

Ireland's Gas Network

A vital national asset

Ireland's gas network

A vital player in our economy

Generating over half of Ireland's electricity and delivering a safe and secure supply of gas to over 705,000 customers, 365 days a year, Ireland's gas network is a critical asset valued at €2.7bn.

Reliable and resilient, it not only contributes significantly to Ireland's economy today, but it will serve Ireland into the future as we meet and deliver on national and global climate action ambition.

Gas Networks Ireland, as part of the Ervia group, owns and operates the gas network in Ireland.



Gas Networks Ireland safely transports natural gas through Ireland's national gas network, providing a reliable supply to over 705,000 domestic and business customers; which includes **11 power stations** and **305 large industrial and commercial customers**. Industry depends on natural gas and gas availability is a key criteria for international companies when they are deciding to invest. Access to the gas network enhances the attractiveness and competitiveness of towns and cities which is crucial for growth and job creation.



Generating over **half of Ireland's electricity**, Ireland's gas network is **capable of meeting gas demand in all weather conditions**, providing essential back up for intermittent renewables, such as wind and solar, to operate securely. Time and time again, the gas network has demonstrated resilience during the harshest weather events, ensuring security of gas supply and safety is maintained.



Gas Networks Ireland plans to have a **Net Zero Carbon emissions network by 2050**.

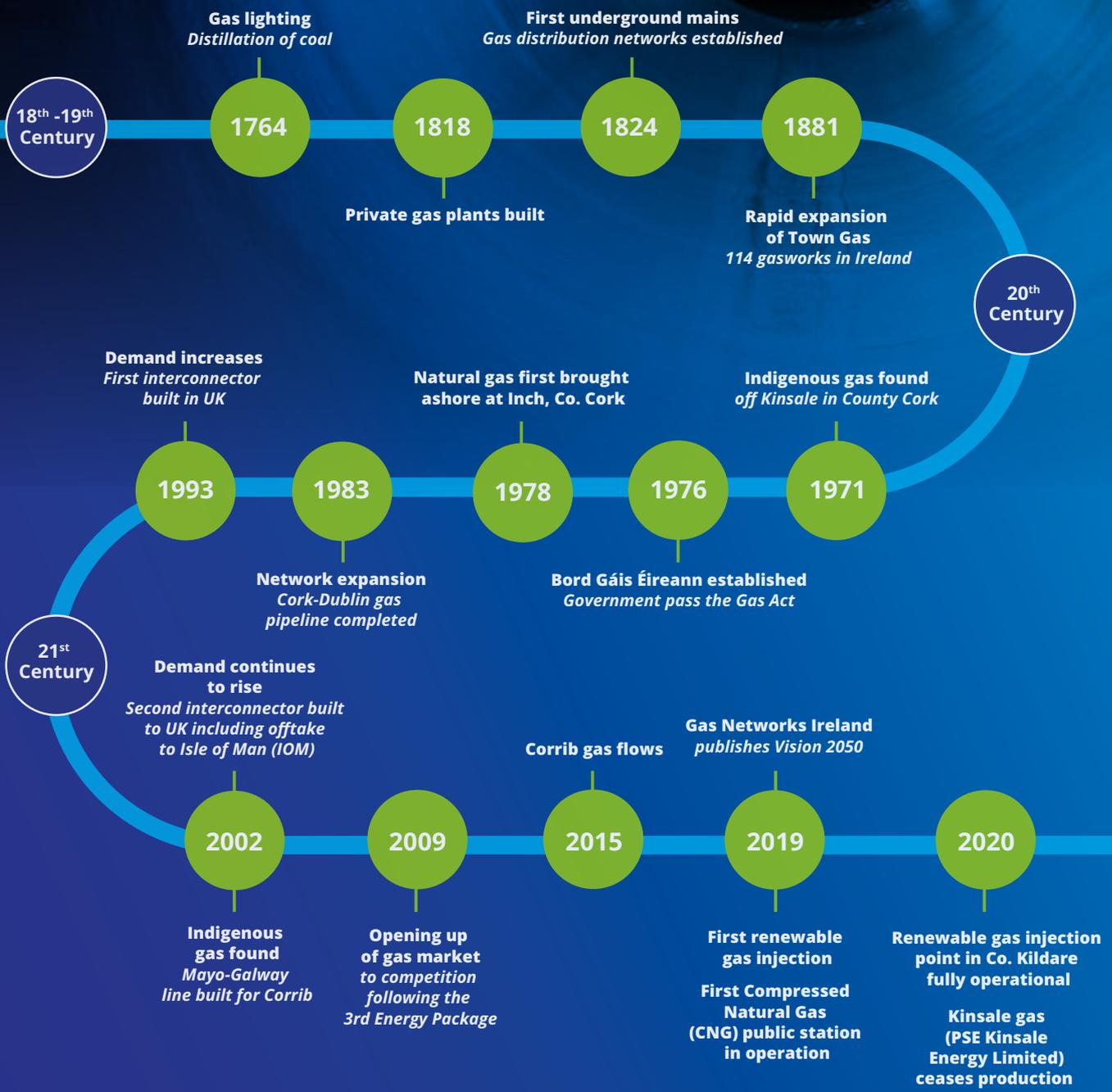
In 2019, we introduced renewable gas, produced locally, into our network for the first time and we are working with forecourt operators to deliver a network of fast-fill Compressed Natural Gas (CNG) fuelling stations for use in transport.



