that grid safety, stability and reliability are maintained and to establish the nature of any upgrade works required to the system to facilitate the connection. Currently due to a high demand the average period for the connection offer documents to issue is 3 to 6 months from payment of the application fee, however, for a small number of complex applications this stage may take longer.

2.3.2.3 ECP Cat A Grid Connection Offer

The Enduring Connection Policy (ECP) process for grid connection applications is the current pathway for generators, storage, and other system services technology projects to connect to the electricity system. ECP Category A is for generation, storage, and other system services technology projects (MEC⁵ > 0.5 MW). Applications for this grid connection offer will occur in batches with application windows occurring annually. An application fee applies for projects with MEC > 500 kW (0.5 MW) which is €2,000. Successful applicants will be prioritised by largest renewable energy generation (first 25), then by planning permission grant date. Each batch application may set its' own generation priorities. A full list of all Distribution System Operator (DSO) ECP applicants is available from ESB networks.

To make a grid connection application Form NC5 should be used where an applicant has identified their specific generator manufacturer detail and would like their technical study processed using the specified data provided by the applicant. Form NC5A is a shortened version of this form and may be used where the specific generator manufacturer detail is unknown at time of application. Therefore, the technical study is completed using assumed data and the applicant is required to provide their specific data a year in advance of energisation. Fully completed application forms can be sent via email with all relevant documentation to DSOGenerators@esb.ie.

2.3.2.4 ECP Cat B Grid Connection Offer

Enduring Connection Policy (ECP) Category B is open to the following projects:

- Small projects i.e., where the MEC is greater than 6 kW/11 kW and less than or equal to 500 kW;
- DS3⁶ system services trial projects which are up to 500 kW; and
- Auto producers.

 $^{\rm 3}$ Inverters convert DC (Direct Current) to AC (Alternating Current).

⁴ Synchronous connections provide frequency support, short-circuit power for system strength and reactive power for voltage control.

⁵ The Maximum Export Capacity (MEC) is the maximum capacity that you can export to the Electricity Distribution System. MIC and MEC are measured in kilo Volt Amperes (kVA). 1kVA is roughly equivalent to 1 kW in most circumstances.

⁶ Delivering a Secure, Sustainable (electricity) System. The DS3 programme aims to ensure the secure and safe operation of the electricity system with increasing amounts of variable non-synchronous generation, such as wind and solar. To achieve this aim, the TSO needs to obtain specific DS3 system services from generators and market participants.

Applicants who have an existing application which has been received complete (along with the appropriate application fee) by the Systems Operators, will be processed throughout the calendar year. These applicants will be prioritised by when the existing application was received complete. Where any relevant details pertaining to their project have changed, the existing Applicants must submit a new application form under ECP-2.1 for the same site location (grid coordinates) and technology type. The applicants may apply to reduce their MEC.

To make a grid connection application <u>Form NC5</u> should be used where an applicant has identified their specific generator manufacturer detail and would like their technical study processed using the specified data provided by the applicant.

<u>Form NC5A</u> is a shortened version of this form and may be used where the specific generator manufacturer detail is unknown at time of application. Therefore, the technical study is completed using assumed data and the applicant is required to provide their specific data a year in advance of energisation. Fully completed application forms can be sent via email with all relevant documentation to: <u>DSOGenerators@esb.ie</u>.

2.3.2.5 EirGrid Grid Connection Offer

Projects with total export capacity of under 40 MW at a single location should initially apply to <u>ESB Networks</u> for a Distribution Connection. Projects with over 40 MW total export capacity at a single location should initially apply to EirGrid for a Transmission Connection.

When submitting a new application to EirGrid as TSO, the application must be accompanied by all supporting documentation as requested, including two signed copies of the EirGrid standard confidentiality agreement and the first instalment of €7,000 (inclusive of VAT) of the application fee. The total application fee is dependent on the size of the plant (taking into account the MEC⁷ and MIC⁸ values) and whether shallow connection works are involved in dealing with the capacity required.

For application forms for an EirGrid ECP and details of the application process, applicants should consult the <u>EirGrid</u> website, and any queries can be directed to <u>OPMO@eirgrid.com</u>.

2.3.2.6 Notification of Intention to Construct or Reconstruct, and/or to Generate Electricity from a Generation Station not exceeding 10 MW.

Under the Electricity Regulation Act 1999 (Section14(1A)) Order 2022, it is necessary to apply to the CRU prior to commencing works to construct or reconstruct and or to generate electricity from a generation station not exceeding 10 MW.

Before applying for a licence all new applicants or applicants with novel or complex applications should apply for a pre-submission meeting with the CRU. To contact the CRU for a pre-submission meeting use: licensing@cru.ie.

Prior to the meeting it would be beneficial to the applicant to review the application: <u>Generators not exceeding 10 MW application form</u>.

2.3.2.7 Licence to Generate

A Licence to Generate is a mandatory licence for anyone wishing to supply electricity to final customers (a final CRU, (Section 14(1)(b), (c) or (d) of Electricity Regulation Act 1999, as amended). This licence is a requirement all electricity generators, with generating capacity > 10 MW, as per the Electricity Regulation Act, 1999, as amended.

⁷ The Maximum Export Capacity (MEC) is the maximum capacity that you can export to the Electricity Distribution System. MIC and MEC are measured in kilo Volt Amperes (kVA). 1kVA is roughly equivalent to 1 kW in most circumstances.

⁸ The Maximum Import Capacity (MIC) is the upper limit on the total electrical demand you can place on the network system.

Before applying for a licence all new applicants or applicants with novel or complex applications should apply for a pre-submission meeting with the CRU. To contact the CRU for a pre-submission meeting use: licensing@cru.ie.

Please refer to the <u>Guidance Notes: Licence to Generate</u>, for further detailed information and the most up to date fees related to the application.

2.3.2.8 Licence to Supply

A Licence to Supply is a mandatory licence for anyone wishing to supply electricity to final customers (a final customer is defined as a customer purchasing electricity for his own use⁹), it is applied for through the CRU, (Section 14(1)(b), (c) or (d) of Electricity Regulation Act 1999, as amended).

The CRU grants, revokes and enforces these licences. The current fee for the licence to supply is €254 and can be applied for through the CRU <u>application form</u>. An Electricity Supply Licence will be valid for 15 years. For further information and details on supporting documentation please refer to the CRU Electricity Supply website: https://www.cru.ie/regulations-policy/licences/electricity-supply/

2.3.2.9 Authorisation to Construct or Reconstruct a Generating Station

This authorisation allows a person to construct or reconstruct a generating station, it is applied for through the CRU (Section 16 of Electricity Regulation Act 1999, as amended). It is an offence to construct or reconstruct a generating station for the purpose of supply to final customers without the required Authorisation. An exception to this is where the proposed generation station has a capacity of less than or equal to 1 MW.

There are two separate applications for authorisation to construct or reconstruct generating stations that are <u>less than 40 MW or exceed 40 MW</u>. If you are applying for both a Licence and Authorisation at the same time, use a Dual application form (<u>less than 40 MW</u> or <u>exceeds 40 MW</u>).

Before applying for a licence, all applicants (new or existing) <u>with novel or complex applications</u> should apply for a pre-submission meeting with the CRU. To contact the CRU for a pre-submission meeting use: licensing@cru.ie.

