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Gas Networks Ireland

Winter Outlook 2024

Introduction

Gas Networks Ireland's winter outlook sets out the demand and supply outlook for winter 2024/25 (October 2024 to March 2025) for both the Republic of Ireland (ROI) gas demand and the Gas Networks Ireland system demand. The Gas Networks Ireland system demand refers to the combined demands for ROI, Northern Ireland (NI) and Isle of Man (IOM) which are all transported through Gas Networks Ireland's system.

Key Messages

This outlook indicates sufficient gas supply sources and network capacity for the winter ahead, based on the current gas demand projections and the available supply capacity. The following table outlines the breakdown in supply sources alongside the peak day forecasts for the winter ahead.

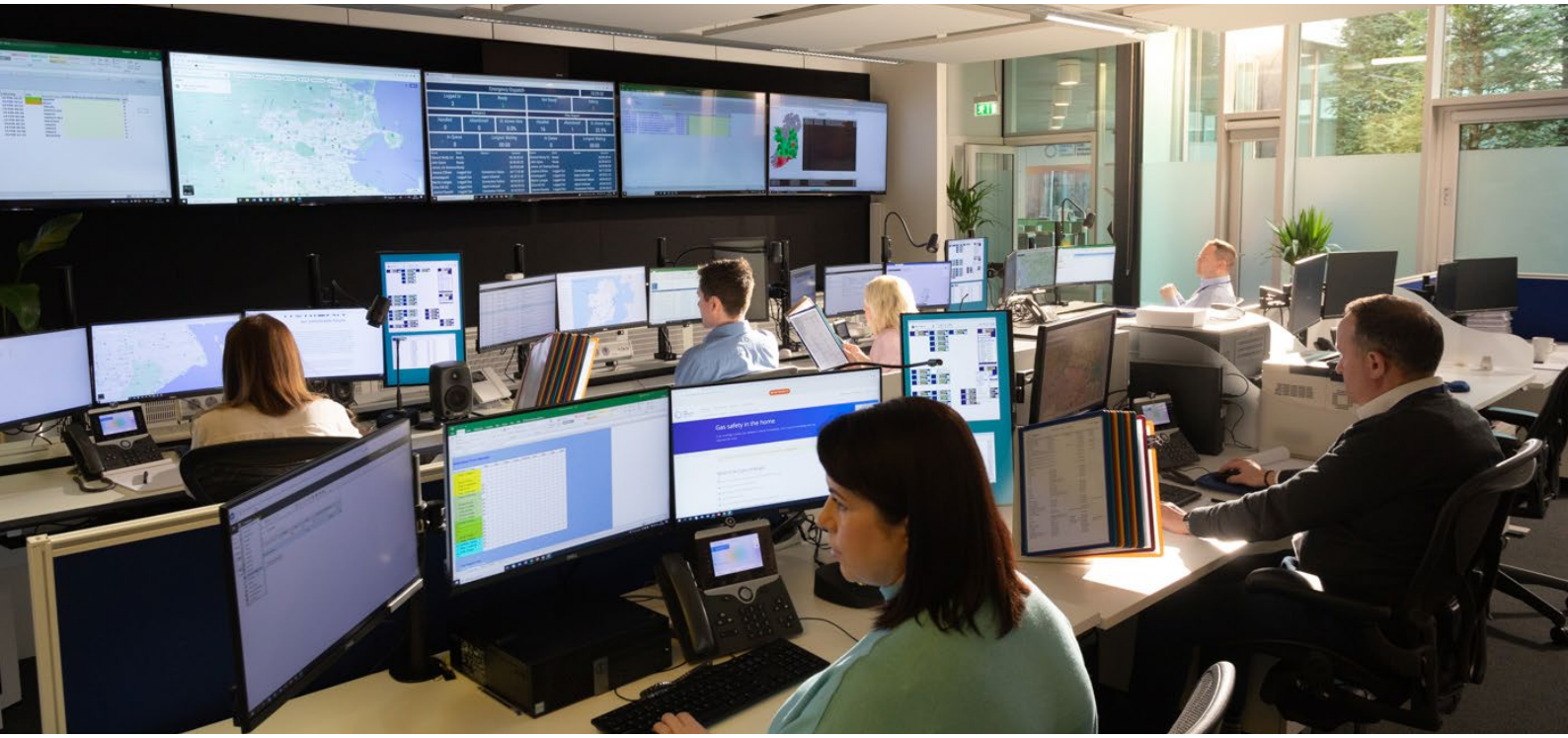
Table 1: Summary of forecasts for Winter 2024/25

