

Ireland's Gas Network

At the heart of Ireland's energy future



Ireland's gas network

Our purpose: Keeping Ireland's energy moving

Our vision: To be at the heart of Ireland's energy future

Ireland's gas network plays a critical role in providing a cleaner, competitive and secure energy supply for Ireland. Operated by Gas Networks Ireland, the gas network is of strategic importance to Ireland and continues to facilitate job creation and economic growth. Flexible, reliable and resilient, it delivers a safe and secure supply of gas to over 720,000 customers, 365 days a year, powers almost half of the country's electricity and supports the deployment of renewable electricity generation.

Ireland's energy system is evolving in response to the challenges of decarbonisation and energy security. Gas Networks Ireland has a pivotal role to play in the transition to a low carbon energy system, by leveraging the existing gas network to support development of indigenous renewable gases, such as green hydrogen and biomethane, and enhancing security of energy supply for Ireland.

Flexible

- **Supplying energy** for power generation, heat and transport
- **Enabling gas-fuelled combined heat and power (CHP) technology** which offers **increased energy efficiency**
- **Providing solutions** to meet **Ireland's short and long-term climate goals**, such as indigenous **renewable gases**, including biomethane and hydrogen, as well as bio compressed natural gas (bio-CNG)
- **Adapting** to realise a **net zero gas network for Ireland by 2050**
- **Supporting** the **EU's target for a net zero carbon economy by 2050**
- **Aligning** with the **EU's ambitions for hydrogen and biomethane and decarbonised gas networks** in an integrated energy system which will also enhance security of supply

Accessible

- **Serving c.720,000 customers connected in Ireland**, including **11 power stations** and **319 Daily Metered (DM) and Large Daily Metered (LDM) industrial and commercial customers**
- **Connecting 22 counties** to the gas network
- **Providing end-to-end connections** process as gas network operator
- **Operating** in collaboration with **five gas producers, 21 gas shippers and seven retail gas suppliers***

* as of December 2022.

Safe

- **Transporting gas safely and securely**
- **Preparing** for the network to **transport hydrogen safely**
- **Ensuring** embedded and prioritised **Quality Management (ISO) standards and safety procedures**
- **Complying** with legislation, licences and directives applicable to **operating a regulated network**
- **Operating** under the **oversight** of the regulatory authority for the gas market in Ireland, the **Commission for Regulation of Utilities (CRU)**

Reliable

- **Powering** almost half of **Ireland's electricity¹**, providing **32% of Ireland's primary energy** and **40% of Ireland's heating (latest available data)**
- **Providing** essential **backup for intermittent renewable electricity generation**
- **Supplying** energy crucial for economic and societal growth, job creation and attracting international investment
- **Meeting demand** in harshest weather conditions
- **Delivering energy where it is needed, when it is needed**

Gas demand in Ireland

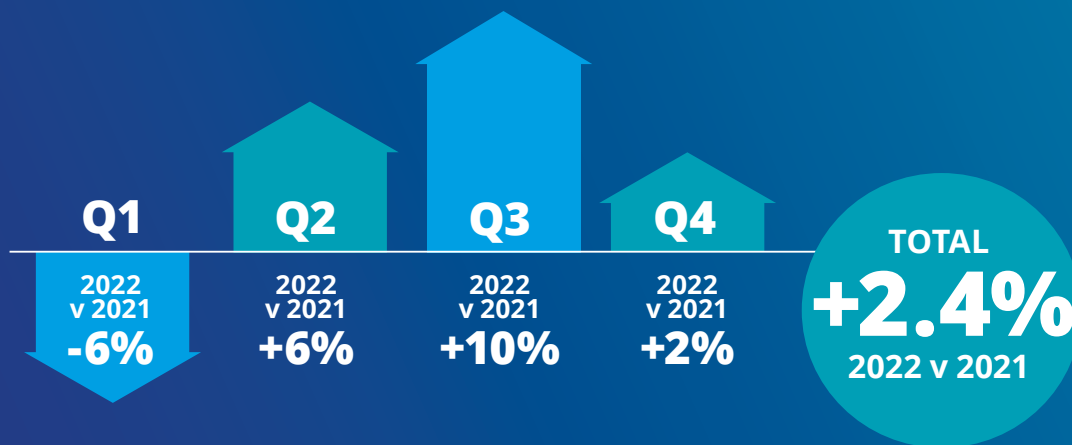
Gas continues to be a major contributor to electricity supplies, powering **almost half** of Ireland's electricity requirements in 2022, as well as almost **32%*** of Ireland's primary energy needs and **40%*** of heating.

Overall gas demand in 2022 was 2.4% higher than in 2021. With a total gas demand of 57.1 TWh, approximately 25% of supplies came from the Corrib gas fields, while 75% was imported through the gas interconnectors from Scotland. A small volume of indigenously produced biomethane was injected into the gas network at the third entry point in Cush, Co. Kildare during 2022.

Gas generated
48%
of Ireland's
electricity
in 2022

Gas demand in key sectors

Despite the difficult market conditions experienced in 2022 following Russia's invasion of Ukraine, gas demand in Ireland was 2.4% higher than in 2021 when gas demand was impacted by Covid-19 restrictions.