For further information and details on supporting documentation and most up-to-date fee requirements please refer to the <u>CRU guidance notes on the Authorisation to Construct</u>.

2.3.2.10 Wayleave Consent: Section 48 to Lay Electric Cables

Wayleave Consent: Section 48 refers to the power to lay electric cables (Section 48 of Electricity Regulation Act 1999, as amended) is granted to: lay electric cables across or under any street, road, railway or tramway, and the right to break up any street, road, railway, or tramway for that purpose. This licence is separate to other agreements such as the Road Opening Licence.

The Section 48 wayleave consent is applied for through the CRU, see section 48 application form. At present there is no application fee. It should be noted that letters of consent from the landowners in addition to a copy of their connection offer are required as part of the application. If the land that is affected is a tramway or railway, consent will also be required from CIÉ. A photocopy of the route map is also required to be submitted along with the application.

Applications should be submitted at least two months prior to when the applicant intends to use the consent. The CRU will acknowledge only fully completed applications within 10 working days of receiving them. Once the CRU acknowledge an initial application the CRU will review it, contact will be made if the CRU requires clarifications or additional information. For further information or queries related to section 48 please contact the CRU at: consentapplication@cru.ie.

⁹ Article 2(3) of the Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market in electricity (recast)

2.3.2.11 Wayleave Consent: Section 49 to Lay Electric Cables

Wayleave Consent: Section 49 refers to the power to lay electric lines (Section 49 of Electricity Regulation Act 1999, as amended), this is granted to lay lines across or under any land not being a street, road, railway, or tramway.

The Section 48 wayleave consent is applied for through the CRU, see Section 49 application form. At present, there is no application fee.

Should the electric lines be required to go through private land a yearly agreement has to be reached between the asset owner and the landowner for the duration of the project. It should be noted that letters of consent from the landowners in addition to a copy of their connection offer are required as part of the application. A photocopy of the route map is also required to be submitted along with the application. Applications should be submitted at least two months prior to when the applicant intends to use the consent. The CRU will acknowledge only fully completed applications within 10 working days of receiving them. Once the CRU acknowledge an initial application the CRU will review it and contact will be made with the applicant by the CRU wherever the CRU requires clarifications or additional information.

For further information or queries related to Section 49 please contact the CRU at: consentapplication@cru.ie.

2.3.2.12 Transmission Use of System (TUoS) Agreement

This is a mandatory agreement that is required to obtain access to TUoS and transport electricity to and/or from the generation plant through the transmission system. This is regulated under Section 14(1)(b), (c), (d) or (h) of Electricity Regulation Act 1999, as amended and Section 34 of Electricity Regulation Act 1999, as amended.

Suppliers and generators seeking to use the Transmission System will be required, prior to using the Transmission System, to enter into a TUoS with EirGrid. This agreement must be in place before a supplier or generator can participate in the Single Electricity Market (SEM).

2.3.2.13 Distribution Use of System (DUoS) Agreement

To obtain access to a distribution system and transport electricity to and/or from the generation plant through the distribution system an application must be made to ESB networks (Section 14(1)(b), (c), (d) or (h) of Electricity Regulation Act 1999, as amended and Section 34 of Electricity Regulation Act 1999, as amended). Following on from the connection application, an initial payment is required. A DUoS charge is a fee that ESB Networks charges your Electricity Supplier for use of the Electricity Distribution System. Details of Charges for Connection to the Distribution System, approved by CER, are available on the ESB Networks Website.

For further Information on the process for connection of demand customers to the distribution system please refer to: https://www.esbnetworks.ie/docs/default-source/publications/guide-to-the-process-for-connection-of-demand-customers-to-the-distribution-system.pdf?sfvrsn=9b4433f0_4

2.4 Pre-Construction

2.4.1 Renewable Electricity Support Scheme

The Renewable Electricity Support Scheme (RESS) is a government initiative that was introduced by the Department of Environment, Climate and Communications (DECC). Its primary goal is to promote the generation of renewable energy, such as wind and solar power, however bioenergy is also included, in order to help Ireland meet its domestic and European Union carbon reduction targets by the year 2030.

The scheme aims to create a more favourable environment for renewable energy projects and incentivise their development. It operates through a competitive auction system where companies involved in various renewable industries can participate.

Some of the key features of the RESS are highlighted below:

- Auction System: RESS establishes an auction system for renewable energy projects, including High Efficiency Combined Heat and Power (HECHP) electricity generation. Companies in the renewable energy sector can participate in these auctions, where they bid to provide a specific amount of renewable energy to the grid;
- 2. **Auction Quantity:** The government plans to auction off about 3,000 gigawatt-hours (GWh) of renewable energy capacity. This auctioned capacity will be allocated to bidders based on their cost-efficiency, with the most cost-efficient projects being chosen first;
- 3. **Efficiency Focus:** Unlike the previous Renewable Energy Feed-In Tariff (REFIT) scheme, which guaranteed a fixed price for electricity generated, RESS emphasizes efficiency and cost-effectiveness. Only the most efficient and cost-competitive projects will be selected through the auction process, which will drive bidding companies to offer their most competitive prices;
- 4. **Guaranteed Price:** Successful bidders in the RESS auction will be guaranteed a minimum price for their generated electricity over a 15-year period. This provides financial stability for the projects;
- 5. **Price Flexibility:** The bid price set by the participants in the auction serves as both their minimum guaranteed price and their maximum price. If a project earns more per unit of electricity than their bid price, they must pay back the excess to consumers, which helps in reducing overall energy prices;
- 6. **Inflation Handling:** Unlike some other European markets, the RESS does not index-link prices to inflation. This means that the bid price offered by providers will remain fixed for the 15-year duration of the scheme, regardless of inflation fluctuations;
- 7. **Eligibility:** Only projects with planning permission and a grid connection offer can participate in the auction;
- 8. **Diverse Supply:** RESS aims to diversify the sources of renewable energy by incorporating HECHP projects;
- Community Focus: RESS includes a provision for community-led projects, setting aside capacity for smaller players and excluding competition from larger energy corporations. This helps promote a more inclusive and diverse renewable energy landscape;
- 10. **Timeline:** At the time of writing, three RESS auctions have taken place successfully, with RESS-3 taking place in September of 2023. The indicative schedule of auctions suggests the next auction will occur in 2024.

The RESS provides solid financial stability to a renewable project, allowing for more solid private investment, by guaranteeing a financial return on investment, while simultaneously working to achieve better value for Irish electricity consumers.

The RESS relates to larger scale projects, and many anaerobic digesters (individual systems on agricultural holdings, etc.) would not compete in these auctions (projects must produce at least 500kW), however, the option remains open for larger projects.

2.4.2 Project Financing

Provided a project has achieved planning permission, a grid connection offer, and a commercial offer to sell electricity to the national grid, financing will need to be secured. There are various ways a renewable energy project can be funded, such as equity funding, bank loans, or a combination of the two. Typically, loans are required to be repaid prior to the end of the RESS fixed price, as this provides certainty for the lender, which helps to reduce the cost of borrowing through the reduced risk on investment.

The SEAI provides financial support for the provision of renewable heat, and depending on your particular project, you may qualify for this support. Please consult the following publication for more information, available here.