We are aware that **our company operates in an ever-changing environment, where customer expectations, climate, economic, regulatory, and environmental drivers have a significant impact on our business operations**. Our agility in identifying, reviewing and responding to these challenges and opportunities remains vital to our progress and our success as a company.

Irish and international businesses are looking for cleaner and more sustainable energy solutions all the time. Looking to the future, we will leverage Ireland's gas network to provide the solutions sought by our customers, which will help to meet Ireland's long-term climate goals and ensure that this €2.7 billion national asset continues to deliver for Ireland.

Evolution of gas in Ireland



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** deliver to the gas network, which is owned and managed by the network operator, **Gas Networks Ireland (2)**. Within the Irish market, **nine 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 gas 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 Ireland.



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 owns and operates 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

28 shippers and suppliers utilise the gas network in Ireland. Of these, **9 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

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

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.

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 owns and operates the gas network in Ireland, and ensures the safe delivery of gas to over 705,000 customers. Our challenge is to drive the evolution of Ireland's energy system and respond to the challenge of climate change while providing a safe and secure energy supply. Our day-to-day operations are guided by five core values: **Collaboration, Customer Service, Performance, Safety and Integrity.**



Our core activity includes:

- **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
- **Maintaining and operating** the gas network
- **Transporting** natural gas safely to our customers
- **Safety response** to all publicly-reported escapes of gas and the delivery of safety awareness campaigns
- **Ensuring compliance** with legislation, licences, directives and regulations
- **Facilitating the process of supplier switching** for gas customers, in one of most competitive retail gas markets in Europe.



We are committed to:

- Ensuring the **highest standards** of performance in respect of our network, employees, contractors and customers
- Managing all operations in an **environmentally responsible** manner
- Promoting **public safety awareness campaigns** including **Gas Emergency Service, Dial Before You Dig, Meter Tampering** and **Carbon Monoxide.**

If you smell gas call
1850 20 50 50
24hr emergency service



Gas Networks Ireland is committed to growth, innovation and sustainability and continues to be a major employer in Ireland, with 522 people employed directly. Further indirect employment is provided through contracting arrangements with key service providers.

Working sustainably

For Ireland's future

Gas Networks Ireland aims to deliver services in a sustainable manner that contributes to the protection of the environment while supporting the social and economic development of the communities we operate in, as well as the wider economy.