Demand in certain sectors increased compared to the previous year, mainly due to the lifting of Covid-19 restrictions.



Retail
+78%



Leisure & Sport
+25%



Laundry
+25%



Hotels
+23%

* To end December 2021, latest data available

Meeting the challenge of 2022

Following the slow-down of the Irish economy during the waves of Covid-19 lockdowns in 2020/2021, the easing of restrictions in 2021 led to the start of economic recovery. However, this recovery was tempered by an increase in the wholesale price of gas, coupled with increased worldwide energy demand. The effects of global market conditions arising from the surge in consumer demand have been exacerbated by the evolving conflict in Ukraine since early 2022, resulting in energy price increases and gas security challenges. In Ireland, the biggest impact experienced to date has been the unprecedented increase in wholesale gas pricing.

Tackling the ensuing energy crisis has necessitated a rapid increase in the pace of policy change at home in Ireland and across the EU. A significant number of initiatives are being implemented at both EU and national levels to tackle both the energy crisis and climate action. While the EU signalled its ambition to increase and accelerate its plans around climate change and decarbonisation with the launch of the Green Deal in 2019 (and kick started with the Fit for 55 plan including strategies on hydrogen and energy system integration), the focus of energy policy developments has broadened to include energy security and energy affordability since Russia's invasion of Ukraine.

Figure 1 illustrates the rapid increase in the pace of policy change and focus within the EU in 2021 and 2022. A high-level overview of these initiatives is included in this report. For more information on EU energy policy developments prior to 2021, and for greater detail on the 2021 and 2022 initiatives, see Gas Networks Ireland's renewable gas / policy page: www.gasnetworks.ie/business/renewable-gas/policy/index.xml



Figure 1 Timeline of key European policy developments

Fit for 55: The EU's plan to cut emissions by at least 55% by 2030, including 13 legislative proposals.

Winter Package: Including legislative proposals relating to:

- Gas Markets Directive and Regulation
- Methane Emissions Regulation
- Energy Performance of Buildings Directive

REPowerEU plan: European Commission plan to divest itself of dependence on Russian fossil fuels and to increase the resilience of the EU-wide energy system.

Gas Security of Supply: Goal to reach a collective target of 80% capacity of EU gas storage facilities by 1 November 2022. Ireland has a derogation from this requirement due to having no indigenous gas storage facilities.

Save gas for a safe winter: Aimed at reducing gas consumption by 15% across the EU. Ireland is exempt from the target as it is not directly connected to the EU gas grid.

Emergency measures to reduce energy prices: Regulation to introduce common measures to reduce electricity demand and to collect and redistribute the energy sector's surplus revenues to final customers.

Solidarity and gas purchasing measures and Market Correction Mechanism: Regulations for enhancing solidarity through better coordination of gas purchases, exchanges of gas across borders and reliable price benchmarks and also an EU gas price cap.

Electricity Market Reform: This reform is to address current shortcomings in the electricity market design.

Meeting the challenge of 2022 *Continued*

Figure 2 shows the key initiatives being implemented at a national level in 2022 to tackle both the energy crisis and climate action. More detail on these is also available on the Gas Networks Ireland renewable gas / policy page.



Figure 2 Timeline of key national policy developments

National Energy Security Framework: Demand reduction/energy efficiency measures. Replacement of fossil fuels with renewable energy sources.

Sectoral Emissions Ceiling: Additional 2 GWs of offshore wind (dedicated for green hydrogen production), increased ambition for up to 5.7 TWh of biomethane.

Consultation on developing a hydrogen strategy for Ireland: Green hydrogen could play a significant role in sector coupling and in minimising the overall cost of decarbonisation across all sectors.

Energy Security Review Consultation: Review of the security of Ireland's electricity and natural gas systems, shortlisting a number of gas and electricity mitigation measures.

Climate Action Plan 2023: First CAP to be developed since the Climate Act. Focus on actions to deliver emissions reductions in line with Carbon Budgets 1 and 2. "Decarbonised gases such as biomethane and green hydrogen are a critical component for Ireland's energy ecosystem".

Renewable Heat Obligation (RHO): To be introduced by 2024 to further incentivise suppliers of all fuels in the heat sector to ensure that a certain proportion of energy supplied is renewable.



Gas value chain in Ireland

A wide range of stakeholders are engaged in the delivery of natural gas for Ireland. These span the breadth of the supply chain from production to delivery to the customer.

How it works

Gas producers (1) produce the gas and **shippers (3)** deliver to the gas network, which is owned and managed by the network operator, **Gas Networks Ireland (2)**. Within the Irish market, **seven suppliers (3)** provide gas to **gas customers (4)**. Customers engage with Gas Networks Ireland to secure a connection to the network and pay their chosen supplier to deliver gas to their homes and businesses. The **Commission for Regulation of Utilities (CRU) (5)** is the regulatory authority for the gas market in the Republic of Ireland and has responsibility across the entire value chain.

Two suppliers left the market in 2022, during what has been a very volatile period for the global gas market, with wholesale gas price increases and energy supply challenges. Under the supplier of last resort (SOLR) process, customers of the two suppliers were transferred to the SOLR, Bord Gáis Energy.