2.4.3 Planning Permission Amendments and Conditions

Due to the requirement of needing planning permission and a grid connection offer to successfully enter an RESS auction, followed by securing funding (your project may or may not participate in RESS auctions, and may not seek external funding), which can all take an extended period of time, there is a possibility that an amendment may be required to the consented development agreed with the Local Authority, as the design may have alterations or technological improvements.

Pre-construction, some conditions within the planning permission applied by the Local Authority or An Bord Pleanála must be sufficiently discharged (formal applications process where details requested are provided to comply), where required. This may include providing more specific details of design, or similar details. Failure to discharge planning conditions as specified by condition of a planning permission may result in enforcement action.

2.4.4 Appointment of Construction Contractors

Pre-construction, contractors will need to be appointed to carry out the delivery of the development. There are two broad categories of contracting options:

- Turnkey contracting, which sees a single company handling all anaerobic digester equipment, electrical and civil engineering works; or
- Separate contracting, where individual aspects are contracted out to specific companies.

Typically, where an anaerobic digester installation follows the turnkey route, the digester provider will lead, and sub-contract the electrical and civil engineering works to companies that would be deemed appropriate for the installation of their equipment.

Maintenance contracts are also usually agreed at this point, where required.

2.4.5 Pre-Construction Licencing

The following licences are suggested licences only. They will be updated in accordance with the approved guidance and legislation when it comes into force.

2.4.5.1 Abnormal Loads Permit (Permit for Specialised Vehicles)

A 'Special Permit' is required for any haulage vehicles which are considered to be either: Wide, Long or Heavy and travelling on the roads within the relevant County Council administrative area. These vehicles may be required when transporting larger components by road. Completed **application forms must be submitted seven days prior to commencement of the journey**.

It will be necessary to check with the relevant local authority what the current fees are for the different permit applications.

2.4.5.2 Road Opening / Closing Licence

At times, a temporary road closure is needed in conjunction with a road opening licence, or for other works. To comply with statutory requirements, **an application for a temporary road closure should be submitted eight weeks in advance** to the relevant Local Authority.

You need a licence called a 'Road Opening Licence' for any works in a public area, to dig up a public road, footpath, or grass verge, for works such as:

- Water/Sewer Connections;
- Lowering of footpaths;
- Footpath reconstruction; and
- Pipelaying.

Applications for Road Opening Licenses can be applied through the <u>MRL website</u>. You must register with Road Management Office; http://www.rmo.ie/non-registered-users.html online MRL System to apply for a Road Opening Licence.

Temporary Road Closures are on occasion required to facilitate road works. Completed **application forms must be submitted five weeks prior to the road closure** to the relevant Local Authority. Advertisement costs must be covered by the applicant.

In conjunction with the above licences the following licences should also be applied for where works take place on or near public roads or pathways; a Hoarding/Scaffolding Licence and a Signage licence. A hoarding/scaffolding licence is required to facilitate building works and to ensure safety for the public. Completed **application forms must be submitted three weeks prior to works commencing** to the relevant Local Authority. A Signage licence is also required to authorise the use of advertisement signs/structures on public roads, (also known as Directional Signs). Completed application forms must be submitted for assessment.

It will be necessary to check with the relevant Local Authority what the current fees are for the different permit applications.

2.4.5.3 Section 254 Licence (Items on Public Roads)

A Section 254 Licence applies to all appliances, cables, signs, street furniture or other items on public roads. You will need to apply to the relevant Local Planning Authority to place on, under, over or along a public road numerous items or equipment, including the following which may be relevant to an Anaerobic Digestor project:

- A fence, scaffold or hoarding;
- A cable, wire or pipeline;
- Over ground electronic communications infrastructure and any associated physical infrastructure such as A telephone pole or cabinet; or
- Any other appliance, apparatus or structure specified in regulations made by the Minister for Housing, Planning and Local Government or by an Act of the Oireachtas that requires a licence.

To apply for a licence, you will need to complete the application form and submit that form to the Planning Authority along with:

- A Site Location Map 1:2,500 scale;
- A Site Layout Plan showing location of proposed appliance(s)/apparatus(s)/structure(s);
- Drawing(s) to scale of proposed appliance(s)/apparatus(s)/structure(s);
- The appropriate licence fee;
- Copy of Insurance Confirmation indemnifying the relevant County Council against claims arising out of any accidents to persons or property;
- Written legal consent of the landowner; and
- A copy of the Site Notice.

2.4.5.4 Fire Safety Certificate

A Fire Safety Certificate is required where the applicant proposes a new building, a new building extension, material alterations to an existing building or a change of use of an existing building. The application is made through the Building Control Authority (BCA) in the local City or County Council. If the building or works complies with the requirements of Part B of the Second Schedule of the Building Regulations 1997, the BCA will issue a Fire Safety Certificate.

A Fire Safety Certificate application should be made by a Fire Safety Consultant, Architect or Engineer who is familiar with the Building Regulations and the procedure for applying for a Fire Safety Certificate. The fees for

the application vary based on the type of application required (normal, 7-day notice or regularisation application).

A valid Fire Safety Certificate application must include:

- A completed application form;
- Relevant fire safety drawings in duplicate;
- A fire safety report in duplicate;
- Site location maps in duplicate; and
- The appropriate fee.

Please refer to Part II of the **Building Control Regulations** for further information and exemptions.

2.4.5.5 Disability Access Certificate

To determine if your project requires a Disability Access Certificate (DAC), please refer to the <u>Building Control</u> (<u>Amendment</u>) Regulations 2018 Article 20D, Part 4.

It is best practice to apply for your DAC at the same time you are applying for your Fire Safety Certificate. If both applications are prepared at the same time by the same person, the drawings can be co-ordinated prior to submission. A DAC application should be made by an appropriate consultant, architect or engineer who is familiar with the Building Regulations and the procedure for applying for a DAC.

A valid DAC application must include:

- A completed application form;
- Relevant fire safety drawings in duplicate;
- A disability access report in duplicate;
- Site location maps in duplicate; and
- Providing the application is lodged at the same time as the Fire Safety Certificate application a €500 fee applies, otherwise it is currently €800 per building.

To determine if your project may be exempt from the necessity of obtaining a DAC please refer to the <u>Manual for the Reuse of Existing Buildings</u>.

2.4.5.6 Certificate of Registration

A Certificate of Registration is granted by the relevant Local Authority in area the works will be carried out. The waste activities that require a Certificate of Registration are listed in Part II of the Third Schedule of the Waste Management (Facility Permit and Registration) Regulations 2007, (S.I. No. 821 of 2007) as amended. To aid in rapid determination, if the project or development requires a Certificate of Registration please refer to the following Decision Tree which has been prepared by the Environmental Protection Agency (EPA). If you wish to apply for a Certificate of Registration, you should contact your Local Authority.

2.4.5.7 Waste Disposal Licence/Permit

Waste disposal and recovery activities in Ireland require authorisation in accordance with the Waste Management Act 1996, as amended. To determine if the activity that is being carried out requires a waste licence please refer to the EPA services. A waste licence is a single licence which deals with emissions from an activity and the environmental management of the facility. Waste licences are issued through the EPA.

2.4.5.8 Gas Pipeline Consents

Permission for the construction of a gas transmission pipeline is granted by the CRU, under Section 39A of the Gas Act 1976, as amended. Permission is required for the construction of gas transmission pipelines to connect authorised plants with the national gas grid. Once consent has been obtained to construct the

pipeline, further consents will be required from the CRU to operate the pipeline. Please note that this consent is separate from planning consents from either the Local Authority or An Bord Pleanála.