Parameter	ROI only	Full System (ROI/NI/IOM)
Share of supplies for forecast winter 24/25 demand	Indigenous Supply[1]: 19%, Moffat: 81%	Indigenous Supply: 14%, Moffat 86%
Share of supplies for 1-in-50 peak demand	Indigenous Supply: 11%, Moffat: 89%	Indigenous Supply: 7%, Moffat: 93%
1-in-50 peak day demand forecast	280 GWh/d	408 GWh/d
Average winter peak day demand forecast	241 GWh/d	334 GWh/d

- It is not currently envisioned that there will be any disruption to the availability of gas imports to Ireland from Great Britain this winter which is supported by National Gas's Winter Outlook[2].
- Biomethane injection to the gas grid currently provides low levels of supply to the network. Biomethane is expected to grow to a larger share of indigenous supply in the medium term. Relative to last year, production is expected to increase by approx. 97% to deliver c. 45GWh over the winter period.
- Gas Networks Ireland encourage gas shippers to nominate on a timely basis throughout the day to encourage efficient compressor station operation and allow for more flexibility in the broader system to deal with changes in gas flow.

1 Indigenous supply includes supply from the Corrib gas field and biomethane injection into the network

2 National Gas are the operator of the GB gas transmission network. Their winter 2024/25 outlook is available here.



Supply and Demand Overview

The 2024/25 Winter Outlook report sets out Gas Networks Ireland's analysis and view of the adequacy of the gas network for the coming winter. The gas supply position is dependent on both the availability of gas supplies and on the system's ability to transport gas to the end user. This outlook also provides a forecast of the anticipated gas supply and demand position for the whole gas year (October 2024 to September 2025) ahead.

Winter Period: historic and forecast

Historic Winter 2023/24 Supply and Demand

In winter 2023/24, 21% of ROI gas demand was met by indigenous supply sources while imports from Moffat accounted for the remaining 79%.

Indigenous supply sources accounted for 15% of Gas Networks Ireland winter 2023/24 system demand while Moffat provided the balance of supply of 85%.

Overall, ROI gas demand for winter 2023/24 was 5% lower than the previous winter period, largely driven by the decrease in gas demand for power generation.

In the Power Generation sector, gas demand was down 9% in winter 2023/24.
This was primarily driven by a threefold increase in net imports to ROI during this period vs the previous winter, directly displacing gas-fired generation. The increase in electricity imports was driven by low carbon prices in GB resulting in lower electricity prices than in the SEM[3].

3 Single Electricity Market, which includes the entire electricity network on the island of Ireland.

The winter period 2023/24 saw a decrease in Residential sector gas demand of 4%, when weather-corrected, compared to the previous winter. Given that average temperatures across winters 2022/23 and 2023/24 were similar, this YoY decrease in residential gas demand was potentially due to an increase in energy efficiency and a change in customer behavioural habits.

In the Industrial and Commercial sector, gas demand increased by 2.3% compared to the previous winter period. This is in part driven by an increase in the number of Industrial and Commercial customers in 2023/24.

Gas demand for transport increased by 24% in winter 2023/24 vs. the previous year, equating to a demand of 15GWh in winter 2023/24.