1. Gas producers

Produce gas for gas shippers to deliver to the gas network. Shippers also source and import gas from the UK.



2. Network Operator - Gas Networks Ireland

Gas Networks Ireland operates and maintains the gas network in Ireland, facilitating the delivery of gas to end customers by transporting gas through the network for shippers.



3. Gas shippers and suppliers

21 shippers and suppliers utilise the gas network in Ireland. Of these, **7 are actively supplying** gas to end users in Ireland.



4. Gas customers

Customers engage with Gas Networks Ireland to secure a connection to the gas network and pay their chosen gas supplier to deliver gas to homes and businesses on a daily basis.



5. Regulator - CRU

The regulatory authority for the gas market in the Republic of Ireland is the **Commission for Regulation of Utilities (CRU)**. The CRU is responsible for approving the charges for use of the gas network and for regulating the safety of the network.

The CRU also issues network operator and shipper and supplier licences to allow these parties to undertake gas transportation and shipping/supply activities. It also sets supplier codes of practice and approves regulated policies, as well as ensuring customer protection.

The CRU regulates Gas Networks Ireland's tariffs using a price control mechanism, which sets the allowed revenue to be recovered from shippers.

Managing Ireland's gas network

The network operator

Gas Networks Ireland operates and maintains the gas network in Ireland. Our principal activity is the safe transportation of natural gas to keep Ireland's energy moving.

As of December 2022, Gas Networks Ireland directly employed **708 people**, with further indirect employment provided through contracting arrangements with key service providers. We are committed to **keeping Ireland's energy moving**, adapting to the future by providing reliable, flexible support to intermittent renewables, and playing an important role in supporting the economy.

Our day-to-day operations are guided by five core values: **Collaboration, Customer Service, Performance, Safety and Integrity**. We are committed to ensuring the highest standards of performance in respect of our network, employees, contractors and customers.

Our core activities include:

- **Maintaining and operating** the gas network
- **Preparing and testing** the network for renewable gases and decarbonisation
- **Transporting** natural and renewable gases safely to our customers
- **Safely responding** to all publicly reported escapes of gas and delivering safety awareness campaigns
- **Connecting** all new gas customers to the network, including work on service pipes and gas meters at customers' premises, on behalf of all gas suppliers
- **Ensuring compliance** with legislation, licences, directives and regulations
- **Facilitating the process of switching supplier** for gas customers, in one of the most competitive retail gas markets in Europe

Customer service

The provision of service excellence to our shippers and customers is a core value for Gas Networks Ireland. We continually monitor our customer satisfaction score targets, and in 2022, attained a score of 8.2/10 in the 'Customer Centricity' metric measuring our commitment to embedding customer focus across all interactions. Additionally we attained a supplier satisfaction score of 87% in relation to the standard of performance in responding to queries.

In 2022, there were:

- **41,353 customer appointments** granted within the time frame requested
- **55,729 customer appointments** kept with 99% compliance rate
- **1.63 million** meter reads taken
- **507,912 customer contacts** handled by our Contact Centre, inbound and outbound
- **16,344** day-to-day operational issues resolved by our Regulatory Operations team

Gas Networks Ireland also leads on promoting public safety awareness campaigns including Gas Emergency Service, Dial Before You Dig, Registered Gas Installers, Meter Tampering and Carbon Monoxide.

If you smell gas call
1800 20 50 50
24hr emergency service



The key role of gas in Ireland

Given its flexibility, natural gas is the optimal complementary energy source to intermittent renewable energy, such as wind and solar, and will provide a vital back-up to renewable electricity in Ireland's future decarbonised energy system. Gas plays a key role in Ireland, meeting **32%** of the country's primary energy needs and over **40%** of heating² (to December 2021, latest data available). In addition, it supports **59** large industrial and commercial customers on the transmission network, and a further **271** connected to the distribution network. The gas network contributes significantly to balanced regional economic development.

The importance of gas in Ireland's energy mix was again demonstrated in 2021, with the gas network powering almost half of the country's electricity requirements and 84% at its peak. This continued during 2022, with, for example, gas-fired generation accounting for 64% of the total power generated in August, and up to 92% within specific days of that month.

Peak gas demand in Ireland typically occurs in winter, when high levels of domestic heating and industrial production can coincide with very low winds, resulting in high levels of gas-fired power generation. Although annual demand and peak demand have historically seen close correlation, peak gas demand is expected to grow as gas power plants are utilised to deliver an increased peak electricity demand, while annual natural gas demand is set to reduce due to energy efficiency measures and a Government commitment to reduce fossil fuel use.

The partnership between flexible gas-fired power generation and intermittent renewable generation is key to optimising Ireland's renewable energy production into the future. Its role in providing flexibility and stability to the electricity grid is likely to increase in importance, as the grid adapts to meet the increasing electricity demand predicted by Eirgrid³ and the Government target of delivering 80% renewable electricity by 2030. In response to this, the Government has announced that an additional 2,000 megawatts (MW) of gas-fired generation is to be built by 2030. Figure 3 and Figure 4 illustrate the vital role of gas for security of electricity supply, providing flexible, secure supply when renewables are less available.