Queries relating to Section 39A Consents can be submitted via email to 39Aconsent@cru.ie.

2.4.5.9 Working in the Vicinity of the Transmission Network

Prior formal consent given by GNI is required If you are carrying out work in the vicinity of gas pipelines transmission network. This consent is required if works are being carried out within a wayleave i.e., land acquired by GNI (under the Gas Act 1976, as amended), a GNI transmission installation or within 3 m either side of a transmission pipeline or distribution strategic mains in a public roadway.

It is important to follow the process outlined in GNI's '<u>Code of Practice for Working in the Vicinity of the Transmission Network'</u>.

The code of Practice sets out the requirements and considerations for the following:

- Design;
- Construction;
- Maintenance of services and/or structures; and
- Other works in the vicinity of existing GNI gas transmission pipelines and associated installations located in both wayleaves and public roadways.

In conjunction with the consent from the GNI the following licences and notices should be applied for.

- Design and Planning consider requirements and the impacts of the proposed works;
- Notice to Commence minimum of seven days' notice prior to commencement is required;
- Request Marking out of Transmission Pipeline Route minimum three working days' notice required by GNI to mark out the transmission pipeline route;
- Observe Restrictions Observe GNI restrictions on the allowed proximity of mechanical excavators and other power tools and the measures to protect the transmission pipeline and associated installations during any works (Sections 10, 11, 12 & 13 in the Code of Practice); and
- Backfilling Contact GNI prior to any backfilling over, alongside or under the transmission pipeline and obtain GNI's agreement to proceed. GNI require two working days' notice prior to backfilling (Section 12 in the Code of Practice).

If work involves any of the following activities: trenchless techniques, piling, surface mineral extraction, land filling, demolition, blasting, pressure testing, seismic surveys, comply with the requirements in Section 14 in the Code of Practice.

2.4.5.10 Tree Felling Licence(s)

If as part of the project requirements an individual or project developer determines that there is a need for the felling of trees for the purposes of (not limited to) site clearance, safe cable installation or maintenance purposes a Felling Licence may be required. This is granted by the Minister for Agriculture, Food and the Marine provides authority under Section 7 of the Forestry Act 2014, as amended to fell or otherwise remove a tree (singular) or trees (multiple) and to thin a forest. All those involved in tree felling must ensure that a felling licence has been issued before any felling is carried out, unless they are satisfied that the felling is exempted. It is the responsibility of the landowner and or the person felling the tree to ensure that an exemption applies. A tree felling licence once granted is valid for a period of ten years and can be extended up to five further years.

Exemptions apply to the following common scenarios:

- A tree in an urban area provided it is not under a protection order;
- A tree within 30 m of a building but excluding any building built after the trees were planted;

- A tree less than 5 years of age that came about through natural regeneration and removed from a field as part of the normal maintenance of agricultural land - but not where the tree is standing in a hedgerow;
- A tree uprooted in a nursery for transplantation;
- A tree of the willow or poplar species planted and maintained solely for fuel under a short rotation coppice;
- A tree outside a forest within 10 m of a public road and which, in the opinion of the owner is dangerous to persons using the public road because of its age or condition;
- A tree outside a forest of the hawthorn or blackthorn species;
- A tree outside a forest in a hedgerow and felled for the purposes of its trimming, provided that the tree does not exceed 20 cm in diameter when measured 1.3 m from the ground;
- A tree outside a forest the removal of which is specified in a grant of planning permission;
- A tree outside a forest on an agricultural holding removed by the owner for use on that holding, provided:
 - it does not form part of a decorative avenue or ring of trees;
 - its volume does not exceed 3 m³;
 - the removal of trees for use on the farm does not exceed 15 m³ in any period of 12 months.

It should be noted that the three above exemptions do not apply in all circumstance, for example when trees are more than 150 years old or are close to certain protected structures, monuments, archaeological sites, specific environmentally sensitive areas. If you live in an urban area, you may need to contact your local authority to see if there is a preservation order on the tree. For further detail on these exemptions please refer to: Tree Felling Guidance Ireland.

Certain bodies are exempted from the requirement for a felling licence, these include but are not limited to:

- Bord Gáis (Section 27, Gas Act, 1976);
- Aer Rianta (Section 46, Air Navigation and Transport (Amendment) Act, 1998);
- ClÉ or any other railway undertaking (Section 49, Transport (Railway Infrastructure) Act, 2001);
- CIÉ (Section 15, Transport (Dublin Light Rail) Act, 1996);
- Any telephone/mobile network operator (Section 58, Communications Regulation Act, 2002);
- The ESB (Section 45, Electricity Regulation Act, 1999);
- NPWS (Section 72, Wildlife (Amendment) Act, 2000);
- Minister for Defence (Section 7, Defence (Amendment) Act, 1987);
- Inland Fisheries Act (Section 59, Inland Fisheries Act, 2010).

At present each licence application costs €20.

Further information on tree felling can be found online at https://www.agriculture.gov.ie.

Where a project involves a large area of forestry and or felling of a number of trees, this often triggers the requirement for replacement trees of suitable species or mix thereof to be planted on "bare plant-able lands" elsewhere via an Afforestation Licence (see **section 0** for further information).

2.4.5.11 Derogation Licence(s)

A derogation licence may be required when removing vegetation in preparation for tree felling/afforestation. Derogation licences are licences to disturb or interfere with protected plant and animal species. A number of plant and animal species are legally protected in Ireland. Some of these species are included in a system of

Strict Protection pursuant to the requirements of Articles 12, 13 and 16 of the Habitats Directive (92/43/EEC) and are sometimes referred to as Annex IV species. The list of Annex IV species which occur in Ireland and its waters is set out in **Table 2.1**. The European Commission Guidance document¹⁰ on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC (October 2021) should also be consulted for further information.

Table 2.1 Annex IV Species

Animals		Plant
All bat species	Dolphins	Killarney Fern
Otter	Porpoises	Slender Naiad
Natterjack Toad	Whales	Marsh Saxifrage
Kerry Slug	Marine Turtles	

2.4.5.11.1 Derogation Licence to Disturb Bats or their Breeding or Resting Places

At present there are nine confirmed resident bat species in Ireland. All bats are listed on Annex IV of the EU Habitats Directive. Under the Irish law that implements this directive, both the bats themselves and their roosts are protected, as such it is an offence to disturb or interfere with them without an appropriate licence. If any bat species is suspected to inhabit structure (e.g., trees, bat boxes, buildings, stone bridges etc.) in any area proposed for development, a derogation licence to disturb bats, their breeding or resting places may be required by the granting authority¹¹.

Even when planning permission is granted, the wildlife legislation applies. **Works which would capture or kill them, damage, or destroy their roosts or disturb them at important parts of their life cycle cannot take place without obtaining a <u>second derogation licence</u>. This licence is issued when planning permission is given under Regulation 54 of the Regulations, and strict criteria must be met before such a licence can be approved. 'Bat Mitigation Guidelines for Ireland' should also be referred to when carrying out works which may disturb them.**

2.4.5.12 Licence to Interfere with or Destroy the Breeding Places of Any Wild Animals

If you are intending to develop in an area to be known for breeding places of any wild animals, a licence 'To Interfere with or Destroy the Breeding Places of Any Wild Animals' may be required to proceed. A licence may be required by the granting authority, National Parks and Wildlife Service (NPWS) (Section 23 (5) (d) of the Wildlife Act 1976 as amended), the legislation states that any person who wilfully interferes with or destroys the breeding place or resting place of any protected wild animal, shall be guilty of an offence. See https://www.npws.ie/licences-disturb-or-interfere-protected-plant-and-animal-species for a further information.