Sustainability highlights¹

				
Vision 2050 Strategy published (2019)	ISO45001 - Occupational Health and Safety Management System	ISO9001 - Quality Management System	ISO55001 - Asset Management - Management System	Public sector energy reduction target of 33% exceeded, reaching 44%
				
ISO50001 - Energy Management System	Business Working Responsibility Mark - in line with ISO26000	Signed up to the Low Carbon Pledge	1 in 3 employees volunteer on our community programmes	
				
Business supporter of the All-Ireland Pollinator Plan and implementation of the Biodiversity Enhancement Programme	Establishment of Energy Environmental Working Group to support an integrated and strategic approach across Gas Networks Ireland	Signatory of Business for nature - Call to Action	Carbon footprint reduced by 27% since 2010	

Accolades

- Winner of the 'Working Together for Biodiversity' Award for Biodiversity Enhancement Programme
- Winners of two Green Awards in 2020 - 'Green Large Organisation of the Year' and 'Sustainable Energy Achievement'
- Chambers Ireland – InBusiness magazine Award (CSR) 2019
- Customer Service Team recognised as 'Centre of Excellence'
- One of only 34 companies in Ireland to hold the Business Working Responsibility Mark



Future focused commitment



Gas Networks Ireland remains committed to evolving practices to ensure we operate sustainably and with full consideration of the changing environment in which we operate.

Our ambition includes:

- Managing our **robust sustainability framework** and responding effectively to challenges
- Signatories to the **Low Carbon Pledge** to reduce our carbon footprint by 50% by 2030
- Aiming to have **100%** waste recovery and be a carbon-neutral operation by **2025**
- Striving for a **net positive impact** on biodiversity by 2025 in all of our operations

tional asset of size and scale²

Transmission System



Delivering for customers

705,000+

customers in 22 counties. With 305 large industrial and commercial customers, including 11 power stations



537,000

customer contacts handled by our Contact Centre

116,292

'Pay As you Go' meters on the network 5,000+ gas credit top-up outlets in Ireland (as of October 2020)

128,500

'Change of Supplier' actions facilitated in 2019, affording customers the option to achieve better value.

61%



total residential consumption accounted for by Dublin postal districts and county⁵

1.1m

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

81,242

customer appointments with c.99 percent delivery

1.8m

meters reads undertaken in 2019

Delivering benefits

natural gas emits **40%** less CO₂ than coal and **22%** less than oil⁶

Delivering for the future

21%

expected growth in gas demand between now and 2027



1st

assessment for the potential of hydrogen injection on the network underway (2020)

1st

public and private Compressed Natural Gas (CNG) stations delivered
Development of network of public stations on key transport routes in progress.



1st

renewable gas injected onto the gas network

300,000

houses in close proximity to network with potential for connection⁷

Delivering on corporate responsibility and sustainability¹



Green Awards 2020 Winners

1. Green Large Organisation of the Year
2. Sustainable Energy Achievement

1,460

volunteering hours by staff

Low Carbon Pledge

committing to 50% carbon footprint reduction by 2030

40,000

hours of additional education for young people across Ireland supported

1 of only 34

Irish companies to hold the Business Working Responsibly (BWR) Mark



92

community projects supported

€2m

approved for Research and Development projects

€141k

donated to support social inclusion in communities across Ireland

The key role of gas in Ireland⁸



Power generation

Natural gas generates 52% of Ireland's electricity, making the Irish gas and electricity sectors highly interdependent. Figure 1 illustrates the ROI power generation fuel mix and the significant role gas continues to play in power generation.

While the average reliance is c. 50%, this can be over 90% at times, depending on the prevailing conditions (i.e. wind levels) for renewable generation.

Gas fired generators are the largest customer sector in the gas market, accounting for approximately 57% of the total ROI gas demand in 2019.



Future demand

According to Gas Networks Ireland projections (see Figure 2) Irish gas demand is expected to grow by 21% between now and 2027.

- Demand in power generation is predicted to grow due to increased electricity demand, as a result of growth in data centres, and the phasing out of peat and coal.
- Electricity demand, in its own right, is expected to grow by 23-47% (EirGrid)
- Industrial and commercial gas demand is expected to grow in line with growth in new connections.

Future proofed – Flexible and robust, Ireland's gas network is a key national asset, delivering for today and for Ireland's future. An ideal partner to complement intermittent renewables, it has demonstrated resilience and proven capability to deliver on current and future gas demand, in all weather conditions.

The large **energy storage capability** and **flexibility** of the gas network is unique and cannot be economically provided by other energy sources.

