

gasnetworks.ie



Gas
Networks
Ireland

Ireland's Gas Network - Keeping Ireland's Energy Moving



November 2024

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

The gas network operated by Gas Networks Ireland (GNI) is transforming to deliver a repurposed, resized, and fully decarbonised network by 2045. The Irish Government has ambitious climate and energy targets to successfully transition to a carbon-neutral economy by 2050. The decarbonisation of the gas network is critical to achieving that goal. As the gas network transforms it will continue to have a critical role in providing a cleaner, competitive and secure energy supply for Ireland particularly for power generation. This will ensure resilience when the wind doesn't blow and the sun doesn't shine. It will also offer a decarbonisation pathway to those industries that are hard to electrify.

The gas network is of key strategic importance to Ireland and facilitates continued job creation and economic growth. Flexible, reliable and resilient, it currently delivers a safe and secure supply of gas to over 713,000 customers, 365 days a year, powers almost half of the country's electricity and supports the deployment of renewable electricity generation. The decarbonisation of the gas network means Ireland can continue to benefit from this reliable state-owned asset, in a low carbon future.

The gas network is:



Flexible

- Adapting to realise a net zero gas network for Ireland by 2045 and supporting Ireland's target for a net zero carbon economy by 2050
- Supplying energy for power generation, heat and transport
- The partnership between flexible gas-fired power generation and intermittent renewable generation is key to enabling Ireland's renewable integration ambition into the future
- Providing solutions to meet Ireland's short and long-term climate goals, such as indigenous renewable gases, including biomethane and green hydrogen, as well as bio compressed natural gas (bio-CNG)
- Aligning with the EU's ambitions for a fully integrated and interconnected energy market, across the energy vectors (natural gas, biomethane, hydrogen and electricity) which will also enhance security of supply



Accessible

- Serving over c.713,000 customers connected in Ireland, 27,252 industrial and commercial customers including power plants
- Connecting 22 counties to the gas network
- Operating in collaboration with 3 gas producers, 29 gas shippers and 6 gas suppliers

* DATA FREEZE - The data contained in this report is for the calendar period 2023, whereas general information and commentary is included based on latest available information up to August 2024.



Safe

- Transporting gas safely and securely
- Preparing 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 a safety framework under the oversight of the regulatory authority for the gas market in Ireland, the Commission for Regulation of Utilities (CRU)



Reliable

- Ensuring a safe and secure supply of gas, 24 hours a day, 365 days a year
- Powering almost half of Ireland's electricity, providing 31% of Ireland's primary energy
- Providing essential backup for intermittent renewable electricity generation
- Supplying energy crucial for economic and societal growth, job creation and attracting and retaining foreign direct investment
- Meeting demand in harshest weather conditions
- Delivering energy where it is needed, when it is needed



Transforming

- Focused on serving Ireland's energy needs today, while transforming into a fully decarbonised network that transports renewable gases
- Collaborating with stakeholders for a future in which the gas network as part of an integrated energy system enables the country to get to net zero
- On-going hydrogen testing at the Network Innovation Centre to understand the full potential of hydrogen and ensure the gas network is capable of safely transporting 100% hydrogen
- Preparing for the safe entry of hydrogen onto the gas network via blends across the interconnectors within the next 10 years
- Progressing our role in helping achieve the Government target of 5.7 TWh of indigenous biomethane production by 2030
- Developing the first central grid injection (CGI) facility for biomethane
- Delivering a Government-led assessment of options to enhance Ireland's security of gas supply



Gas value chain in Ireland

A wide range of stakeholders are engaged in the delivery of Ireland's natural gas and renewable gas needs. 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, **six 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.



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

29 shippers and suppliers utilise the gas network in Ireland. Of these, **6 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 2023, Gas Networks Ireland directly employed 756 people, with further indirect employment provided through contracting arrangements with key service providers. We are committed to keeping Ireland's energy moving. The gas network while serving Ireland's energy needs today, is also focused on transforming into a fully decarbonised network that transports renewable gases.

Operations are guided by three core values:

1

Building on experience:

Years of reliable expertise and constant evolution not only guide us but give us the confidence to move towards a more sustainable future.

**BUILDING
ON EXPERIENCE**

2

Doing what's right:

Care and compassion guides everything we do and that means delivering services as safely as they are dependable.

**DOING
WHAT'S RIGHT**

3

Energised for change:

We know that transitioning to a cleaner energy future will only come from a willingness to learn, adapt, innovate and collaborate widely.

**ENERGISED
FOR CHANGE**



Our key activities include:

- **Transporting** natural gas and biomethane safely to our customers
- **Maintaining and operating** the gas network
- **Safely responding** to all public-reported escapes of gas and delivering safety awareness campaigns
- **Facilitating the process of switching supplier** for gas customers, in one of the most competitive retail gas markets in Europe
- **Connecting** 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
- **Progressing the transformation of the gas network** to transport green hydrogen by testing and trialling



Customer service

The provision of service excellence to our suppliers and customers is a fundamental principle for Gas Networks Ireland. We continually monitor our customer satisfaction score targets, and in 2023, attained **a score of 78+ in the 'Customer Centricity'** metric measuring our commitment to embedding customer focus across all interactions. Additionally, we attained a **supplier satisfaction score of 81%** in relation to our performance in responding to supplier queries.

In 2023*, there were:

- **53,139 customer appointments granted** within the time frame requested. Compliance was 99.91%
- **70,443 customer appointments kept** with 99.10% compliance rate
- **1.74 million meter reads taken**
- **552,066 customer contacts handled** by our Contact Centre across inbound and outbound channels, an increase of 9% on the previous year 2022.
- **12,368 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 today

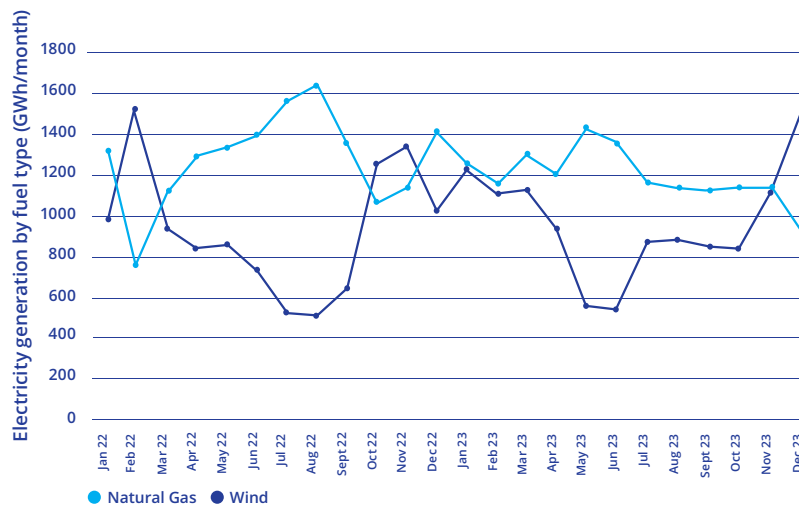
The gas network plays a vital role in complementing intermittent renewable energy, such as wind and solar. Gas meets 31% of the country's primary energy needs. In addition, it supports 22 counties and 27,252 industrial and commercial customers including power stations. The gas network is transforming to transport renewable gases only. The network will enable hard to abate sectors to decarbonise and it will be crucial to provide continued resilience to the electricity system as the level of renewables continue to increase.