The list of Annex IV species which occur in Ireland and its waters are set out in **Table 2.1**. The European Commission Guidance document¹³ on the strict protection of animal species of community interest under the Habitats Directive 92/43/EEC (October 2021) should also be consulted for further information.

If any Annex IV species is suspected/found to occur in an area to be developed, a derogation licence may be required. A derogation licence to disturb Annex IV species or their breeding or resting places may be

¹⁰ European Commission Guidance document. Available online at: https://environment.ec.europa.eu/topics/nature-and-biodiversity/habitats-directive-en [accessed August 2023].

¹¹ National Parks and Wildlife Service (NPWS), under EC (Birds and Natural Habitats) Regulations 2011-2021.

¹² NPWS Bat Mitigation Guidelines for Ireland. Available online at: https://www.npws.ie/sites/default/files/publications/pdf/IWM134.pdf

¹³ European Commission Guidance document. Available online at: https://environment.ec.europa.eu/topics/nature-and-biodiversity/habitats-directive.en

required by the granting authority, NPWS, under European Commission (Birds and Natural Habitats) Regulations 2011-2021. For example, otters are listed on Annex IV of the EU Habitats Directive. The Irish law that implements this directive gives strict protection to individual otters and their breeding and resting places.

Even when planning permission is given, the wildlife legislation applies. Works which would capture or kill them, damage, or destroy their breeding or resting places, or disturb them at important parts of their life cycle cannot take place without obtaining a second derogation licence. This licence is issued when planning permission is given under Regulation 54 of the Regulations, and strict criteria must be met before such a licence can be approved.

See https://www.npws.ie/licensesandconsents/disturbance/application-for-derogation-licence for a further information.

2.4.5.13 Licence to Photograph or Film a Protected Wild Animal or Bird

In general, a licence is not required for photography/filming of protected wild animals or birds provided that there will be no risk of disturbance to the breeding place of any animal, a nest containing eggs or un-flown young of any bird. However, **if you intend to photograph a protected wild animal or bird on or near the breeding place of such an animal or bird, you should apply for this licence**.

For a person to take or make photographic, video, or other pictures of a protected wild animal of a species specified in the licence, on or near the breeding place of such an animal, a licence may be issued by the Minister (Under Section 23 (6)(b) of the Wildlife Act, 1976, as amended). Applications for permissions are made on a standard application form (Licence to Photograph/Film a Protected Wild Animal) and submitted to the wildlife licence unit of the National Parks and Wildlife service.

Under Section 22 (9)(f) of the Wildlife Act, 1976 (as amended) "for a person to take or make photographic, video or other pictures of a protected bird of a species specified in the licence, or a wild bird of a species specified in the licence on or near a nest containing eggs or unflown" a licence may be issued by the Minister. Applications for permissions are made on a standard application form (Licence to Photograph or Film a Protected Wild Bird) and submitted to the wildlife licence unit of the NPWS. Animal species protected under the Wildlife Act are listed **Table 2.2** below.

Table 2.2 Current list of protected animal species in Ireland

Mammals			Amphibians	Reptiles	Fish	Invertebrates
All Bat Species	Otter	All Seal species	Natterjack Toad	Common Lizard	Basking Shark	Freshwater Crayfish
Badger	Pine Marten	All Whale species	Common Frog	Leatherback Turtle		Freshwater Pearl Mussel
All Deer Species	Red Squirrel	All Dolphin species	Common Newt			Kerry Slug
All Hare Species	Pygmy Shrew	All Porpoise species				
Hedgehog	Stoat					

2.4.5.13 Licence for the Removal of Invasive Alien Species

Under the EC birds and Natural Habitats Regulations 2001 SI 477 of 2011, it is an offence to release or allow to disperse or escape, to breed, propagate, import, transport, sell or advertise species listed on Schedule 3 of the regulations without a Licence. The regulations that deal specifically with this scheduled list of species are:

- Regulation 49: Prohibition of introduction and dispersal of certain listed species;
- Regulation 50: Makes it an offence to or to intend to import, buy, sell, breed, transport and distribute listed animal or plant species or vector material; and,
- Regulation 74: Which sets out transitional provisions related to the commencement of Regulations 49 and 50.

The following activities are expressly prohibited:

- Dumping invasive species cuttings in the countryside;
- Planting or otherwise causing to grow in the wild (hence the landowner should be careful not to cause further spread);
- Disposing of invasive species at a landfill site without first informing the landfill site that the waste contains invasive species material (this action requires an appropriate licence); and,
- Moving soil which contains specific invasive species in the Republic of Ireland unless under a licence from NPWS.

See: https://biodiversityireland.ie/top10/10-most-unwanted-species/, for the current list of invasive species (for flora and fauna) in Ireland.

At any stage of a project, where invasive alien plant species are encountered, a licence (applied for through the Wildlife Licence Unit of the NPWS) for the removal/movement of invasive species from the site is required. In the event that herbicides or pesticides have been used, the contaminated materials may be classed as a hazardous waste or non-hazardous waste and will be required to be appropriately disposed of at an appropriately licenced facility.

When submitting your application for a licence, it should include:

- Detailed methods of removal, transportation, and treatment of the species;
- Information on the bio-security measures;
- Management plan; and
- Timeframe for carrying out the work.

Refer to the NPWS outline invasive species management plan for further information.

2.4.5.15 Commencement Notice / 7-Day Notice

In accordance with the Building Control Regulations, you are obliged to submit a *Commencement Notice* or a 7-Day Notice Application Form with a Seven Day Statutory Declaration prior to commencement of the development to Building Control Section of the Local Planning Authority, giving notice of the intention to start work.

A Commencement Notice must be received by the Building Control Authority not less than 14 days and not more than 28 days before you wish to commence.

Additional documentation may be required to be submitted with the completed Commencement Notice; and this should be completed on-line on the National Building Control Management System (BCMS). An online BCMS system for lodging commencement notices and 7 Day Notices and complying with the various new requirements is available at www.localgov.ie.

The fees relating to a 7-day notice are set out in **Table 2.3.**

Table 2.3 Breakdown of the current rates and fees for a 7-day Notice Application

Submission of a 7 Day Notice in Respect of:	Current Rates and Fees
a) Work in connection with the construction or extension of a building	€250, or €5.80 for each square metre of floor area being provided, whichever is the greater
(b) Work in connection with -	
(i) the material alteration of the interior of a building	€250, or €5.80 for each square metre of relevant floor area, whichever is the greater
(ii) the material alteration of the external surfaces of a building	€250
(iii) a combination of (i) and (ii) above	€250, or €5.80 for each square metre of relevant floor area, whichever is the greater
(c) A building in which a material change of use takes place	€250, or €5.80 for each square metre of relevant floor area, whichever is the greater
(d) Works or a building, where the building concerned will be used as an agricultural building	€130, or €1.60 for each square metre in excess of 300 square metres of -
	(i) gross floor area being provided,
	Or
	(ii) relevant floor area
	As the case may be, whichever is the greater

2.4.6 Pre-Construction Conditions and Permits

For the purposes of safe construction and operation of an anaerobic digestion plant additional conditions and permits need to be applied for and strictly adhered to (**Sections 2.4.6.1 to 2.4.6.3**). In the case of the Seveso Directive this is not a licence so much as an international standard that must be adhered to if your activity involves the storage, use or potential release of dangerous substances.