Indigenous sources accounted for 12% of the ROI gas supply sources that met the 2023/24 **ROI peak day gas demand**, with Moffat contributing the balance of 88%.

Indigenous supply sources accounted for 9% of **Gas Networks Ireland system peak day gas demand in 2023/24**, while imports from Moffat accounted for the balance of 91%.

The ROI peak day gas demand for winter 2023/24 occurred on the 1st of December 2023 with a demand of 250.8 GWh/d. Demand on this peak day was driven by the power generation sector, accounting for 62% of gas demand, with Industrial and Commercial and Residential demand accounting for 21.5% and 16% of demand respectively. On this day, gas-fired power generation accounted for 78% of the SEM fuel mix, with wind generation accounting for 4% and imports via the East-West Interconnector accounting for 6% of demand. While the 1st December 2023 was a cold day with an average temperature of 0.5°C, this does not correspond to a severe 1-in-50 weather event where an average temperature of closer to -8 °C would be expected.

The 1st December 2023 was also the winter peak day for Gas Networks Ireland system demand. Total Gas Networks Ireland system demand on the peak day was 328 GWh/d with demand for ROI, NI and IOM of 250.8 GWh/d, 71.8 GWh/d and 5.4 GWh/d respectively.

Forecast Winter 2024/25 Supply and Demand

Table 2 overleaf presents the following forecasts for 2024/25 gas demand:

- 1-in-50 and average peak day system demand forecasts
- Total winter 2024/25 demand

In formulating the Winter Outlook projections, the following are considered: fuel and carbon price futures, available installed generation capacity, planned power station outages and possible forced outages. The outlook also considers expected changes in gas customer numbers and the weather-dependent portion of demand is calculated based on an average weather year, with average temperatures and wind conditions.

The commissioning and subsequent operation of the Greenlink electrical interconnector is planned for the coming winter period. To allow for the risk of this interconnector being unavailable for imports until the spring of 2025, owing to a possible delay in the commissioning date, it is assumed that it is unavailable for the winter period.

Overall, gas demand is expected to increase slightly by 1.5% for winter 2024/25 vs. the previous year. This increase is driven by an expected increase in both Residential and Industrial and Commercial gas demand of 9.5% and 7% respectively. As previously mentioned, this forecast is based on an average weather year; should winter 2024/25 exhibit mild weather conditions similar to 2023/24, it is likely that demand in these two sectors will be less than forecast . This forecast increase due to average weather conditions outweighs the potential decrease in demand due to energy efficiency measures.

Winter 2024/25 power generation gas demand is expected to be almost 8% lower than last year. This is due to the expectation that electricity imports will be higher this coming winter, building on the increase in North-South electricity tie-line imports to ROI that has been observed in recent months.

Gas supply forecasts for winter 2024/25 indicate that for a 1-in-50 peak day, Moffat would be required to operate at just under 98% of current technical[4] flow capacity to meet Gas Networks Ireland system demand. An average winter peak day would require 80% of the available capacity at Moffat to meet Gas Networks Ireland system demand.

4 Moffat Entry Point has a technical capacity of 35 mscm/d

Table 2: Projected Gas Demand for Winter 2024/25

	1-in-50 Peak day 24/25	Avg Year Peak day 2024/25	Winter total 2024/25
	(GWh/day)	(GWh/day)	(TWh)
ROI Demand	280.5	241.3	28.15
Total Demand*	408.2	333.8	39.10
Corrib Supply	30.0	30.0	5.5
Biogas Supply	0.4	0.4	0.05
Moffat Supply (GNI)	377.8	303.4	33.6
Total Supply	408.2	333.8	39.1
Moffat Supply for ROI	250.1	210.9	22.65

A series of physical upgrades are currently being progressed at both compressor stations in Scotland to allow for an increase in the capacity utilisation of the existing sub-sea gas interconnectors. Incremental increases in capacity at the Moffat Entry Point are planned for winter 2025/26 and 2026/27. Given the intrusive and complex nature of the upgrade works, careful planning and programming of work packages is necessary to ensure ongoing operational requirements can be fully met whilst the upgrade measures are completed within the planned timeframes.