Peak gas demand in Ireland typically occurs in winter, when high levels of domestic heating and industrial production can coincide with very low winds and solar power, 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-fired power plants are utilised to meet an increased peak electricity demand, while annual gas demand is set to reduce due to energy efficiency measures and electrification of certain sectors.

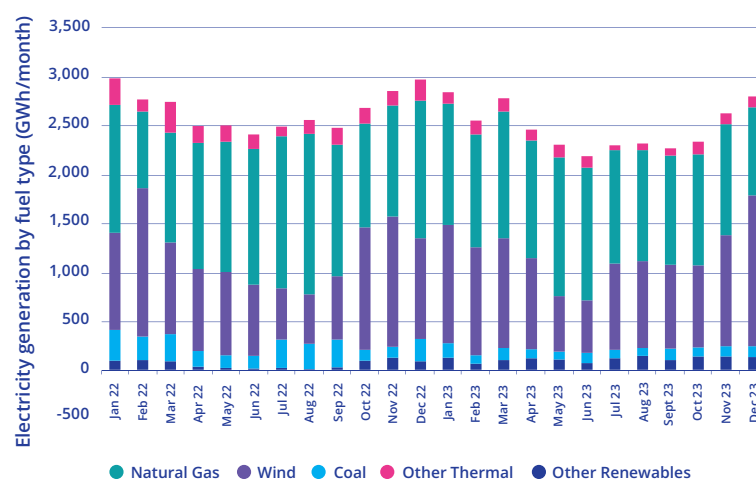
The critical role of gas for electricity supply was demonstrated in November 2023 with two of the highest November gas demand days ever recorded due to the little or no availability of wind coinciding with plummeting temperatures. On these days, gas produced up to 81% of the electricity generated across the country. Shortly after, in December, a new record was set for the amount of wind energy used on the all-island electricity grid, which showcases how a complete energy system works with wind and gas complementing each other.

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 EirGrid 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 flexible gas-fired generation is to be built by 2030. The graphs below illustrate the vital role of gas for security of electricity supply, providing flexible, secure supply when renewables are less available.

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



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

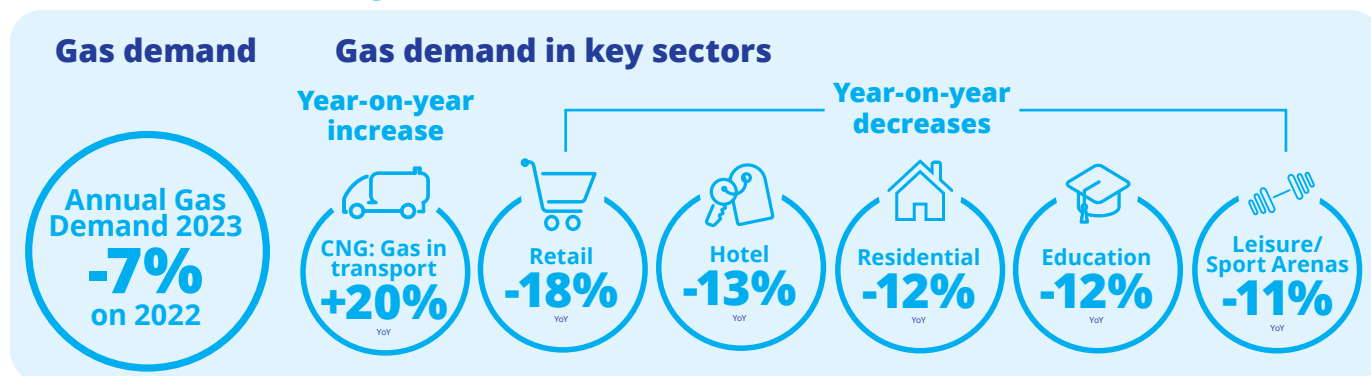


Gas demand in Ireland

Gas Demand in Ireland was 7% lower in 2023 compared to 2022. This was primarily due to a milder winter and lower consumption due to increased gas prices, as a result of the EU-wide energy crisis. Gas continued to be a major contributor to electricity supplies, powering 47% of Ireland's electricity requirements in 2023, as well as almost 31% of Ireland's primary energy needs.

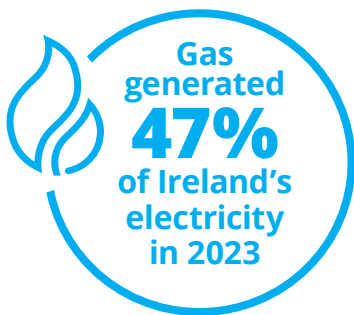
With a total gas demand of 53.1 TWh, approximately 22% of supplies came from the Corrib gas fields, while 77% was imported through the gas interconnectors from Scotland in 2023. A small but increasing volume of indigenously produced biomethane was injected into the gas network at the third entry point in Cush, Co. Kildare during 2023.

A look back at overall gas demand in 2023



Certain sectors of the economy saw a reduction in gas demand during 2023, largely due to the ongoing geopolitical uncertainty in Europe and further afield, with a direct impact on energy costs across Europe.

Gas continued to be the largest source of electricity generation in Ireland for the first 10 months of 2023, with both wind energy and gas made in equal contributions in November 2023. Wind energy was the key source in December 2023.



During the summer of 2023 when the country experienced very changeable weather, gas provided 87% of electricity generation at its peak during the month of June, while in one of Ireland's wettest Julys on record, gas demand decreased by 18% year-on-year. In a mild and changeable August, gas demand fell by 21% year-on-year while wind energy's contribution to electricity generation jumped from 19% in August 2022, to 35% in 2023.

A mild yet very wet October saw Ireland's gas demand increase by 13% on the previous month, with a 3.5% rise on the same month in the previous year. While in November, the last three days of the month saw exceptional levels of gas demand, with the **28th and the 30th respectively being the highest two November gas demand days ever recorded**, with gas playing a critical role in securing electricity supplies in Ireland.