2.4.6.1 Animal By-Product Licencing

Animal By-Products (ABP) means the entire bodies or parts of animals, any product obtained from animals or products of animal origin which are not intended for human consumption, this includes, but is not limited to, embryos, semen, and oocytes (female germ cell/egg cell). Licences for the processing of ABP are strictly controlled only being issued by the Department of Agriculture, Food and the Marine (DAFM), once it can be proven that conditions are met for the various practices.

For the purposes of producing fuel sources (biogas and biodiesel) in the quantities required for a commercial enterprise the following conditions are required to be met before the approval of Animal By-Product processing plant can be granted: CN29, CN9 and CN11.

Below is a concise list of the basic requirements for each of the conditions depending on the end type of fuel source being produced. For each of these conditions there is further information and a more detailed breakdown of the requirements at the <u>Conditions for Animal By Product Processing Operations</u>.

2.4.6.1.1 CN29: Conditions for Approval of a Plant Involved in the Processing of Category 1 (Biodiesel) Animal By-Product

In order to operate a Category 1 Biodiesel, Plant an operator must comply with the European Communities (Animal By-Products) Regulations 2014¹⁴. Category 1 material is classed as the highest risk, consisting principally of those parts of an animal considered most likely to harbour a disease such as BSE, for example bovine spinal cord.

A high-level overview of the requirements for the use of ABP in the productions of biodiesel are as follows:

- A plant involved in the processing of Category 1 material must be approved by the DAFM and hold a valid certificate of approval in accordance with (Article 24 (a) of Regulation (EC) No. 1069/2009.).
- The operator must comply with all relevant requirements listed in the European Union (Animal By-Products) Regulations 2014 (S.I. No. 187 of 2014) and EU Legislation (Regulation (EC) No. 1069/2009 and Regulation (EU) No. 142/2011).
- Licenses and authorisations required to operate must be valid from all relevant licensing authorities while the plant is operational.
- The operator must notify DAFM immediately if significant changes are proposed to plant activities.
- The operator must notify DAFM immediately if the plant is no longer to be used for handling ABP. The plant must be decommissioned at this time and prior to use for any other activity. The operator will organise the decommissioning of the plant and clean-up of the site and buildings as well as safe disposal of all equipment in a reasonable time period, under the supervision of DAFM.
- All records required in the context of the ABP Regulations must be retained in the Plant's office for a period of 3 years. Records must be made available for inspection by DAFM staff.
- The operator must provide data and statistics to DAFM as and when required and in whichever format requested.

Completed <u>application forms</u> and supporting documentation should be sent to:

Department of Agriculture Food and the Marine (DAFM), Milk and Meat Hygiene/ABP/TSE Division, (Animal By-Products), Grattan House, Grattan Business Centre, Dublin Road, Portlaoise, Co. Laois, R32 RY6V.

2.4.6.1.2 CN9: Conditions for On Farm Biogas Plants own ABP

High level overview of the requirements for the use of ABP in the production of biogas on farms are as follows:

- A plant involved in the anaerobic digestion of ABP, or derived products must be approved by the DAFM and the approval must be in date in accordance with Article 24 (h) of (EC) Regulation No. 1069/2009.
- The operator must ensure to abide by all relevant requirements listed in National Legislation S.I. 187/2014, EU Legislation (Regulation (EC) No.1069/2009 and Regulation (EU) No. 142/2011).
- The operator must notify DAFM immediately if significant changes are proposed to plant activities, plant personnel or if the plant ceases to handle or store ABP.
- Where the operator ceases to handle or store ABP, the plant must be decommissioned at this time and prior to use for any other activity. Please notify DAFM in advance.
- In certain situations, e.g., in the event of a Class A Disease outbreak, DAFM may restrict the movement of ABP to and/or from the plant under relevant national legislation and/or may require additional controls and measures to be implemented in the plant.
- All records required in the context of the ABP Regulations must be retained for a period of 3 years. Records must be made available for inspection by DAFM staff at the plant.

¹⁴ European Communities (S.I. No. 187 of 2014) and with Regulation (EC) No. 1069/2009 and Regulation (EU) No. 142/2011

2.4.6.1.3 CN11: Conditions for Approval and Operation of Biogas Plants Transforming ABP and Derived Products in Ireland

High level overview of the requirements for the use of ABP and derived products in the production of biogas are as follows:

Approvals

- A plant may not accept or transform ABP or derived products unless the DAFM has issued the plant with a conditional or full approval in accordance with Regulation (EC) No. 1069/2009.
- The operator must comply with all relevant requirements listed in the European Union (Animal By-Products) Regulations 2014 (S.I. No. 187 of 2014) and EU Legislation (Regulation (EC) No. 1069/2009 and Regulation (EU) No. 142/2011).
- ABP may not be accepted from any agricultural holding or other premises restricted under the Animal Health and Welfare Act 2013 without specific authorisation by DAFM.
- In certain situations, e.g., in the event of a Class A Disease outbreak, DAFM may restrict the movement of ABP to and/or from the plant under relevant national legislation and/or may require additional controls and measures to be implemented in the plant.
- The operator must notify DAFM immediately if significant changes are proposed in plant activities, plant personnel or if the plant ceases to hand ABP.

ABP Feedstock

Plants approved by DAFM may handle ABP and non-ABP materials. The quantities of ABP and non-ABP materials may be restricted in plants that are not pasteurising feedstocks or which are pasteurising only some of the feedstocks. This restriction will be detailed in the conditions attached to the plant's approval.

• The list of ABP and derived products, which may be handled at biogas plants in Ireland include the following:

Category 2 materials:

- Manure;
- Digestive tract content;
- Milk and milk-based products;
- Colostrum;
- Eggs and egg-based products; and
- Material originating from aquatic animals.

Category 3 material (derived products):

- Processed animal protein (PAP) from DAFM authorised premises;
- Fishmeal from DAFM authorised premises;
- ABP feedstocks that have undergone pasteurisation at another DAFM approved plant; and
- Processed Category 3 material from DAFM authorised premises.

The actual list of materials that any plant can handle will depend on the transformation parameters in use at the plant primarily and will be detailed in the conditions attached to the plant's approval. A plant may only accept those ABP, or derived products detailed in the conditions attached to the plant's approval.

Plants located on farms may not accept and handle PAP, fishmeal and/or processed Category 3 material.

Waste or any other material not directly used in the plant cannot be accepted or stored at the plant unless otherwise agreed by DAFM.

During DAFM visits and inspections to biogas plants, if gas monitoring devices are available in the plant, plant personnel with such devices should always accompany DAFM staff during the visit/inspections.

2.4.6.2 Green House Gas (GHG) Emission Permit

The EPA is responsible for administering EU Emissions Trading Scheme (ETS) in Ireland for both stationary units and aircraft operators¹⁵. The Green House Gas (GHG) emission permit authorises the holder to undertake named activities (for further detail refer to the: <u>Commission Implementing Regulation</u> which result in the emission of carbon dioxide and other greenhouse gases.

