

gasnetworks.ie



Delivering a reliable, sustainable and secure gas supply

Ireland's Gas Transmission Network



Since its inception as the State Gas Development Agency in 1976, Gas Networks Ireland has been committed to putting the needs of the customer first; ensuring gas is transported to the end user in an efficient, economic, safe and reliable manner. This commitment is reflected in the development and operation of a world-leading and modern gas network for over 40 years.

Ireland's transmission network

From just 31 km of transmission pipeline in 1978, to approximately 2,500 km of high-pressure steel transmission pipelines in 2021, Gas Networks Ireland has demonstrated foresight and prudence in building an efficient gas network with sufficient capacity to meet the gas demands of a modern Ireland competing in the global economy. The gas network is designed to a 1-in-50 standard, to withstand harsh weather conditions. In recent years, we have encountered a number of such prolonged periods of severe weather during which the network has continued to deliver gas safely and securely to customers.

Delivering Ireland's energy

Delivering natural gas safely and securely to Irish homes and businesses for over 40 years, the gas network, a €2.7bn asset, is used to generate 46% of Ireland's electricity and 34% of Ireland's primary energy needs. Today, it serves almost 720,000 customers in 22 counties around Ireland including 27,000 multinational and Irish businesses.

The gas network's ability to respond to changing profiles is an increasingly important feature for the electricity grid as intermittent renewable electricity generation continues to grow. The flexibility of the network means it can ramp up to meet high heat demand during extreme cold periods, or it can provide additional power generation when the wind doesn't blow.

In 2021, the total amount of gas transported

through the gas network for Ireland, Northern Ireland and the Isle of Man was 74.3TWh. This was supplied through the Moffat Interconnector with the UK (72%) and the Corrib gas field (28%). Small volumes of gas were also delivered through the biomethane injection point in Co. Kildare. This growing indigenous market combined with green hydrogen will prove critical to decarbonising the gas network and Ireland's wider energy system.

Future network planning

Our Network Development Plan (NDP) is published annually and details how the gas network may develop over the coming ten-year period. It is based on current supply and demand for gas, as well as projections for gas consumption and development of infrastructure.

We continuously undertake detailed hydraulic system modelling of the network in order to assess its capacity and determine what capital investment is required to:

1. meet the NDP forecasts including new connections
2. accommodate new sources of supply such as biomethane and hydrogen
3. maintain system resilience and security of supply.

The network planning team safeguards both the high-pressure transmission and low-pressure distribution gas network against capacity constraints in the short, medium and long-term, ensuring operational flexibility and network performance is sustained now and into the future.

Connecting to the transmission network

Typical connections to the transmission network require a specialist “hot tap” which involves welding a branch connection onto the existing high-pressure transmission pipeline while it is operational. From there a new high-pressure steel pipeline is laid to the customer’s premises (via roadway or cross-country depending on the outcome of the design cycle). As a final step, an Above Ground Installation (AGI) is constructed on the customer’s site.

On-site gas installations and instrumentation buildings

An AGI is an above ground pressure regulating installation. The national network includes approximately 200 AGIs which are used to control and reduce pressure on the network. They are generally bespoke designs to meet the customer-specific technical requirements and site conditions. For most transmission connections, the AGI will take one of the following forms:

1. An AGI where the customer is looking for prevailing pipeline pressure - the design of the AGI will contain filtering, metering, a gas chromatograph and communications and instrumentation building.
2. An AGI where the customer is looking for a pressure lower than prevailing pipeline pressure and a gas flow rate of less than 500MW. The design of the AGI will contain a Pressure Reduction Skid (PRS), Packaged Boiler Unit (PBU) and a gas chromatograph, each housed in individual buildings.
3. An AGI where the customer is looking for a pressure lower than that of prevailing pipeline pressure and a gas flow rate of greater than 500MW. The design of the AGI will contain filtering, metering, pre-heating and pressure reduction as standalone equipment. In this case due to the size of the equipment it is not suitable for a generic skid design.

The design will also contain a Packaged Boiler Unit (PBU) and a gas chromatograph, each housed in individual buildings.

As a significant piece of infrastructure, the compound dimensions required are in the order of 40mx40m (depending on the customer’s technical requirements which may require compounds in excess of these dimensions).





Connection process

1. Pre-enquiry

Pre-enquiry discussions commence between Gas Networks Ireland and potential customers to discuss the process and ascertain customer requirements. At this stage the customer also provides Gas Networks Ireland with the relevant location maps.

2. Formal enquiry to contract phase

Step 1: For an enquiry to be valid a fully completed enquiry form is required including site drawings and the payment of the desktop design fee.