Demand for gas in transport saw significant increases in 2023

In 2023, demand for compressed natural gas (CNG) in transport saw a significant year-on-year increase, up 20% compared to 2022. During 2023, approximately 95% of the gas dispensed as a transport fuel was certified as renewable gas, as more CNG suppliers source their gas from renewable sources (biomethane produced in Anaerobic Digestion plants and injected into the natural gas network). While fuelling with CNG can reduce a heavy good vehicle's CO₂ emissions by up to 22%, Renewable Gas in transport sourced through the Renewable Gas Certification Scheme, operated by Gas Networks Ireland, is treated as a zero-emissions fuel under EU law (RED2 Directive) and recognised by the National Oil Reserve Association (NORA).

In May 2023, Gas Networks Ireland announced that carbon neutral BioCNG is available for heavy goods vehicles at Circle K's forecourts in Limerick on the Ballysimon Road; in Tipperary, just off the M7 in Cashel, as well as the Dublin Port and Clonsaugh forecourts in Dublin.

In November 2023, Gas Networks Ireland and Virginia International Logistics took another step forward in reducing emissions from Ireland's transport industry with the opening of Ireland's eighth CNG refuelling station.



Reliable and Secure Gas Supply

Gas Networks Ireland is committed to ensuring that gas is transported to the end user in an efficient, economic, safe and reliable manner. As an island nation with no direct connection to the European energy system, Ireland is currently exploring options to enhance security of supply.

In 2023*, 77% of Ireland's natural gas was imported through our two gas interconnectors with Scotland and this dependency is set to increase as the 22% currently supplied from the Corrib gas field is projected to decline over the coming decade. This dependence on the UK is underpinned by a Memorandum of Understanding on 'Cooperation of Natural Gas Security of Supply' that was signed between the UK and Ireland in September 2023 to ensure cooperation between the two States in the event of a reduction or disruption to supply.

The Government's Energy Security Package published in November 2023 addresses the security of supply risks. The package includes a new strategy to ensure energy security in Ireland for this decade, while ensuring a sustainable transition to a carbon neutral energy system by 2050 and this was informed by the Government's energy security policy objectives - to ensure energy is affordable, sustainable, and secure.

The package also assesses the potential risks to Ireland's natural gas security of supply, reviews policy options that may enhance Ireland's security of gas supply and presents recommendations to the Government. The report includes 'enduring measures' that will provide solutions based on Ireland's long-term requirements, including renewable compatible large scale gas storage, increased production of renewable gas, a fit-for-purpose gas network that evolves with changing gas requirements and a reduction in peak day gas demand.

The report also includes a 'transitional measure' to address any unmet demand via a Strategic Gas Emergency Reserve should a significant disruption occur to Ireland's largest gas infrastructure in the medium-term. Gas Networks Ireland has been tasked with developing a recommendation for the Strategic Gas Emergency Reserve. Gas Networks Ireland has recently submitted a proposal to the Minister for Environment, Climate and Communication and is currently awaiting a formal Government decision.

Biomethane produced at scale will provide an indigenous, renewable energy source for Ireland, further enhancing the country's security of supply. Gas Networks Ireland's network is 100% compatible with biomethane and we are transporting small but growing quantities of biomethane. In addition, by developing an indigenous green hydrogen industry, Ireland has the potential to reduce/eliminate reliance on imported energy. The national gas network can provide a consistent and secure source of demand for green hydrogen to help build and develop indigenous hydrogen production.



Ireland's gas network – a national asset

Gas Networks Ireland

Delivering Ireland's energy

31%

of Ireland's total energy demand



22%

of gas used in Ireland sourced indigenously from Corrib gas field

47%

of Ireland's electricity generation

53.1 TWh

transported through the network for Republic of Ireland

41%

of Ireland's heating

2

subsea interconnectors

14,725km pipeline

- 2,477km high pressure steel transmission pipes
- 12,248km lower pressure polyethylene distribution pipes

Delivering on safety

2 million hours

worked incident free

Excellence Awards Winner in the Public Sector category

27 minutes

average call (on site) response time

14,856

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

ISO Management Systems recertified



ISO14001, ISO50001, ISO45001, ISO9001, ISO55001

Delivering for Ireland

€148m

capital expenditure



€32m

dividend payment to the Exchequer

€527m

revenue



756

staff directly employed by Gas Networks Ireland

Aurora Telecom specialises in Dark Fibre services for telecommunications carriers, corporate organisations, and government services. In 2023, as well as expanding our national network footprint, Aurora exceeded all financial and operational targets, continuing to be the most modern, lowest latency network in the country. This ensures we deliver for our broad spectrum of clients across terrestrial carriers; hyperscale operators; subsea carriers; government and datacentres.

Delivering for the future

Committed to biomethane development:

61 GWh

transported in 2023

Renewable Gas Research

- **14.8TWh of aggregated potential biomethane production** - Biomethane Energy Report www.gasnetworks.ie/biomethane-report/
- **Up to 20% hydrogen blend compatible** with large & industrial customers' equipment limits – HyEnd Report - Researching a cleaner energy future (gasnetworks.ie)
- **Home appliances remain fully functional** using a natural gas blend of up to 20% hydrogen – HyTest Report - Researching a cleaner energy future (gasnetworks.ie)

4 public and 4 private compressed natural gas (CNG) stations operational by the end of 2023



Operational asset of size and scale

Transmission System

Delivering for existing connections

713,000+

customers in **22** counties, with 27,252 industrial and commercial customers, including power stations



Delivering for customers

114,403

Pay As You Go' meters on the network



552,066

customer contacts handled by our contact centre

3,500+

gas credit top-up outlets in Ireland

98,000+

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

1.74m

meter reads undertaken

1.6m

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

70,443

customer appointments kept with 99% compliance rate

Delivering on sustainability

- › **Won** All Ireland Community and Council Awards
- › Set of **Sustainability Principles & Values issued** via Supplier Charter
- › **Biodiversity commitment exemplified** through improvements across many sites including planting 15,290 native trees
- › **Continued to deliver on our diversity, equity and inclusion programme** - 34 graduates from our female development programme 2023
- › **Greenhouse Gas (GHG) reduction** glidepath developed

€250,000+

in financial support to local communities



Carbon Disclosure Project (CDP)
CDP climate change score **A-**
CDP supplier engagement rating **A-**

93

community projects supported



Responsibly certified

Certified to the Business Working Responsibly Mark
Scope 1 (direct emissions) 17% reduction from 2010 baseline
Scope 2 (indirect emissions) 58% reduction from 2010 baseline

EU policy progress

In 2023, the urgency to reduce dependency on Russian fossil fuels led the EU to make significant progress with the Green Deal and the Fit for 55 package. Efforts to diversify energy sources and enhance energy security were intensified, including the accelerated deployment of renewable energy projects and improved energy efficiency across member states. Additionally, several legislative measures were finalised to drive decarbonisation, such as stricter emissions standards for industries, increased support for clean technologies, and incentives for reducing carbon footprints. The EU also promoted biomethane and hydrogen by setting production targets and creating a regulatory framework to support their economies.