Installations from which greenhouse gasses are emitted, need to be monitored and controlled to ensure permitted emissions are not exceeded. It is an offence to carry on an activity listed in Annex 1 of the Directive without a GHG permit.

Information on activities can be found in the EU <u>Guidance note on interpretation of Annex I</u> of the EU ETS Directive (excluding aviation activities); this is helpful for determining if your installation is included in the EU ETS and if an emissions permit is required.

There is mandatory participation in the emission permit for sectors and companies in the energy industry including:

• **Electricity and heat generation:** Combustion installations with a rated thermal input exceeding 20 MW Including power plants generating electricity and heat from fossil fuel such as: natural gas, coal and oil as well as other high-emission technologies such as solid biomass fuel installations.

For more information on applicable sectors and greenhouse gases covered see Annex I and Annex II respectively of the <u>EU ETS Directive</u>.

Helpful guidance on activities that may require GHG permits can be obtained from the EPA website.

Wherever an installation falls into the descriptions under Annex I of the EU ETS Directive, the project owner should contact the EPA by email (ghgpermit@epa.ie) and they will advise on how to proceed. Useful information for ETS operators can be found under EU ETS Monitoring and Reporting guidelines.

Further information on GHG emissions trading can be found on the EPA website at:

- Emission trading statutory installations; and
- EU emission trading systems.

2.4.6.3 Seveso III Directive

The Seveso Directive¹⁶ aims to control major accidents and or hazards involving dangerous substances, especially chemicals. They are a set of preventive measures and notifications in order to reduce the risk of hazardous activities and a put limitation on the consequences for human health and the environment, with a view to ensuring a high level of protection throughout the EU in a consistent and effective manner. This is not a licence so much as an international standard that must be adhered to if your activity involves the storage, use or potential release of dangerous substances.

This Directive shall not apply to any of the following:

- a. Military establishments, installations or storage facilities;
- b. Hazards created by ionising radiation originating from substances;
- c. The transport of dangerous substances and directly related intermediate temporary storage by road, rail, internal waterways, sea or air, outside the establishments covered by this Directive, including loading

¹⁵ The legal basis for implementing the EU ETS in Ireland for stationary installations is set out in the European Communities (Greenhouse Gas Emissions Trading) Regulations 2012 (SI 490 of 2012).

¹⁶ 2012/18/EU of the European Parliament and of the Council of July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC.

and unloading and transport to and from another means of transport at docks, wharves or marshalling yards;

- d. The transport of dangerous substances in pipelines, including pumping stations, outside establishments covered by this Directive;
- e. The exploitation, namely the exploration, extraction, and processing, of minerals in mines and quarries, including by means of boreholes;
- f. The offshore exploration and exploitation of minerals, including hydrocarbons;
- g. The storage of gas at underground offshore sites including both dedicated storage sites and sites where exploration and exploitation of minerals, including hydrocarbons are also carried out; and
- h. Waste land-fill sites, including underground waste storage.

Notwithstanding points (e) and (h) above, onshore underground gas storage in natural strata, aquifers, salt cavities and disused mines and chemical and thermal processing operations and storage related to those operations which involve dangerous substances, as well as operational tailings disposal facilities, including tailing ponds or dams, containing dangerous substances shall be included within the scope of this Directive.

Please refer to: Seveso III Directive – Seveso III On the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC (Text with EEA relevance), Annex I for a list of Dangerous Substances considered under the Seveso Directive.

2.5 Construction

2.5.1 Planning Permission Conditions

Upon a grant of planning permission, there will certainly be planning conditions imposed by the local authority, which may cover a range of matters. There will likely be conditions that will cover matters during construction, such as working hours, which specifies the acceptable window of time when construction may take place, or other conditions in relation to noise from construction, dust generated, wheel washing, etc. These conditions must be strictly adhered to, as if a project is found to be in breach of conditions, a Local Authority may initiate enforcement proceedings.

The Local Authority may deploy Site Inspectors to ensure compliance with planning conditions, and other site matters under which the Local Authority has jurisdiction.

2.5.2 Outline of Construction

Once construction is ready to commence, site clearance is the first stage, if required, preparing the site for construction. Access roads will be put in place allowing construction vehicles to access the site. In parallel, two aspects of the project will usually start construction – the anaerobic digestor with electrical generator if required and the substation(s) required. These can be viewed as separate projects by their nature, but of course they form part of the same project. The substation(s) will need to be ready for connection when the generator is ready to be connected to the grid.

2.5.3 Commissioning

Following the construction of an anaerobic digestion and consequent electricity generation installation, it must then be commissioned. This takes place on all installations regardless of size, however, for large and commercial projects, this is generally a more formal process.

Commissioning involves a series of electrical testing, mechanical testing, performance evaluations and corrections reporting. The purpose is to ensure the equipment has been correctly installed and will operate safely and efficiently.

Provided a project passes the commissioning stage, it will then enter its operational stage, and begin to produce electricity for consumption or sale.

3 Operations and Maintenance Stage

Some licences and consents may not have a duration that covers the entire lifespan of an Anaerobic Digestion project, and so may require further attention from the owner/operator. This may be as a result of the legislative basis for the consents, or as a change of legal circumstance, or an environmental change over time.

3.1 Licences

3.1.1 Working in the Vicinity of the Transmission Network

Prior formal consent given by GNI is required If you are carrying out work in the vicinity of gas pipelines transmission network. This consent is required if works are being carried out within a wayleave i.e., land acquired by GNI (under the Gas Act 1976, as amended), a GNI transmission installation or within 3 m either side of a transmission pipeline or distribution strategic mains in a public roadway.

If work involves any of the following activities: trenchless techniques, piling, surface mineral extraction, land filling, demolition, blasting, pressure testing, seismic surveys, comply with the requirements in Section 14 in the Code of Practice. Please refer to **Section 2.4.5.10** for further information.

3.1.2 Afforestation Licence (Technical Approval)

An Afforestation Licence "provides the permission to plant all or part of the areas specified, and the areas planted meet scheme requirements" 17. This is necessary for all afforestation projects where the area involved is greater than 0.1 hectare (approximately 0.25 acres). Afforestation is defined in the Forestry Act 2014, as amended, as "the conversion of land to a forest with a minimum area of 0.1 hectares and tree crown cover of more than 20 per cent of the total area, or the potential to achieve this cover at maturity". Forest land is defined as land under trees with a minimum area of 0.1 hectare and tree crown cover of more than 20% of the total area (or the potential to achieve this cover at maturity).

This permit is necessary when a developer seeks to replant trees which were felled during a site development. For the proposed afforestation of alternative lands, approval must be obtained before the associated felling licence can be granted. Proposed alternative land should be submitted for afforestation approval as early as possible, ideally at the same time as the felling licence application is submitted. Afforestation approval must be applied for using the Afforestation Pre-Approval Form.

All afforestation projects (whether availing of a grant or not) must obtain prior written approval from the Department of Agriculture, Food and the Marine (DAFM) termed 'Technical Approval'. A technical approval confirms that the proposed forest detailed in the application complies with the silvicultural (control of the growth, quality and needs of the forest, of particular importance for timber production) and environmental requirements. This approval provides permission to plant all, or part of the areas specified in the application. Grant aided projects require a supplementary 'Financial approval' in conjunction with technical approval. This financial approval' must be obtained before work can commence.