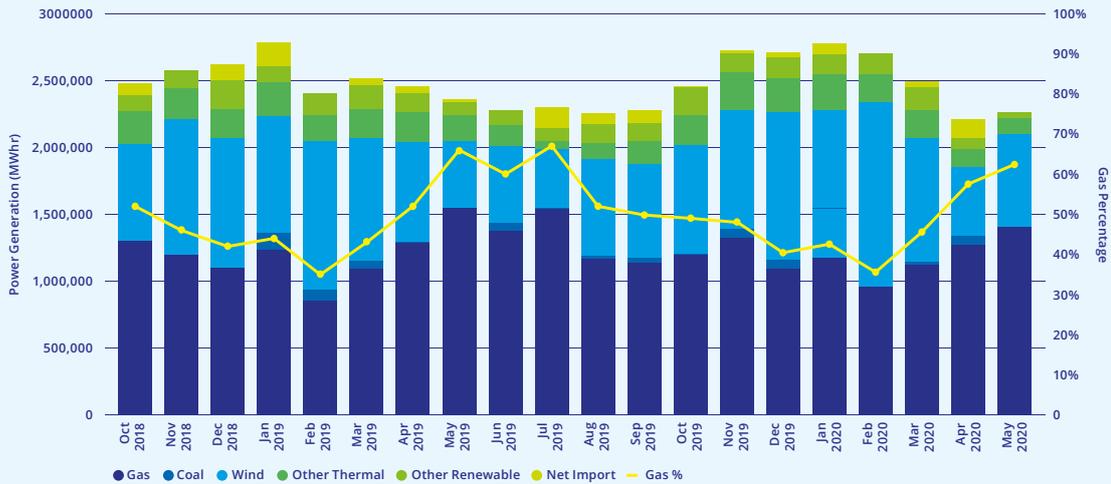


Security of supply

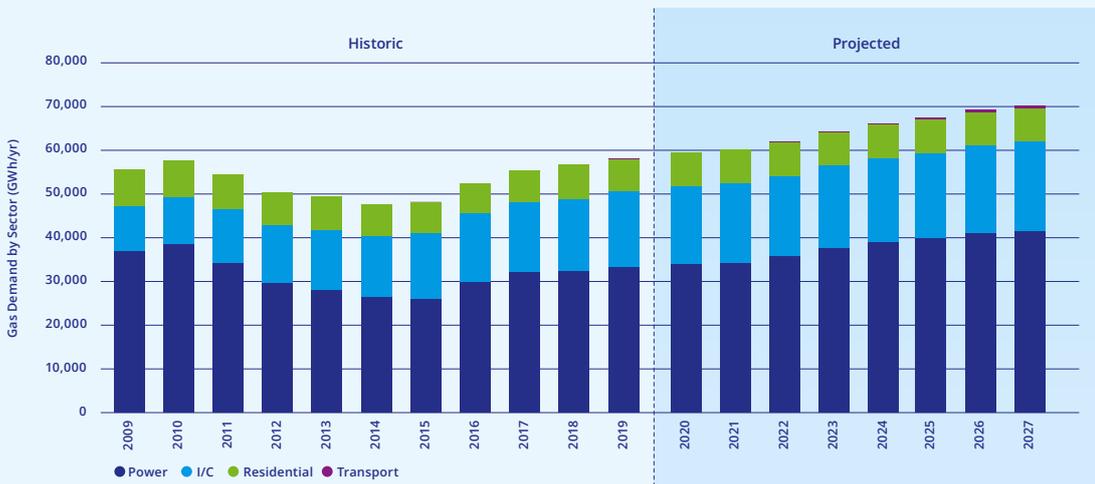
In 2019, 47% of natural gas supplies in the Republic of Ireland (ROI), were sourced indigenously i.e. from the Corrib and Kinsale gas fields, as illustrated in Figure 3. Indigenous supply will decline further in the coming years as the Corrib gas field output declines and without supply from the Kinsale gas fields, which ceased production in July 2020. The development of a biomethane industry in Ireland to deliver sustainable gas supplies is now progressing and will help offset declines in current indigenous production. Gas Networks Ireland is also assessing the potential for hydrogen on the network.