Green Deal (2019) Details Europe's plans for climate neutrality by 2050 and influences how gas network operators manage infrastructure and molecules that they transport	Fit for 55 (2021) Includes EU level strategies on hydrogen and energy system integration which directly impact gas network development. Commits to cutting emissions by at least 55% by 2030	REPowerEU (2022) European Commission plan to reduce its dependence on Russian fossil fuels and increase the resilience of the EU energy system
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European policy developments of note:



Hydrogen and Gas Decarbonisation Package: The final text entered into force on 4th August 2024. This package of EU legislation enables the decarbonisation of gas consumption and sets out policy measures to support the creation of effective infrastructure to enable future hydrogen markets.

Methane Emissions Reduction Regulation: On 4th August 2024, the final text of the Methane Emissions Reduction Regulation officially came into force. The main implications for Gas Networks Ireland under this Regulation will be 1. avoidable venting of natural gas is to be prohibited; 2. mandated minimum leak detection surveys of the network and GNI installations; 3. report annually on methane emissions from the entire network; and 4. mandated minimum time for leak repairs.

CO₂ Emission Standards for HDVs: The EU recently enacted legislation to expand the scope of current Heavy Duty Vehicles (HDV) regulations to include urban buses, coaches, trailers and other types of lorries. The regulation also sets targets for CO₂ emissions of HDVs to fall by 45% by 2030 compared to 2019 levels. The Regulation applies from 1st July 2024.

Renewable Energy Directive RED III: This was published on the 31st October 2023 and entered into force 20 days later on the 20th November 2023 with a binding target of at least 42.5% of energy from renewable sources by 2030.

Energy Performance of Buildings Directive (EPBD): The Directive's final text entered into force on the 28th May 2024 with the aim of reducing the average primary energy use of residential buildings by 16% by 2030 and 20-22% by 2035. For non-residential buildings, the target is to renovate the 16% worst-performing buildings by 2030 and the 26% worst-performing buildings by 2033 improving their energy rating and reducing their energy consumption in order to achieve a target that is to be defined by the member states in their National Building Renovation Plan to be developed in 2025.

Net Zero Industry Act: The Net-Zero Industry Act (NZIA) regulation entered into force on 29th June 2024. This legislation is a crucial part of the EU's broader Green Deal Industrial Plan, designed to strengthen the EU's capacity to reach its climate goals by 2050 through various measures supporting clean technologies and reducing carbon emissions.

For more information on EU energy policy developments see Gas Networks Ireland's renewable gas / policy page: [Ireland's renewable gas policy landscape \(gasnetworks.ie\)](https://www.gasnetworks.ie)

National policy progress

Similar to the policy landscape at an EU level, there has been significant progress nationally. The timeline below shows the key energy policy initiatives being implemented at a national level in 2023/24 to tackle security of supply and climate action. More detail on these is also available on the Gas Networks Ireland renewable gas policy page: <https://www.gasnetworks.ie/business/renewable-gas/policy/>



National Hydrogen Strategy: Sets out the strategic vision for the role that hydrogen will play in Ireland's energy system, looking to its long-term role as a key component of a zero-carbon economy, and the short-term actions to enable development of the hydrogen sector in Ireland.

Design of the Renewable Heat Obligation (RHO): To support the need to decarbonise the heat sector, a RHO scheme is to be issued in 2024 to incentivise suppliers of all fuels in the heat sector to ensure that a portion of the energy they procure is renewable.

Energy Security in Ireland 2030: Outlines a strategy to ensure energy security in Ireland for this decade, while ensuring a sustainable transition to a carbon neutral energy system by 2050. The strategy is informed by the Government's energy policy objectives to ensure energy is affordable, sustainable and secure.

Climate Action Plan 2024: With a strong focus on implementation, this sets out the actions that must be taken in order to ensure Ireland achieves legally binding 2030 climate targets, prepares for climate neutrality no later than 2050, and make Ireland a leader in responding to climate change.

National Biomethane Strategy: Identifies the necessary actions to deliver on the Government's ambition to deliver up to 5.7 TWh of indigenously produced biomethane, based on agricultural feedstocks, by 2030.

Long Term Strategy on Greenhouse Gas Emissions Reduction: Builds upon the decarbonisation pathways set by the carbon budgets, sectoral emissions ceilings and the Climate Action Plans, to ensure coherent and effective climate policy. Underpinned by analysis of transition options across each key sector of the economy and provides a crucial link between Ireland's 2030 climate targets and the long-term goal set by Ireland's National Climate Objective and the European Climate Law.

National Energy and Climate Plan (NECP) 2021 - 2030: Ireland submitted its draft updated NECP in July 2024 outlining detailed strategies and measures which Ireland will implement to meet our energy and climate objectives over the period of 2021-2030, as well as looking onwards to 2050.

The future role of the gas network

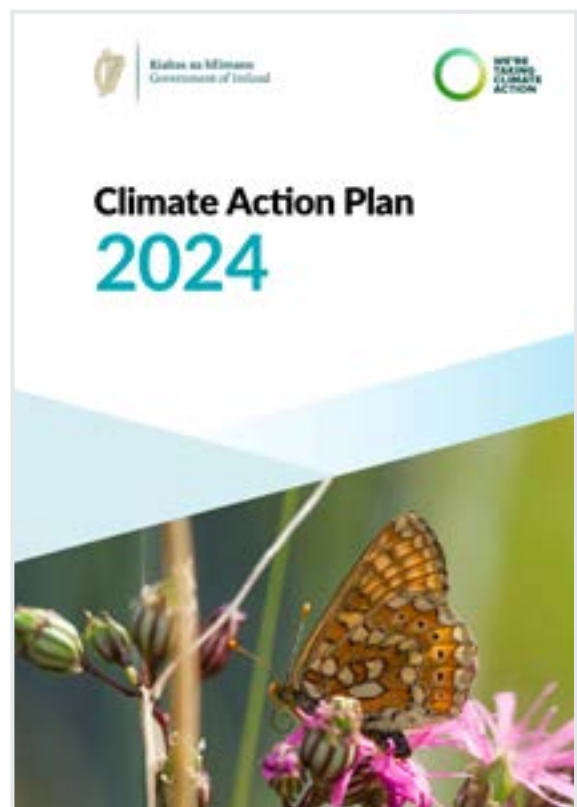
Climate change is the most urgent global issue and Ireland faces significant challenges in meeting EU and National climate targets and objectives. With a commitment to becoming net-zero by 2050, Ireland's Climate Action and Low Carbon Development (Amendment) Act 2021 puts the national climate objective on a statutory footing and actions for each sector are detailed and updated periodically in the Climate Action Plan.