Figure 3 Electricity Generation (Gigawatt hours (GWh)) *Source: Based on SEAI data*

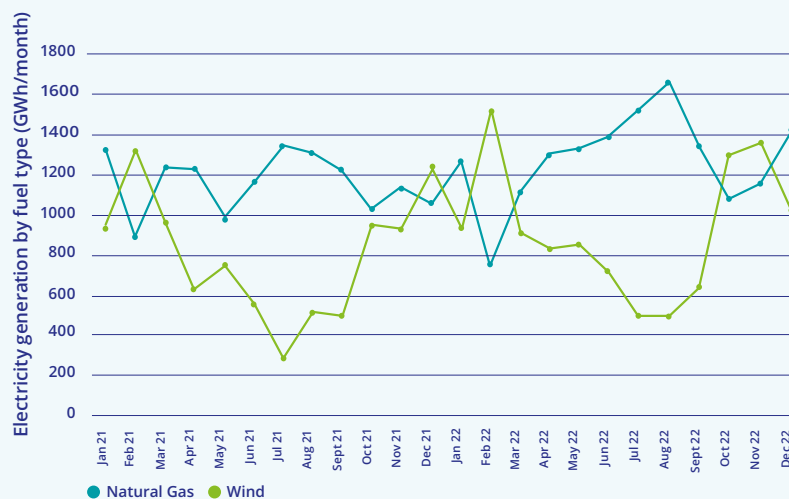
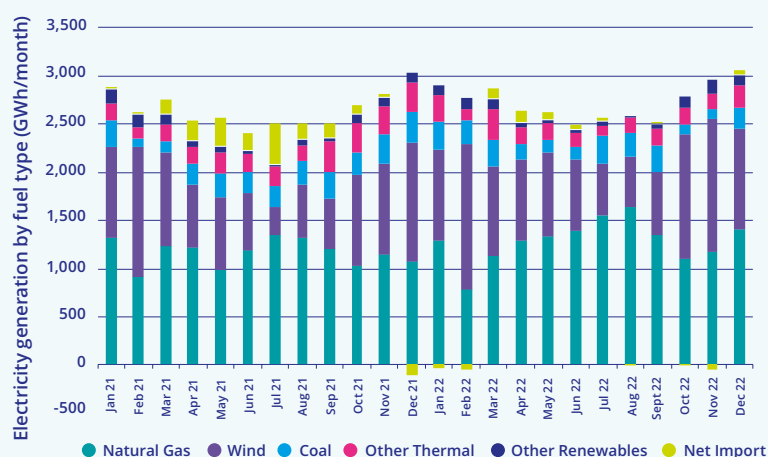


Figure 4 Republic of Ireland (ROI) power generation fuel mix (monthly) *Source: Based on SEAI and EirGrid data*



Ireland's gas network – a national asset

Gas Networks Ireland

Delivering Ireland's energy

34%²

of Ireland's total energy demand*



25%

of gas used in Ireland sourced indigenously from Corrib gas field

48%¹

of Ireland's electricity generation

74.3TWh

transported through the network for Republic of Ireland, Northern Ireland and the Isle of Man of which **55.8 TWh** was for Republic of Ireland*

40%+²

of Ireland's heating*

2 subsea interconnectors

14,664km pipeline

- 2,476km high pressure steel transmission pipes
- 12,188km lower pressure polyethylene distribution pipes

Delivering on safety

2022 Health and Safety Excellence Awards

winner in the 'Public Sector' category

28 minutes average call (on site) response time

14,550

responses to calls from the public supported by public safety awareness campaigns

2022 iGEM Gas Industry Awards

winner in the 'Gas Safety' category

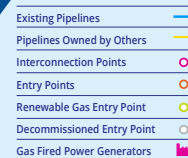
ISO Management Systems recertified



ISO14001, ISO50001, ISO45001, ISO9001, ISO55001



Gas Networks Ireland



Corrib Gas Field



Delivering for Ireland

€147m*

capital expenditure



€38m*

dividend payment to the Exchequer

€476m*

revenue



708

staff directly employed by Gas Networks Ireland (December 2022)

€2.7bn*

publicly-owned, national asset

Delivering for the future

Network Innovation Centre launched, ensuring safety and operability of Ireland's gas network when transporting a blend of hydrogen and natural gas



Gas Networks Ireland formally appointed as body responsible for issuing **Guarantees of Origin** for renewable gases in 2022

Committed to biomethane development:

41 GWh

biomethane transported in 2022

GRAZE Gas project awarded

€8.4m

from **Climate Action Fund** in 2022

4 public and **3** private



compressed natural gas (CNG) stations operational for all of 2022

Aurora Telecom, our division which specialises in dark fibre and colocation services is now the carrier-neutral provider of choice to the top five global content and application providers. In 2022, we extended our national backhaul fibre network by over 10% and strengthened Ireland's international and digital footprint by continuing our significant capital expenditure to provide secure, resilient, dual-feed connectivity to both terrestrial and subsea cable networks that span to mainland Europe, as well as transatlantic to the United States.