In the meantime, Gas Networks Ireland are proactively investing in upgrading and maintaining the existing infrastructure in the compressor stations in Scotland. Currently, air intake and turbine control system upgrades are planned for the winter ahead, particularly on some equipment which is nearing end-of-life. These upgrade and maintenance works are only carried out during time periods where there is sufficient redundancy available to ensure there is no risk in supply not meeting demand.

Historic gas year 2023/24 and forecast gas year 2024/25 supply and demand

The following table gives a summary of the actual gas demand for the entire gas year 2023/24, and also gives a forecast for the current gas year 2024/25.

Table 3: Historic and Forecast gas demand and supply for gas years 2023/24 and 2024/25.

Parameter	Historic gas year 2023/24	Forecast gas year 2024/25	% Forecast change
ROI Demand	52.3 TWh	49.5 TWh	-5%
System Demand	71.1 TWh	69 TWh	-3%
ROI share of supplies	Indigenous Supply: 22%, Moffat: 78%	Indigenous Supply: 22%, Moffat 78%	
System share of supplies	Indigenous Supply: 16%, Moffat: 84%	Indigenous Supply: 16%, Moffat: 84%	

The forecast decrease in both ROI and System gas demand of 5% and 3% respectively is primarily driven by a forecast decrease in the Power Generation sector of 13%, owing to the high level of electricity imports forecast for the gas year ahead.

Corrib and biomethane are the two remaining indigenous gas supply sources. Biomethane injection to the gas grid currently provides low levels of supply (c. 48GWh p.a.) to the gas network. It is anticipated that biomethane production will double in the gas year 2024/25. Over the coming years, biomethane's contribution is expected to grow to a larger share of indigenous supply, supported by a national target of 5.7TWh of biomethane production by 2030.

Operational Outlook for Winter 2024/25

Gas Networks Ireland strives to maintain, a steady flow profile at the Moffat Interconnection Point in particular. Physical limitations coupled with late nomination/re-nomination behaviour can prevent this from always being the case.

Shipper actions that aid Gas Networks Ireland in this regard include:

- ensuring nominations and re-nominations are accurate and timely;
- avoiding large within day imbalances and;
- operating in accordance with the flow nomination information provided to Gas Networks Ireland.

In addition to the occurrence of 1-in-50 winter peak day demands, another factor which needs to be considered regarding system flexibility is the energy content of the gas imported via Moffat. The current technical capacity of Moffat (35 mscm/d) with a GCV of 39.8 MJ/scm provides 386.9 GWh/d of import capacity. The average GCV at Moffat over the Winter 2023/24 was c. 39.5 MJ/scm. Gas with a lower Gross Calorific Value (GCV) at Moffat means higher volumes are required to meet downstream energy requirements.

Gas Networks Ireland maintains under review the necessary physical, commercial and market-based tools to manage a supply and demand imbalance, including those relating to a gas emergency, should it occur.

The industry arrangements for managing a natural gas emergency are tested on an annual basis by means of one or more emergency exercises. Exercise Méabh took place on the 24th of September and simulated a prolonged gas supply deficit over a 6-month period. On the 10th, 11th and 16th of October Gas Networks Ireland participated in the annual Network Emergency Coordinator (NEC) industry assurance exercise in Great Britain. As in recent years, the exercises have a whole energy system focus, particularly the impact on gas-fired electricity generation. Exercise learnings feed into the ongoing review of emergency arrangements.