The Climate Action Plan 2024 is the third annual update to Ireland's Climate Action Plan (CAP) and builds on last year's Plan by refining and updating the measures and actions required to deliver the carbon budgets and sectoral emissions ceilings. In CAP 2024, the role for biomethane and green hydrogen is referenced across the electricity ("*zero emissions gas-fired generation from biomethane and green hydrogen commencing 2030*"), agriculture, residential and industrial heating sectors.

As part of Ireland's carbon budget programme, sectoral emissions ceilings were set in 2022 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 national target of up to 5.7 TWh set under the Sectoral Emissions Ceilings Climate Action Plan 2024 and the National Biomethane Strategy
- supporting CNG/bio-CNG to enable the reduction of emissions in the HGV sector
- preparing the existing gas network to accept hydrogen/natural gas blends from the UK. We have invested in our Network Innovation Centre to ensure safety and operability of pipelines, meters and appliances with a variety of hydrogen blends
- supporting the implementation of the Government's National Hydrogen Strategy and planning for transitioning the gas network to transport indigenous green hydrogen in the future
- Gas Networks Ireland is focused on the delivery of the Biomethane Strategy through our participation in the Biomethane Implementation Group, and as a key stakeholder on six actions



A secure, clean energy future

The Irish Government has ambitious climate and energy targets to successfully transition to a carbon-neutral economy by 2050. Gas Networks Ireland's transformation pathway reflects this same imperative to reduce greenhouse gas emissions by transporting renewable gases only, while simultaneously ensuring Ireland has a secure and reliable energy supply in an increasingly integrated energy system. Currently transporting over 31% of Ireland's total primary energy and generating almost 50% of Ireland's electricity, our network makes a key contribution to our economy, and it makes sense to continue to use this vital State asset to transport renewable energy across the country in the future.

Gas Networks Ireland has already begun this transformation pathway, with the gas network already transporting biomethane in small but growing volumes. As biomethane scales to meet the Government's current annual target of 5.7 TWh by 2030, Gas Networks Ireland expect it to account for c.12% of projected networked gas. In relation to hydrogen, our current focus is to complete the necessary testing, trialling, and safety case development to demonstrate and prove network readiness for hydrogen.

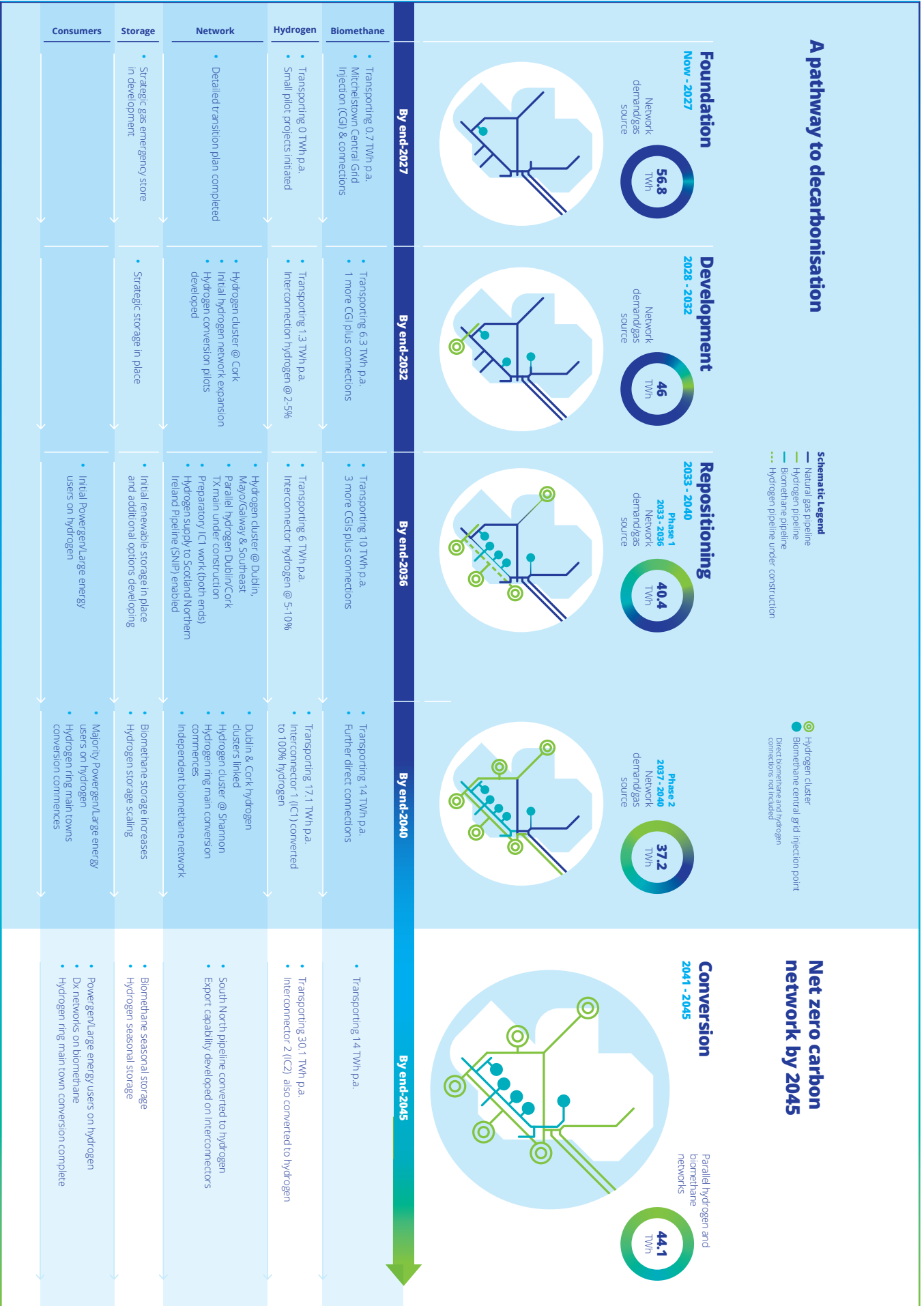
Gas Networks Ireland published its ambitious **"Pathway to a Net Zero Carbon Network"** in June 2024 which highlights the essential role the national gas network will play in transitioning Ireland to a carbon-neutral economy by 2050 and towards Ireland's climate targets. By focusing on transporting renewable gases like biomethane and green hydrogen, the plan aims to ensure a secure and reliable energy supply while reducing greenhouse gas emissions. The goal is to have a fully decarbonised gas network by 2045, aligning with the broader objective of a carbon-neutral economy by 2050. This transformation will also contribute to a more integrated and sustainable energy system.