The balance of ROI demand is imported via the Moffat interconnection point in Scotland, and via two subsea interconnectors, which connect into the ROI onshore gas network, affording us access to one of the most liquid and largest gas markets in Europe i.e. the GB gas market.

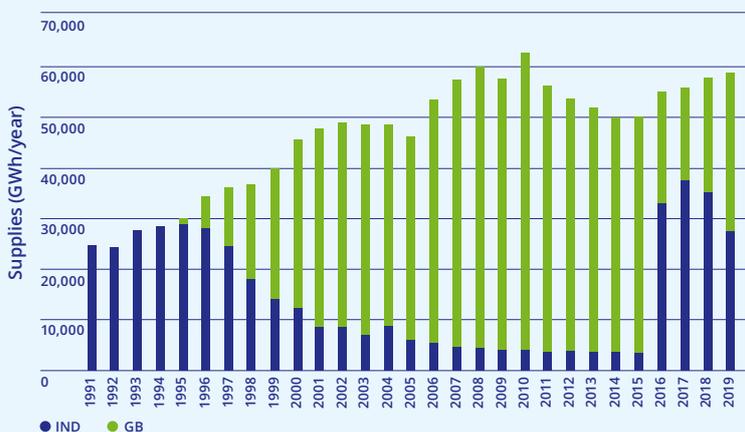
- Furthermore, Northern Ireland (NI) supplies are also delivered through the interconnector via an offtake point at Twynholm in Scotland and the Isle of Man (IOM) via an offtake from one of the subsea pipelines.
- The gas network is designed to withstand harsh weather conditions, including the most severe winter peak conditions. Figure 4, which depicts historic ROI peak day demand against available supply capacity, demonstrates this resilience. This was particularly evident during the severe winter weather of 2009-10, where we encountered a prolonged period of severe weather and the gas network continued to deliver gas safely and securely to customers, with additional capacity available, should this have been required.

Figure 1 ROI power generation fuel mix (monthly)


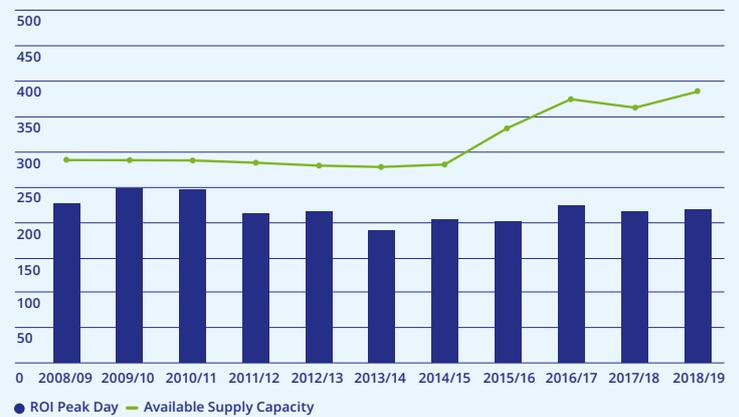
Source: Based on EirGrid data

Figure 2 ROI historic and projected annual gas demand


Source: Gas Networks Ireland Network Development Plan

Figure 3 ROI historic annual indigenous gas production and imports from Great Britain (GB)


Source: Gas Networks Ireland Network Development Plan

Figure 4 Historic ROI peak day demand vs available gas supplies


Source: Gas Networks Ireland Network Development Plan

The future role of the gas network in Ireland

Ireland faces significant challenges in meeting EU and national climate targets and objectives. Ireland's gas network is a valuable national asset, which will play a major role in achieving a clean energy future in a least cost, safe and secure manner.

As outlined in Ireland's National Energy and Climate Plan (NECP) (2021-2030)⁹, the solution to Ireland's energy and climate challenges will require the successful deployment of many technologies.



The energy system in 2050 will be decarbonised utilising renewable gases, biomethane and hydrogen, coupled with electrification and other renewable energy sources e.g. wind and solar.



Developing and utilising new technologies will play a key role in tackling climate change and ensure that Ireland has a clean, sustainable and **secure energy future**.