Operational asset of size and scale

Transmission System

Delivering for existing connections

720,000+

customers in **22** counties, with **330** DM and LDM industrial and commercial customers, including **11** power stations



Delivering for customers

117,243

Pay As You Go' meters on the network (as of December 2022)



507,912

customer contacts handled by our contact centre in 2022

3,500+

gas credit top-up outlets in Ireland (as of December 2022)

128,000+

'Change of Supplier' actions facilitated in 2022, affording customers the option to achieve better value

1.63m

meter reads undertaken in 2022

1.5m

gas supplier switches completed since the gas market opened to competition in 2004

55,729

customer appointments kept with 99% compliance rate



Delivering on corporate responsibility and sustainability

Continued success...

Winner of the 2022 **Green Public Sector Organisation of the Year Award**

Winner of the 2022 **Best ESG Campaign or Case Study to Improve Education or Access to Education**

€200,000+

in financial support to local communities



59 community projects supported



Biodiversity Strategy and Biodiversity Action Plan developed

CPD climate change score B
CDP supplier engagement rating A+

Responsibly certified

Recertified to the Business Working Responsibly Mark
Scope 1 (direct emissions) 13.5% reduction from 2010 baseline*
Scope 2 (indirect emissions) 52% reduction from 2010 baseline*

Operating sustainably

For a clean energy future

Gas Networks Ireland's sustainability strategy is underpinned by an ambition to deliver a safe, affordable and clean energy future for Ireland, through the decarbonisation of our network and the reduction of emissions across all sectors of Irish society. We are ever mindful of our sustainability responsibilities and are committed to managing our operations in an environmentally responsible manner, while supporting the social and economic development of the communities we operate in, and the wider economy. We are proud of the fact that we are one of only 41 companies in Ireland to hold the Business Working Responsibly mark and are committed to ensuring that sustainability is at the forefront of everything we do and to help Ireland to reduce its carbon emissions.

Sustainability highlights



Published our annual sustainability report "Sustainability in Action" ⁴, highlighting progress in implementing the principles of the UN Sustainable Goals.



Supported 59 community projects and provided over €200,000 of financial support to local communities.



Launched our Network Innovation Centre in Dublin.

In collaboration with research partners from academia and industry, we are ensuring the safety and operability of Ireland's gas network when transporting a blend of hydrogen and methane.



Developed our Biodiversity Strategy and Biodiversity Action Plan to support the National Biodiversity Action Plan.



Participated in the Carbon Disclosure Platform (CDP) for the third time, maintaining our score of B. Awarded a CDP Supplier Engagement Rating (SER) of A-.



For more information on the Sustainability Report, please see www.gasnetworks.ie/docs/corporate/company/Sustainability-Report-2021.pdf

The future role of the gas network

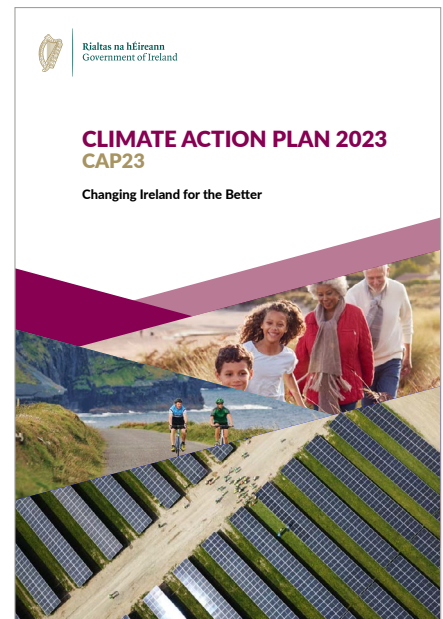
Climate change is the most urgent global issue and Ireland faces significant challenges in meeting EU and national climate targets and objectives. With a commitment to becoming net-zero by 2050, Ireland's Climate Action and Low Carbon Development (Amendment) Act 2021⁵ puts the national climate objective on a statutory footing and actions for each sector are detailed and updated periodically in the Climate Action Plan.

The Climate Action Plan 2023⁶ highlights that *“decarbonised gases such as biomethane and green hydrogen are a critical component for Ireland's energy ecosystem”* and reaffirms that *“rapid delivery of flexible gas generation is needed at scale and in a timeframe to replace emissions from coal and oil generation before the second carbon budget period”*.

As part of Ireland's carbon budget programme, sectoral emissions ceilings have now been set for the electricity, transport, buildings, industry and agriculture sectors, with reductions in emissions ranging from 25% to 75% per sector by 2030, relative to 2018 emission levels.