Further information on tree felling can be found online at https://www.agriculture.gov.ie.

3.1.2 Derogation Licence

Over the course of operation, there may be a need to interfere with a protected species, if they happen to be interrupting safe and efficient operation of the Anaerobic Digestion and/or generation installation. As such, a Derogation Licence would be required.

¹⁷ Technical Approval is granted by the Minister for Agriculture, Food and the Marine provides authority (under Section 7 of the Forestry Act 2014, as amended)

Please refer to **Section 0** for further information about Derogation Licences.

3.1.3 Licence to Interfere with or Destroy the Breeding Places of Any Wild Animals

Similar to the case of Derogation Licences, during operation of an Anaerobic Digestion unit, it may become necessary to interfere with, or destroy the breeding place of wild animals, thus requiring an associated licence.

Please refer to **Section 2.4.5.12** for further information about Licences to Interfere with or Destroy the Breeding Places of Any Wild Animals.

3.1.4 Derogation Licence to Disturb Bats or their Breeding or Resting Places

During operation of an Anaerobic Digestion installation, it may become necessary to disturb bats and/or their breeding or resting places to ensure the safe and efficient operation of the Anaerobic Digestion installation. This activity would require the associated licence.

Please refer to **Section 0** for further information about Derogation Licences to Disturb Bats or their Breeding or Resting Places.

4 Project End Stage

4.1 Decommissioning

Decommissioning refers to the cessation of energy production and the dismantling and removal of associated equipment and infrastructure.

4.1.1 Planning

When it comes time for decommissioning of an anaerobic digestion installation, consent may be required depending on conditions established on initial consent, pre-construction of the project. Before embarking on decommissioning of an anaerobic digestion installation, please check all relevant planning permission documents from previous applications.

4.1.1.1 Previously Consented Development

Typically projects that have been constructed following the procurement of planning permission, from either the Local Authority or An Bord Pleanála, will deal with decommissioning by condition. This means that within the conditions attached to the planning permission, it will directly set out how to carry out decommissioning and restoration of the site to its original condition. This is typically ordered after a set period of operation, and thus the decommissioning of the installation does not require further consent, as it has been provided for under the original application. If, however, you wish to conduct works not specified within the condition, planning consent will be required for those works. It is recommended that relevant permissions are reviewed carefully in this specific respect.

4.1.2 Licences

The decommissioning phase of a project may require reapplication for licences applied for during the preconstruction phase along with additional licences.

4.1.2.1 Notice to Close and Application to Terminate Connection Agreement

Notice of intention to stop/change electricity generation is a mandatory requirement as part of grid connection agreement.

The requested termination date must be in line with Grid Code requirements. For generators less than 50 MW the date must be at least two years after the deemed complete application date. For, generators greater than 50 MW installed capacity, the date must be at least three years after the deemed complete application date.

For further information on the steps required for a valid notice to close and application to termination connection agreement please refer to the <u>EirGrid Group Plant Closure Process</u>.

4.1.2.2 Consent Required for Degassing of Pipeline

In accordance with the EU Environmental Impact Assessment Directive and the Habitats Directive, the project will be assessed for potential significant environmental impacts. It will be necessary to get consent from the CRU and notify GNI to degas a pipeline. The CRU is the competent authority that issues a Section 39A (of the Gas Act 1976, as amended) approval for this activity. Gas lines were once deemed to have a lifetime of 40 years, but now (due to the advancements in materials in use), the GNI analyses pipelines to assess pipes to see if it can continue beyond this timeframe.

In order to decommission a pipeline, you need to degas it. To do that you must decant the gas in that pipeline into a lower pressure section of the network. Ultimately, the surplus gas is then flared and purged with nitrogen. Should you then need to dig up that degasified gas pipeline, the impact on the local environment is similar to the impact of putting the pipe in situ in the first place. An alternative to this step in the degasifying process is to fill the degassed pipeline with grout and leave in situ, as this has the least impact on the environment.

4.1.3 Other Licences

In addition to the above licence other licences may apply such as abnormal load or road closures if the site is to be fully decommissioned – these licences will be subject to the conditions laid out under planning.

4.2 Lifespan Extension

Manufacturers of anaerobic digestion equipment will specify an operational lifespan of the processing equipment after which it should be decommissioned ore replaced. But equipment life may also be dependent on high content of hydrogen sulphide gas which is extremely corrosive.

Sometimes the lifespan of an installation may be set by other bodies, such as the consenting Local Authority, which may specify through planning permission conditions, a lifespan of an installation. Unless specified by a statutory body, it is up to the owner to determine the lifespan of the installation, however, it is recommended to have due regard to the manufacturer's instructions.

4.2.1 Planning

For anaerobic digestion facilities that obtained planning permission for construction, there may be a condition attached in relation to the lifespan of the installation, directing decommissioning after a set period of time. If there is, this must be complied with or permission sought to leave the installation in place, however, if not, the applicant may leave the installation in place according to their own wishes, informed by best practices and health and safety measures as appropriate.

Regarding larger scale projects, it is more likely that lifespan extension will be dealt with by condition, meaning that within the conditions attached to the original planning permission, it will directly set out how to carry out a lifespan extension. Typically, this will specify that further planning consent is required. If there is no specific condition, you may not require planning permission. If you have any doubts whether planning permission is required, you may contact your Local Authority and request a Section 5 Declaration, in which it will be determined if your works are exempt from planning permission or not.

4.2.2 Licences

As project extension entails the use of the equipment for a slightly longer period of time, licences for this purpose would fall under the operation and maintenance remit. For further information on operation and maintenance licences, please refer back to **Section 3** of this document.

4.3 Re-Powering

Re-powering means retrofitting and upgrading existing renewable energy installations with better equipment and technology, to improve the efficiency of the installation, while also allowing for an extended lifespan (given the newer infrastructure installed). For Anaerobic Digestion, re-powering would involve the upgrading of the digestion and generation equipment, for models that which is more efficient, this would allow for more energy to be produced from the same feedstock materials and or improve gas yield. This may also necessitate the upgrading of associated ancillary equipment that handle the products (digestate, gas, electricity, etc.). It is possible and likely that different equipment will have differing lifespans and upgrade of equipment may be part of regular maintenance of the plant.

4.3.1 Planning

When considering re-powering an anaerobic digestion facility, the most appropriate approach is to consider the development as a new application, unless otherwise specified by any conditions imposed within the original planning permission granted.

The original planning permission may contain a condition specifying that any further works on the site requires further planning permission to be obtained. If there is no such condition, you may still require further planning permission, as the works required may be substantial. It is recommended that you consult with the Local Authority regarding re-powering, and potentially seek a Section 5 Declaration. It is likely that permission will be required, as re-powering may be classed as 'land use intensification'.

4.3.2 Licences

With the exception of certificates that will not be required for renewal (e.g., a Disability Access Certificate), it is likely that the remaining licences will require renewal or reapplication. It is recommended that you consult with the various granting authorities regarding re-powering of your project and seek advice as to whether renewal/reapplication is required.

5 Other Useful Resources

Gas Networks Ireland Biomethane Energy Report (Sept 2023)
Gas Networks Ireland Biomethane Producers Technical Handbook (2023)
Guidelines for Anaerobic Digestion in Ireland – CRÉ (2018)

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