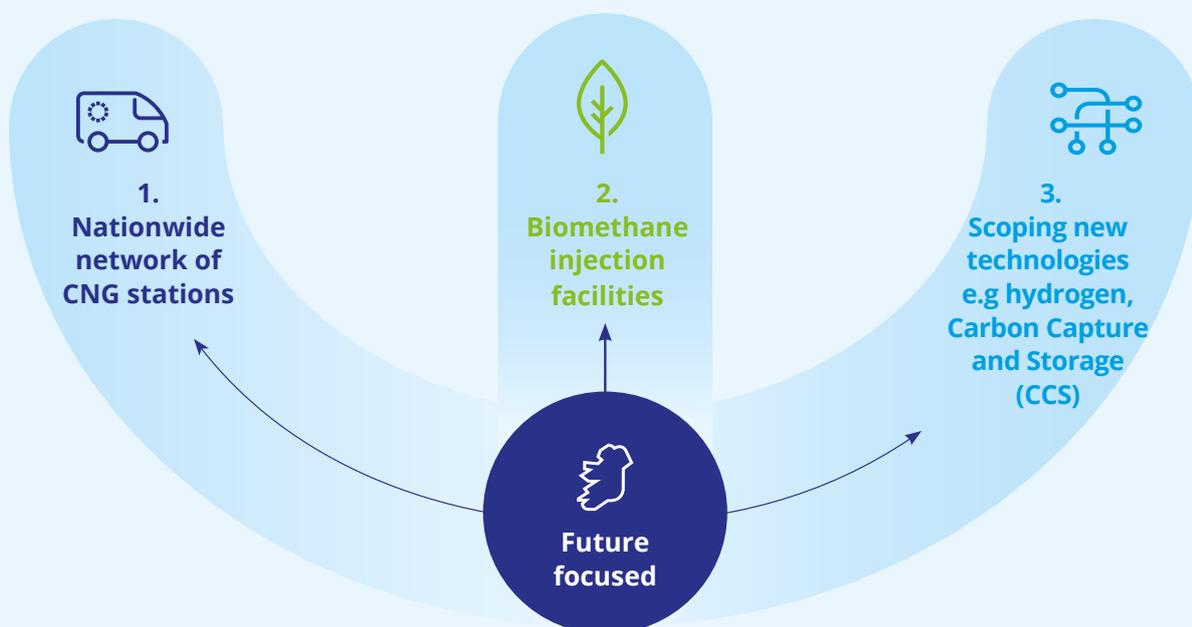


Transitioning to a **clean energy economy** is challenging as a balance between sustainability, security and affordability must be achieved. Leveraging existing energy assets and capabilities will achieve these aims, while achieving a smooth, cost effective and sustainable transition.



The gas network plays a key role in **supporting the development of renewable generation** in Ireland. A **flexible partner** to cater for intermittent renewable power generation forms, opportunities also exist in the area of **power-to-gas** where excess renewable generation could be converted into green hydrogen to be injected into the gas network.

As outlined in our 'Vision 2050'¹⁰ strategy, Gas Networks Ireland is committed to the decarbonisation of Ireland's energy system and to achieving a net zero carbon gas network by 2050



The decarbonised gas network of the future will leverage and optimise CNG, biomethane, hydrogen and Carbon Capture and Storage (CCS).

With the heat and transport sectors accounting for ~80% of Ireland's final energy use, Gas Networks Ireland is actively progressing **a nationwide network of CNG stations** for the Heavy Goods Vehicles (HGVs) sector; the development of **biomethane injection facilities** (direct and central injection); an innovation centre at our campus at Brownsbarn, Dublin to assess the potential for **hydrogen injection on the network;** **and** detailed research into **the potential of Carbon Capture and Storage.**



We continue to partner with key national and EU stakeholders, industry bodies, researchers and communities to plan for and deliver **a clean energy future for Ireland.**

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9. Ireland's National Energy & Climate Plan (NECP) 2021-2030 - <https://www.gov.ie/en/publication/0015c-irelands-national-energy-climate-plan-2021-2030/>
10. Gas Networks Ireland's 'Vision 2050 - A Net Zero Carbon Gas Network for Ireland' - www.gasnetworks.ie/vision-2050

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