Gas Networks Ireland is already supporting Ireland's journey to a cleaner energy future by beginning to replace natural gas with renewable gases such as biomethane. We are currently:

- facilitating biomethane injection on the gas network. Although volumes are currently small, they are expected to increase significantly in line with the new national target of up to 5.7 TWh set under the recently announced Sectoral Emissions Ceilings and the forthcoming Renewable Heat Obligation Scheme
- preparing the existing gas network to accept hydrogen/natural gas blends from the UK. We have invested in the Network Innovation Centre to ensure safety and operability of pipelines, meters and appliances with a variety of hydrogen blends and
- preparing for the injection of indigenous green hydrogen at appropriate locations into the gas network (in doing so, supporting the development of the solar and onshore/offshore wind industries in Ireland)

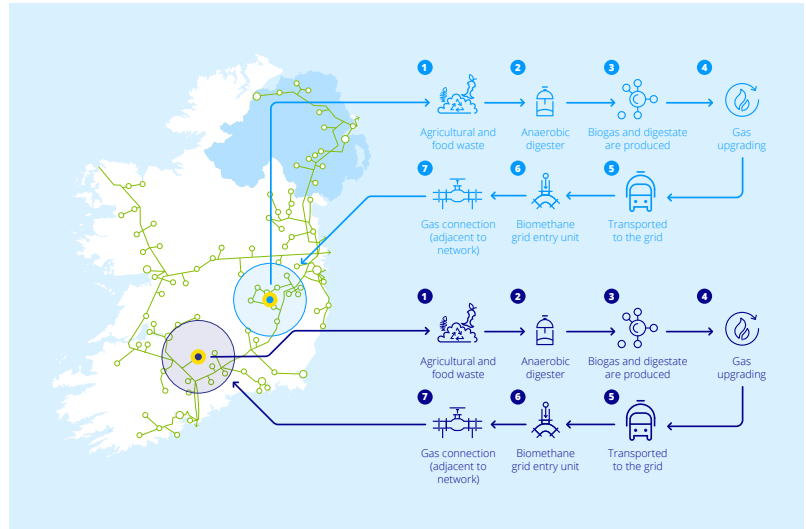
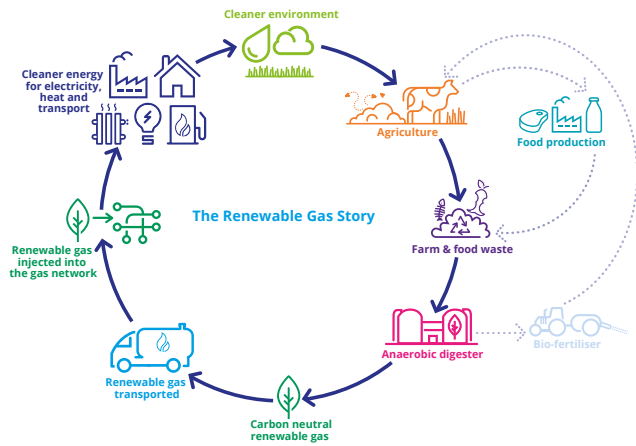


Net-zero carbon by 2050

By gradually replacing natural gas with renewable gases, such as biomethane and hydrogen, Gas Networks Ireland is striving to deliver a net-zero carbon gas network by 2050 and to reduce emissions across a number of key sectors, including those that are traditionally difficult to decarbonise, such as transport, agriculture, industry, heating and power generation.

Gas Networks Ireland believes that green hydrogen and biomethane offer, not only a pathway for full energy system decarbonisation but also, a secure and achievable opportunity for Ireland to increase its energy independence through the diverse production of indigenous renewable gases. Coupled with Ireland's offshore wind potential, Ireland's gas network is uniquely placed to support the transition to net-zero, while simultaneously enhancing Ireland's energy security and providing opportunities for economic growth and development.

Decarbonisation technology solutions



Biomethane

A carbon-neutral renewable gas made from farm and food waste, biomethane is fully compatible with Ireland's existing gas infrastructure, technologies and appliances, and has already begun replacing natural gas in the network, with **41 GWh of biomethane from two domestic producers entering the network in Cush, Co. Kildare during 2022.**

During 2022 we have seen an almost nine-fold increase in the amount of biomethane entering the network at Cush, enhancing our Security of Supply with an indigenous source. Green Gas Generation was awarded Sustainable Certification by the International Sustainability and Carbon Certification (ISCC) during the year for its biomethane, which certifies it as renewable gas. ISCC-certified renewable gas is compliant with the Biofuels Obligation Scheme in both Ireland and the UK. In addition, the GRAZE (Green Renewable Agricultural Zero Emissions) Gas Project is led by Gas Networks Ireland and is supported by more than €8.4m in funding from the Department of Environment, Climate and Communications' (DECC) Climate Action Fund (CAF), as part of the Government's National Energy Security Framework. Key elements of the GRAZE Gas Project include:

- i. Central Grid Injection (CGI) point near Mitchelstown in Co. Cork
- ii. Transportation of Renewable Gas from Anaerobic Digestors to CGI
- iii. 2x Compressed Natural Gas (CNG) Refuelling Stations
- iv. Vehicle funding for 74 CNG trucks

When operating at full capacity, the Mitchelstown CGI will have the potential to inject up to 700 GWh of renewable gas into the gas network. This represents 1.2% of total gas demand and will reduce emissions by c. 130,000 tCO₂ p.a. when fully operational.

The EU's Farm to Fork Strategy highlights biomethane as a key element in decarbonising agriculture, which is a particularly important focus for Ireland. Additionally, it offers an immediate decarbonisation solution for transport, industry, heating and power generation, and the ability for businesses to power their operations via renewable gas made from their own waste in a truly sustainable circular economy.