The actual basis and timing for the full decarbonisation of our network will become clearer as energy policy and new energy sources and technologies progress, but we know that by embracing innovation in these areas, leveraging our expertise, and collaborating with stakeholders, we can realise this ambition.

Gas Networks Ireland believes that the realisation of a decarbonised gas network is in the best interests of Ireland's energy customers, offering the most economic and least disruptive means of decarbonising energy use for many, and a vital alternative decarbonisation pathway for those consumers for whom electrification is very challenging.

Gas Networks Ireland is committed to working with the Government, policy makers, regulators and key stakeholders to develop and invest in a more integrated, resilient, and flexible Irish gas network. As the company responsible for developing, operating, and maintaining the network, we are committed to making a vital contribution to Ireland's net zero carbon future by displacing all the natural gas on our network with renewable gases.





Decarbonisation solutions

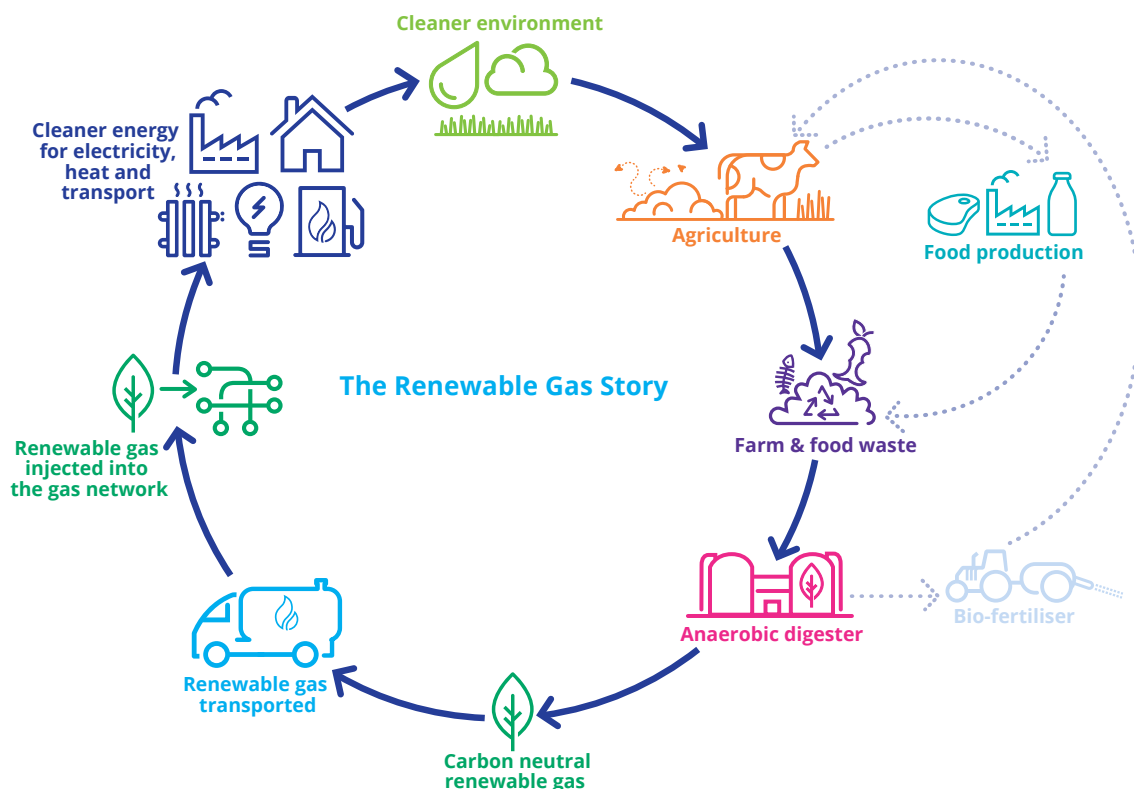
Biomethane

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 60 GWh of biomethane from two domestic producers entering the network in Cush, Co. Kildare during 2023. In addition, 1 GWh of biomethane was imported from Denmark in July 2023.

During 2023 we saw a 47% increase in the amount of biomethane entering the network at Cush, enhancing our Security of Supply with an indigenous source.

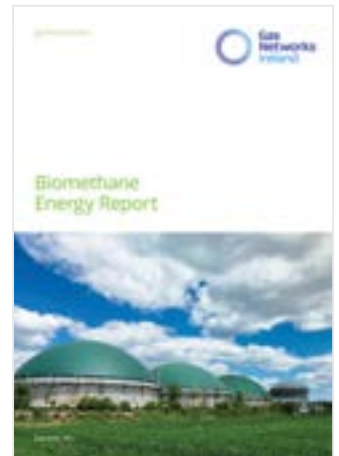
The GRAZE (Green Renewable Agricultural Zero Emissions) Gas Project led by Gas Networks Ireland is receiving more than €8.4m in funding from the Department of Environment, Climate and Communications’ (DECC) Climate Action Fund (CAF), as part of the Government’s National Energy Security Framework. The first deliverable is the Biomethane Central Grid Injection (CGI) facility, located near Mitchelstown in Co. Cork. 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 1.3% of Ireland’s total gas demand and will reduce emissions by c.130,000 tCO₂ p.a. when fully operational.

In CAP 2024, the Government maintains its ambition for biomethane production in Ireland with the aim to deliver up to 1 TWh of indigenously produced biomethane by 2025 and up to 5.7 TWh by 2030. CAP 2024 also sets out that the Renewable Heat Obligation Scheme (RHO) will be introduced in 2024.



Gas Networks Ireland Biomethane Energy Report

In October 2022, Gas Networks Ireland issued a Request for Information (RFI) to prospective biomethane producers to support the identification of new and feasible biomethane production projects and prepare for increased biomethane connections and injection. Further to the RFI, in September 2023, Gas Networks Ireland published its Biomethane Energy Report, which outlines the development of the gas network to bring biomethane on to the network in the most efficient and effective manner.