Commercial Arrangements

Gas Networks Ireland monitors transmission system imbalances resulting from shipper balancing activities on a daily basis. Ongoing increased liquidity on the Marex Spectron Trading Platform allows Gas Networks Ireland to trade out system wide imbalances in an efficient manner. With Europe now entering another winter with reduced Russian pipeline flows, gas price volatility remains a potential risk for the foreseeable future, with the possibility of impacting near-term gas demand, and subsequently shipper booking strategies. As a result of this, Gas Networks Ireland is encouraging shippers to maintain balanced positions intra-day and we expect that imbalance charges will encourage shippers to do so.

Upstream Security of Gas Supply

Great Britain

Gas Networks Ireland looks to National Gas' Gas Winter Outlook[5] to inform our outlook for the upcoming winter season. With approximately 84% of Gas Networks Ireland system demand currently being met by imports from Scotland via the Moffat Entry Point, upstream security of gas supply is particularly important when assessing the gas supply outlook for the winter ahead.

There is no significant forecasted change to the supply quantities available to GB, and hence to Ireland, for winter 2024-25 compared to the previous year. Ireland accounts for approx. 7% of total GB demand. The outlook for Ireland indicates sufficient gas supply sources and network capacity to meet the anticipated demand projections over the coming winter, including in the case of a cold winter.

5 The UK National Gas Transmission Gas Winter Outlook

Supplies from the GB Continental Shelf (UKCS) and Norway are expected to provide steady baseload supplies to GB, with Liquified Natural Gas (LNG), GB gas storage and interconnection with Europe providing flexible supplies to meet demand. LNG is expected to remain as the primary source of flexible supply.

If a shortage of supply to GB occurs, it is expected that storage withdrawals will increase, alongside increased LNG deliveries. This will be done while minimising exports to continental Europe, and only resorting to imports from continental Europe after maximizing storage withdrawals.

The maximum physical capabilities have been updated to reflect market intelligence, commercial capacities, and observed flows resulting in a daily peak supply of 601 mscm, 3.7% lower than the previous winter. The GB supply margin between forecast peak supply and 1-in-20[6] peak demand is 127 mscm/d for the winter ahead, reduced from a margin of 161 mscm/d forecast for winter 2023/24. This reduced margin is due to decreasing GB indigenous gas production and less gas imports available from the EU, combined with an increase in forecasted demand of 12 mscm/d. This is equivalent of a margin of 27% of supply over demand on the 1-in-20 day. While this is a decrease in the margin for the winter ahead vs. winter 2023/24, the GB supply position remains positive and reinforces a positive supply position for Ireland for the coming winter.

Europe

Gas supply to Europe has remained undisrupted since the Russian invasion of Ukraine in early-2022, thanks in part to measures introduced by the EU to boost supply capacity and reduce gas demand over the period.

The target for voluntary reduction in gas demand of 15% for all EU countries, introduced from August 2022 has been broadly effective; EU Member States are once again encouraged to continue reducing their gas consumption until 31st March 2025, by at least 15% compared to their average gas consumption in the period from 1st of April 2017 to 31st of March 2022.

A target for European natural gas storage sites to be 80% full on 1st of November 2022, increasing to a 90% target for 1st of October in the years 2023 and 2024, to help mitigate the effect of any supply challenges, has been met each year. This 90% target was met in August 2024; the EU gas storage levels reached 94% by the start of October[7], storing enough gas to meet 30% of total EU gas demand for the winter ahead.

These current high storage levels, along with enhanced gas infrastructure (established infrastructure, newly commissioned infrastructure projects and enhanced cooperation between the operators) reduce the dependence on Russian supply, allowing for more efficient usage of storage facilities (for injection or withdrawal), and imports, as well as the transit, of more LNG using new LNG terminals. To compensate for the drop in Russian gas supply to date since the Ukraine invasion, both LNG and natural gas imports, from Norway and North Africa to Europe have increased significantly. LNG regasification capacity has increased by a further 11% (22 bscm/year) in 2024.

6 Gas demand under weather conditions that are statistically likely to occur once every 20 years.

7 How much gas have the EU countries stored?

Gas Networks Ireland

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