The European Commission has identified Ireland as having the greatest potential per capita to deploy biomethane⁵. In CAP 23, the Government firmly commits to tripling its ambition from Climate Action Plan 2021, to now deliver up to 5.7TWh of indigenously produced biomethane by 2030. CAP 23 sets out ambitions for the production of up to 1TWh of biomethane by 2025 with the construction of up to 20 AD plants of scale and up to 5.7TWh of biomethane by 2030 with up to 200 AD plants. CAP 23 also confirms the introduction of a Renewable Heat Obligation by 2024 (Introduce obligation in the heat sector, incentivising the production of indigenously-produced biomethane).



Hydrogen

A carbon-free renewable gas that can be made from renewable electricity and stored until needed, hydrogen is vital to both Ireland's and the EU's ambition for a net-zero energy system by 2050. Hydrogen also demonstrates how greater integration between Ireland's gas and electricity networks can support a low-carbon economy, while also enhancing energy security and diversity.

At a European level, the key role of hydrogen in decarbonising our energy system is widely recognised. The EU's Hydrogen and Gas Markets Decarbonisation Package aims to facilitate access of renewable and low-carbon gases to existing gas networks. The EU's REPowerEU Plan further underlines the momentum for hydrogen to diversify and decarbonise energy supply by quadrupling the previous hydrogen supply target from c. 5 to 20 million tonnes by 2030.

At a national level, there is also increasingly positive sentiment towards hydrogen's role in the net-zero solution. A public 'Consultation on Developing a Hydrogen Strategy for Ireland' was published by the Government in July 2022 to garner feedback on the role it could play in decarbonisation. Moreover, as part of the Sectoral Emissions Ceilings announcement, the government committed to an additional 2,000 MW of offshore wind power for green hydrogen production by 2030.

Over recent years, along with 30 other European Gas Transmission System Operators, Gas Networks Ireland has contributed to the European Hydrogen Backbone Initiative. By 2040, there could be almost 53,000km of 100% hydrogen pipelines throughout Europe, with the majority being re-purposed pipelines. These pipelines present a cost-effective way of transporting hydrogen to enable achievement of REPowerEU targets.

In CAP 23, the Government recognises that green hydrogen will play a significant role in sector coupling and minimising overall costs of decarbonisation across all sectors and that policies are potentially required to ensure zero carbon gases, such as hydrogen, are utilised. CAP 23 also identifies that potential policies are required to support the development of inter seasonal storage of hydrogen.

Ireland's gas network is considered one of the safest and most modern in the world. To ensure it is capable of safely transporting and storing hydrogen, Gas Networks Ireland has invested in a hydrogen test facility at the Network Innovation Centre at its Citywest Campus at Brownsbarn, Co. Dublin. This is an off-network hydrogen test blend facility, which was established to understand the full potential of hydrogen and to test network network and appliance compatibility with natural gas and hydrogen blends.

Compressed Natural Gas (CNG)

CNG involves the deployment of technologies which deliver gas that has been compressed to high pressures (over 200 bar) for use in transport. It is compatible with both natural and renewable gas and is particularly suitable for heavy commercial vehicles where electric solutions are not a viable option.

A proven, reliable and cleaner alternative to diesel, CNG is an established global source of transport fuel, with more than 28 million gas-powered vehicles worldwide and almost two million in Europe. With four public and three private CNG stations operational in 2022, Ireland's CNG consumption fell back slightly on 2021 volumes in line with the geopolitical situation, despite a 25% growth in gas in transport vehicles. Additionally, a fifth public CNG station was fully constructed and prepared for commissioning in 2021 - however the operational phase is awaiting CRU safety case approval.

Amid challenging market conditions (Covid-19, the unfolding geopolitical situation and the resulting gas price increases), the progress on Causeway station delivery has been slower than anticipated. In addition to the four operational public stations, a further five public access Causeway stations are at various stages of development and will be delivered over the next 2 years. Notwithstanding the current challenges, the potential for CNG vehicles to be fuelled by biomethane (Bio-CNG) offers a significant opportunity to fully decarbonise HGV transport in the future, which is one of the most difficult sectors to decarbonise. To this end, in Q4 2022, all operational CNG stations moved to supplying renewable gas.