As detailed in the Report, the RFI provided a response in terms of production volumes of potentially up to 14.8 TWh, which is more than two and a half times that of Ireland's 2030 biomethane target of 5.7 TWh indigenous production by 2030, representing an important indicator of the robustness of Ireland's biomethane production potential.

National Biomethane Strategy

As a first step to deliver on Ireland's ambitious biomethane production target of 5.7 TWh per annum by 2030 and to develop a biomethane industry of scale, the Department of Agriculture, Food and Marine and the Department of the Environment, Climate and Communications co-developed the National Biomethane Strategy. In the Strategy it was outlined that without biomethane, Ireland is unlikely to meet its legally binding climate target.

The strategy also recognises biomethane injection into the national gas network as being crucial to the successful development of a biomethane sector in Ireland and transporting biomethane via gas pipeline is the most efficient, sustainable, and cost-effective method of transporting to end users.

The Renewable Heat Obligation scheme, expected to be implemented in 2024, and a €40 million Biomethane Capital Grant Scheme are timely and welcome as the first steps in supporting biomethane market development in Ireland.

“Without biomethane, Ireland is unlikely to meet its legally binding targets”

National Biomethane Strategy



Green Hydrogen

A carbon-free renewable gas that can be made from renewable electricity and stored until needed, green 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. Gas Networks Ireland contributes to the European Hydrogen Backbone Initiative which indicates that by 2040, there could be almost 53,000km of 100% hydrogen pipelines throughout Europe, with the majority being re-purposed pipelines.

An important pathway for Europe to roll out Hydrogen Projects at scale in the lead up to 2030 is via the bi-annual Projects of Common Interest (PCI). In November 2023, the European Commission published the 6th PCI list and these included, for the first time, 65 Hydrogen projects.

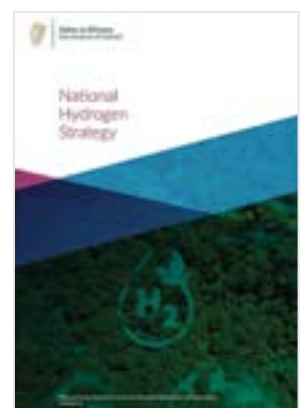
The National Hydrogen Strategy published by the Department of Environment, Climate & Communications (DECC) in July 2023 outlines the future role that green hydrogen and the gas network will play in specific areas of Ireland's energy system. The primary strategic reasons for developing an indigenous hydrogen sector in Ireland are to enable the decarbonisation of hard to abate sectors such as transport, industrial heating and power generation. In doing so, green hydrogen will help Ireland meet its 2050 net-zero emissions targets, diversify and strengthen its security of supply, provide a pathway to energy independence, and in the long-term, potentially leading to the creation of a new energy export market.

The strategy is of particular relevance for Gas Networks Ireland as the gas network will play a leading role in hydrogen transportation, and will also be a key enabler in the development of a hydrogen economy across the four components of the hydrogen value chain: Production, Transportation, Storage and End Uses. The Strategy recognises that as green hydrogen production expands, moving from initial regional clusters to a national hydrogen network, pipelines will become the dominant transport option and where feasible, repurposing existing natural gas pipeline infrastructure to hydrogen is favourable. Actions relating specifically to the existing gas network include:

- **Action 11:** Continue work to prove the technical capabilities of the gas network to transport hydrogen through the network and closely work with the network operators in neighbouring jurisdictions in respect to interoperability between the networks
- **Action 12:** Develop a plan for transitioning the gas network to hydrogen over time (taking due consideration of plans to develop a biomethane sector in Ireland). This proposal to repurpose existing natural gas pipeline infrastructure is a key feature of the Pathway to a Net Zero Carbon Network document published by Gas Networks Ireland in June 2024. This document outlines a vision that the gas network would be transformed to only transport renewable gases (biomethane and hydrogen) by 2045

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 an off-network hydrogen test facility at the Network Innovation Centre at its Campus at Brownsbarn, Co. Dublin.

Phase one of Gas Networks Ireland's research, which was completed in late 2022, focused primarily on domestic appliances, which were tested with a range of hydrogen blends (HyTest). The research found that domestic appliances could take up to 20% of hydrogen blended with natural gas without the need for retrofitting, modifications or additional costs. Phase two (HyEnd), completed in late 2023, found that more than 90% of equipment powered across industries and large businesses in Ireland is already capable of using up to 20% of hydrogen when blended with natural gas without major modifications. Phase three (HyGreenNet) of this research is underway and will focus on the gas distribution network. This phase will test asset elements such as pressure, safety and material compatibility in the transportation of hydrogen. This research is being carried out with the University College Dublin Energy Institute (UCDEI).



Transport

Compressed Natural Gas (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 gases and is particularly suitable for heavy goods 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.

Flogas and Gas Networks Ireland announced the official opening of the Republic of Ireland's first ever dedicated BioCNG (carbon neutral compressed biomethane gas) refuelling station in June 2024. The new BioCNG refuelling station is supported by Gas Networks Ireland's Causeway project, which has to date delivered a network of high capacity fast-fill CNG stations nationwide, developed a biomethane gas injection facility, deployed a fleet of CNG vehicles and made a CNG vehicle fund available to businesses in Ireland. Gas Networks Ireland continue to build out our CNG refuelling stations, with the intention of supplying renewable BioCNG refuelling stations as the volume of biomethane on the network increases. In 2023, 95% of the compressed natural gas dispensed was BioCNG.

The continued rollout of CNG refuelling stations reflects the growth in Ireland's year-on-year CNG consumption in 2023 which is up 20% in transport on 2022. More recently, Tesco Ireland took delivery of 50 biomethane fuelled trucks, which their transportation partner DHL will operate across its distribution network. Refuelling at Flogas BioCNG station, the trucks will replace diesel trucks and reduce emissions by up to 90%.

Further development of the CNG refuelling network will continue to support Irish businesses to decarbonise their transport fleets with lower-carbon CNG, as well as clean and sustainable BioCNG. The opportunity for CNG vehicles to be fuelled by BioCNG offers a significant decarbonisation opportunity for HGV transport which is one of the most difficult sectors to decarbonise.

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Operating sustainably For a clean energy future

Realising our 2045 net-zero goal and shaping Ireland's sustainable energy future requires that Gas Networks Ireland foster a culture of sustainability in every aspect of its work and strengthen Gas Networks Ireland's status as a trusted leader in sustainability.