Step 2: Gas Networks Ireland undertakes a high-level analysis of the connection which includes a preliminary analysis of the network to ascertain if the connection could be supported.

Step 3: A high level desktop design is undertaken based on an assumed pipeline route to inform a project estimate and timelines. Please note, this is based on the information provided by the customer in addition to costs of similar recent projects, to provide an Association for the Advancement of Cost Engineering (AACE) Class 4 estimate (accuracy range -30% to +50%) for the project.

Step 4: A non-binding letter of offer is issued, outlining estimate of project costs and draft programme (4-6 months from receipt of valid formal enquiry). Please note the offer is subject to the contract being agreed or denied.

Step 5: The customer enters into a contract with Gas Networks Ireland executing a Large Network Connection Agreement and meets all the provisions as laid out on page 5.

3. Connection delivery

Step 1: Preliminary Design – Gas Networks Ireland considers pipeline routing options to the customer’s site and AGI layouts. This assessment considers the following factors: technical parameters, materials, environmental considerations, health and safety, constructability, special engineering difficulties, land ownership, capital cost and programme timelines.

Step 2: Detailed Design – the preferred pipeline route and design of the AGI is finalised and the following tasks are completed:

- ✓ **Material Procurement** – competitively procure all the materials required to build the AGI and pipeline.
- ✓ **Consents** – obtain required regulatory consents from the relevant local authorities, governmental departments and regulatory agencies.
- ✓ **Environmental Assessments** – complete all required environmental, ecological and archaeological assessments.
- ✓ **Land Management** – obtain required third party and landowner consents to construct the AGI and lay the pipeline.
- ✓ **Construction Contractor Appointment** – complete pricing and approvals to engage the preferred construction contractor.

Step 3: Construction – the construction contractor is mobilised to construct the pipeline and AGI compound.

Step 4: Commissioning – Gas Networks Ireland’s operations team commission the AGI and pipeline to supply gas in collaboration with the customer.



We offer solutions that are tailored to meet your energy needs and ensure the operational continuity of your business.

If you have any queries, please speak to your dedicated account manager.

Alternatively, call our Businesslink team on **1800 411 511** or visit gasnetworks.ie/business



Charging methodology

Gas Networks Ireland's Connection Policy, approved by the Commission for Regulation of Utilities, sets out the charging methodology for all new customers connecting to the gas network.

With respect to ongoing transportations costs:

- Customers connected at a pressure of 16 barg or higher will be liable to pay only for transmission charges. No distribution charges will be applicable.
- Customers connected at below 16 barg pressure will be liable for both transmission and distribution charges.

With respect to the capital contribution and connection costs:

- Large Industrial and Commercial customers are defined as customers with a peak hourly demand greater than 50MW thermal input and a connection pressure of 16 barg or above. The connection charges applied to these customers will cover the full capital costs attributable to meeting customer requirements, including reinforcement required upstream of the customer site;
- Gas Networks Ireland require the connecting party to enter into a Large Network Connection Agreement (LNCA). This agreement will capture all the commercial issues surrounding the connection including, among others, terms relating to the construction, payment (including phasing), and financial security.

Points of Note –

Large Network Connection Agreement:

- **Customer agrees to pay outturn construction costs:**
 - ✓ 10% on execution of the contract
 - ✓ 30% upon receipt by Gas Networks Ireland of materials for construction of the connection
 - ✓ 40% upon substantial mechanical completion of the connection
 - ✓ 20% upon receipt by Gas Networks Ireland of final invoices from suppliers
 - ✓ Balancing/final transaction to compare estimate versus actual costs.
- **Conditions precedent to contract:**
 - ✓ First stage payment (10%)
 - ✓ Board minutes confirming authority of person executing the contract and resolution from the board to execute the agreement
 - ✓ Provision of a tax clearance cert
 - ✓ Provision of Insurance details (Public Liability of €6.5m and Employer's Liability of €13m, unlimited in the aggregate)
 - ✓ Provision of financial security (as per CRU approved Gas Networks Ireland Financial Security Policy) with options as below:
 - An approved credit rating of the connecting party as outlined in the published Gas Networks Ireland Financial Security Policy
 - Deposit agreement
 - Bank letter of credit
 - Charged account
 - Qualifying guarantee.

The main contact details for Gas Networks Ireland are:

General Enquiries

1800 464 464

24hr Emergency Service

1800 20 50 50

info@gasnetworks.ie

@GasNetIRL

gasnetworks.ie

Contact your dedicated account manager or our Businesslink team to discuss your energy needs.

T: 1800 411 511

Phone lines open Monday to Friday 09:00 – 17:30

E: businesslink@gasnetworks.ie