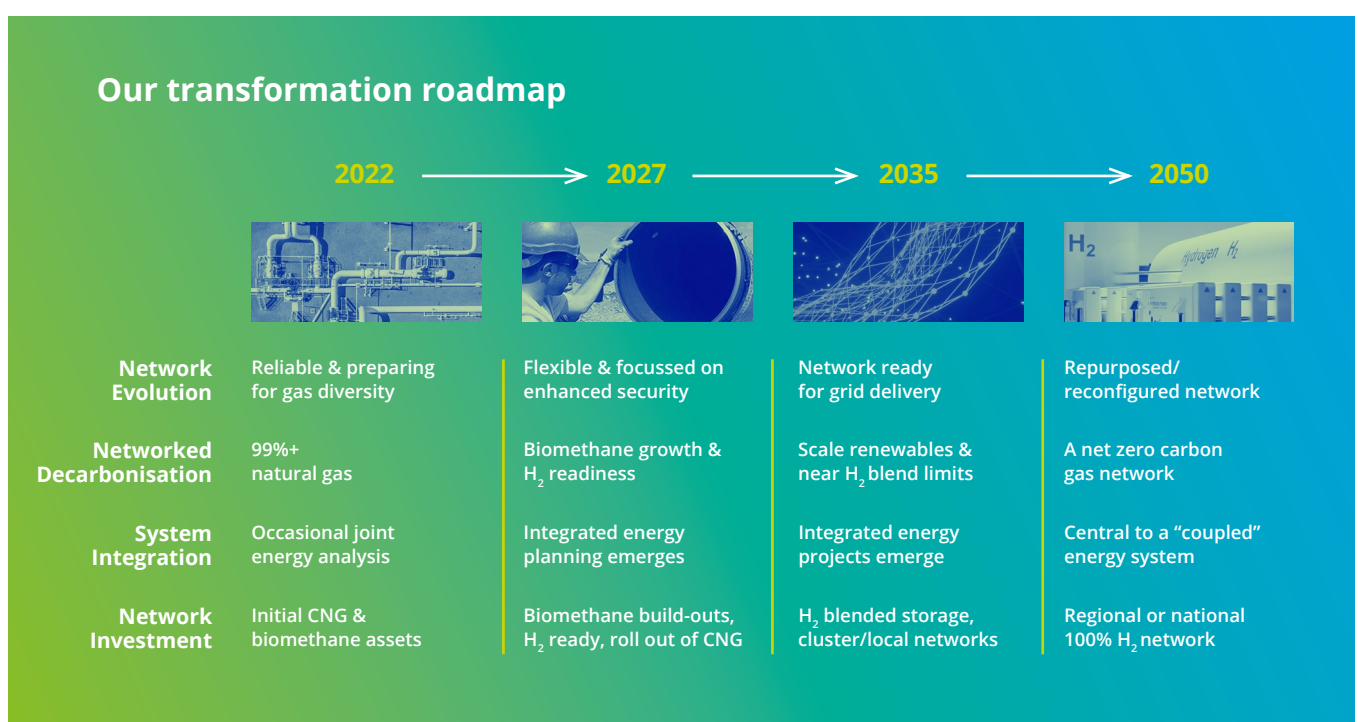
A secure, clean energy future

The gas network is crucial to Ireland’s energy mix and imperative to achieving climate action targets. Decarbonising the gas network will complement the development of renewable electricity, reduce emissions across all sectors of the economy including those that are traditionally difficult to decarbonise such as industry, agriculture and heavy transport, and further enhance the security and diversity of Ireland’s energy supply.

Transitioning to a clean energy economy requires a balance between sustainability, security and affordability. Leveraging existing national assets and capabilities can help Ireland meet its climate targets cost-effectively and securely. The publication in December 2021 of the Annex of Actions that accompanies the Climate Action Plan 2021 reinforces some key activities and roles for Gas Networks Ireland and outlines how the decarbonisation plans for the gas network will be delivered. Gas Networks Ireland is currently progressing Action 169, “Developing renewable gases in the gas grid” with a strong focus on getting the network hydrogen-ready and scaling up biomethane.

Gas Networks Ireland is already supporting Ireland’s journey to a cleaner energy future. We provide reliable, flexible support to intermittent renewables, we are beginning to replace natural gas with renewable gases such as biomethane, and we are actively preparing for hydrogen. Ireland’s gas network is one of the safest and most modern gas networks in Europe. Blends of up to 20% hydrogen could be transported on the existing gas network with both minimal disruption and upfront cost to customers. Green hydrogen is a carbon free gas that can be produced from renewable electricity and stored indefinitely, making it an attractive option to decarbonise energy systems and a strong example of how greater integration between our gas and electricity systems can drive a cleaner energy future for Ireland.

Gas Networks Ireland will continue to work with key national and EU stakeholders, including policy-makers, industry bodies, researchers and communities to plan for and deliver a safe, efficient and reliable gas network by focusing on security of supply and safe operations while also pursuing opportunities to decarbonise the network as part of Ireland’s transition to a secure, clean energy future.



REFERENCES

1. EirGrid System and Renewable Data Summary Report - <https://www.eirgridgroup.com/site-files/library/EirGrid/System-and-Renewable-Data-Summary-Report.xlsx>
2. Annual gas demand 2021 - <https://www.gasnetworks.ie/corporate/news/active-news-articles/annual-gas-demand-2021/>
3. <https://www.eirgridgroup.com/site-files/library/EirGrid/All-Island-Generation-Capacity-Statement-2020-2029.pdf>
4. Gas Networks Ireland Sustainability in Action 2021
<https://www.gasnetworks.ie/docs/corporate/company/Sustainability-Report-2021.pdf>
5. Ireland's Climate Action and Low Carbon Development (Amendment) Act 2021
<https://www.oireachtas.ie/en/bills/bill/2021/39/>
6. Climate Action Plan 2023 - <https://assets.gov.ie/243585/9942d689-2490-4ccf-9dc8-f50166bab0e7.pdf>

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