In June 2024 Gas Networks Ireland published its ambitious transformation **Pathway to a Net Zero Carbon Network**, highlighting the essential role the national gas network will play in transitioning Ireland to a carbon-neutral economy by 2050. The transformation pathway details our network's sustainability journey towards a repurposed, resized, and fully decarbonised gas network by 2045, ensuring a secure and reliable energy supply while supporting Ireland's climate and energy goals. By replacing natural gas with renewable gases such as biomethane and green hydrogen, we are working to deliver a net zero gas network and to reduce emissions across key sectors, including those traditionally difficult to decarbonise, such as the high heat industry, power generation, agriculture, and transport. Ireland's challenge of getting to a carbon-neutral economy by 2050 will only be achieved through an integrated energy system, we are collaborating with partners to ensure that we drive the innovation required to play our part. Within our pathway, our focus is on operating a safe and reliable gas network that supports overall energy security and resilience, while ensuring our central sustainability ambition to ready the gas network for a future in which networked gas enables an integrated energy system to achieve net zero, is delivered.

As a business which operates sustainably, Gas Networks Ireland is also mindful of the impact of our operations today on the environment and in the communities in which it operates. We are proud of the fact that we are **one of only 39 companies** in Ireland to hold the Business Working Responsibly mark for responsible and sustainable business practices. Our sustainability strategy is to ensure that our activities have a positive social and environmental impact, it is framed by the three pillars of Environment, Social and Governance, (ESG) and underpins our business strategy, with each sustainability priority directly aligned to our strategic ambitions and the United Nations Sustainable Development Goals. We constantly refine our sustainability strategy to ensure we continue to focus our attention in the right areas. For example, we are currently assessing how we can accelerate the reduction of carbon emissions at our compressor stations in Scotland. Gas Networks Ireland was delighted to be appointed recently as a 2024/2025 UNSDG Champion by Minister for the Environment, Climate, Communications and Transport, Eamon Ryan. We actively promote sustainability awareness among our employees and our stakeholders through community engagement, business practices, workshops, external communications, conferences and webinars. Our focus at the moment is to embed and enhance our sustainability culture, to enable our employees to deliver on our net zero ambition.

In June 2024, Gas Networks Ireland was appointed by the Minister for the Environment, Climate and Communications, Eamon Ryan TD, to become one of twenty new United Nations (UN) Sustainable Development Goal (SDG) Champions in Ireland.

Adopted by the United Nations in 2015, the Sustainable Development Goals (SDGs) aim to end poverty and other deprivations by improving health and education, reducing inequality, and spurring economic growth, all while tackling climate change and preserving oceans and forests. Gas Networks Ireland is the first energy provider to be chosen as an SDG champion. This significant honour reflects the organisation's long-standing support for all 17 goals and its alignment with six specific SDGs most relevant to its activities.

As an Irish SDG champion, Gas Networks Ireland is committed to raising awareness about the importance of the SDGs. The organisation acts as an advocate and role model, demonstrating that everyone in society can contribute to the 2030 Agenda for Sustainable Development. The SDGs, along with their associated targets and indicators, are integrated into Gas Networks Ireland's business strategy. The organisation recognises that sustainability is essential for business success and has made its corporate strategy synonymous with its sustainability strategy.



Our sustainability priorities

As a leading utility company, sustainability is defined by our role in delivering an affordable and clean energy future for the people of Ireland through the decarbonisation of our network and the reduction of emissions across all sectors of Irish society. Gas Networks Ireland is committed to continued progress in implementing the principles of sustainable development across all aspects of our operations.

The sustainability priorities identified are outlined below:

Environmental

Climate Action Plan:

We released our Pathway to a Net Zero Carbon Network in June 2024, outlining how the national gas network can transport 100% renewable gas by 2045, thereby playing an essential role in transitioning Ireland to a carbon-neutral economy.

Greenhouse Gas Emissions (GHG):

Gas Networks Ireland have pledged to reduce our operational GHG emissions intensity by 50% by 2030. We currently report on our GHG emissions via our annual sustainability report and our GHG emissions are independently verified according to the ISO 14064-3:2019 Specifications with Guidance for the Validation and Verification of Greenhouse Gas Statements. We have established working groups (e.g. Climate Action Steering Committee and Reduce Your Use Working Group) to help achieve our carbon reduction ambitions. A number of initiatives have been identified to ensure that we meet our 2030 target, the resulting glidepath was approved by the Board in 2023 and published in our 2023 annual Sustainability Report. [sustainability-report-2023.pdf](#) (gasnetworks.ie)

Carbon Disclosure Project (CBP):

We received an A- Climate Change score from the Carbon Disclosure Project (CDP) and a CDP A- Supplier Engagement Rating, highlighting our leadership and collaborative efforts in addressing climate change.

Innovation:

On going research and development towards a cleaner energy future for Ireland at the Network Innovation Centre in Dublin. Together with our research partners from academia and industry, we're collaborating to ensure the safety and operability of the Irish gas network when transporting a blend of hydrogen and methane.

Social

Diversity, Equity & Inclusion:

Our diversity, equity and inclusion programme, iBelong, has gone from strength to strength. iBelong is about consciously making our place of work more diverse, inclusive and equal, enabling everyone to be their true selves at work. We had a successful year with numerous events including participating in the 50th Anniversary Dublin Pride march. In addition, we launched our Cultural Holiday Swap policy and our Menopause policy earlier this year.

Community Programmes:

Supported 93 community projects and provided over €250,000 in financial support to local communities.

Biodiversity:

We continue to deliver our Biodiversity Action Plan with specific goals and measurements to be achieved by the organisation, incorporating guidance for changing the way we design, build and operate our sites and assets including environmental criteria for assessing work by our contractors and increasing the delivery of biodiversity enhancements at our sites. We completed the planting of 15,290 native Irish trees at our Baldrumman AGI, alongside the three ponds constructed allowing the local flora and fauna to flourish supporting our Biodiversity commitments.

Governance

Corporate Sustainability Reporting Directive (CSRD):

We are progressing the new sustainability reporting requirements and leveraging the requirements to further embed and build on our organisation's sustainability culture. We published our 5th annual sustainability report recently highlighting our progress towards sustainable development. The report is aligned to the Global Reporting Initiative standard for sustainability reporting.

2024/2025 SDG Champion Programme:

As a champion, we will advocate and promote sustainable development, role model how the SDGs can be integrated into business activities, and drive Ireland's progress towards achieving the goals.

REFERENCES

*** DATA FREEZE** - The data contained in this report is for the calendar period 2023, whereas general information and commentary is included based on latest available information up to August 2024.

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