

Gas Summer Outlook 2024





Welcome

How to use this document

We have published the 2024 Gas Summer Outlook as an interactive document.

Getting more from our data Additional information relating to the data shared in this publication is available within the Appendix and Data Worksheet, the latter of which is available separately on our website.



Home

This will take you to the home page.

Enlarge/reduce

Hover over the magnifying icon to make charts bigger or smaller.



Arrows

Click on the arrows to move backwards or forwards a page.

'Linked' content

Words in green and underlined have links to other pages in this document, or are URLs.

Summer Outlook 2024



Welcome to our 2024 Gas Summer Outlook



Each year, as the gas summer period (April–September) begins, we publish this document to provide you with our forecast view for supply and demand, and to share any other important information that could help you to prepare for the coming six months.

As you'll know, summer is a period where we see lower demands on the National Transmission System (NTS) due to warmer weather, as people require less gas to heat their homes. Last summer was a tale of two halves as we saw high levels of gas being exported to continental Europe at the beginning of the summer period, followed by a sharp drop off as EU storage became more full and gas from Great Britain (GB) was no longer required to the same extent.

We expect to see a similar trend of behaviour in gas demand this summer, but at a reduced volume. Europe has ended winter with slightly higher storage levels versus last year and with additional re-gasification capability at LNG terminals now online, there is a reduced need for GB to operate as a 'land-bridge' for supplies to enter continental Europe.

This, combined with the return of French nuclear power to generate electricity, means that the GB energy market expects there will be less gas exported (in the form of gas, or electricity generated by gas) to continental Europe this summer. Exports to continental Europe at the beginning of summer are likely to occur as the EU looks to rapidly refill storage stocks, but this is expected to be much lower than last year's demand levels as EU countries take advantage of being able to land LNG directly.

There are continued hints of greater stability in the energy market going forward as price differentials narrow and forward price curves reduce. Nevertheless, we know how quickly that can change, and we continue to closely monitor the market for any developments that may impact our activities as we face another year of rising global uncertainty and tension.

Given the current geopolitical climate, it's worth noting that the assumptions, information and analysis underpinning this document may change as we progress through the coming months.

I hope this Summer Outlook provides you with useful insight as we prepare for the summer period, and I look forward to continuing to engage with you through our various publications and industry forums. As with all of our publications, we really value your feedback – let us know what works, what doesn't, and how we could do things better for you. If you'd like to get in touch, you can find contact details towards the end of this document.



A handwritten signature in black ink that reads "Ian".

Ian Radley
Director System Operations

Additional information about us



We have a responsibility to keep the National Transmission System (NTS) within safe operating limits.

Our licence is established under the Gas Act 1986. It requires us to develop, maintain, and operate economic and efficient networks and to facilitate competition in the supply of gas in Great Britain. We have a responsibility to keep the National Transmission System (NTS) within safe operating limits.

In our role as the NTS Owner and Operator, we have three key responsibilities:

- infrastructure provider
- market facilitator
- residual balancer.

Infrastructure provider

The operational configuration of the NTS infrastructure requires additional flexibility during the winter period, to ensure it can transport enough gas to meet the increased demand associated with the colder months. Gas supplies are driven by market dynamics and global prices, which have been particularly volatile in recent years – we are preparing the network, particularly our compressors, to ensure they can react to changing market conditions and subsequent supply patterns.

Market facilitator

The underlying market arrangements in GB are established on the basis that the market will provide the gas itself, and that the market will balance supply and demand.

Throughout the winter period, we conduct daily assessments of gas margins and communicate this to the industry via our market information portal. We also produce publications throughout the year, such as this one, to share information relating to the NTS (both short and longer term) with our stakeholders to support their own planning and operational activities.

Residual balancer

When there is an imbalance between supply and demand, we act as residual balancer by taking energy balancing actions via the On The Day Commodity Market (OCM). These title trades can set the system marginal price and encourage shippers who are out of balance to take actions themselves and, if required, we can also look to locationally trade at specific entry points to change the physical flow rate of gas.

In the unlikely event there is insufficient supply to meet demand, and the market is unable to resolve the imbalance, we have the tools we need to ensure the safety and integrity of the gas system in the event of a Network Gas Supply Emergency. These emergency tools include requesting additional gas supplies be delivered to the NTS or requiring gas consumers (starting with the largest industrial consumers) to reduce or stop using gas. These tools will be used, if required, subject to authorisation by the Network Emergency Coordinator.

To read more about the tools available to us, please visit our balancing [website](#).

Other publications in this suite:

- [Gas Winter Review and consultation published annually in June.](#)
- [Annual Network Capability Assessment Report \(ANCAR\) published annually in June.](#)
- [Gas Winter Outlook published annually in September.](#)
- [Gas Ten Year Statement \(GTYS\) published annually in November.](#)





Executive summary

Key messages



Executive summary



Key messages

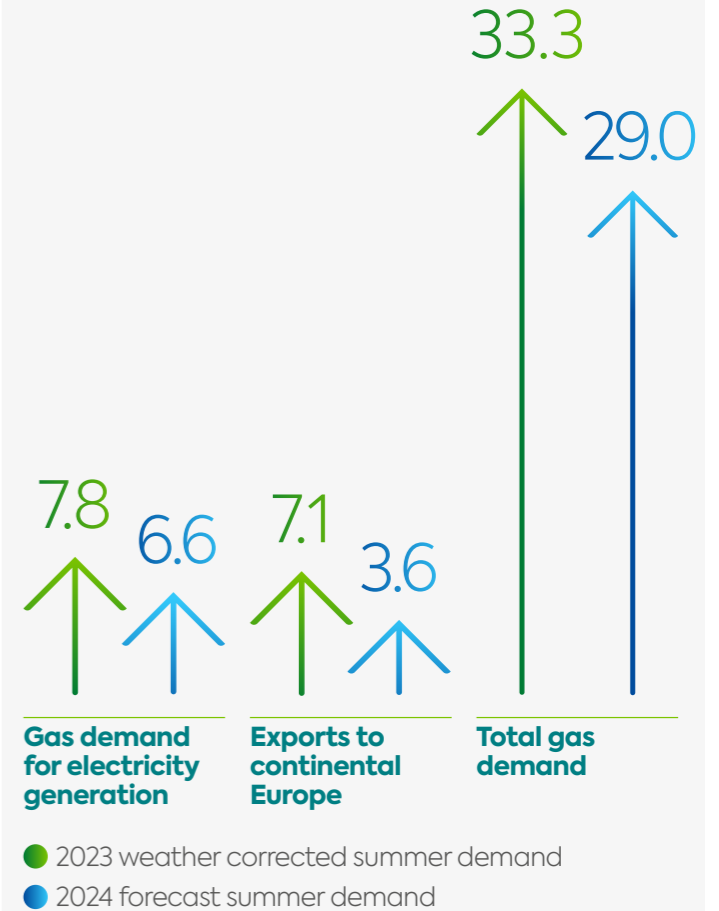
1
There is sufficient supply to meet GB demand this summer.
 We expect GB gas demand will be primarily met by supplies from the UK Continental Shelf (UKCS) and Norway, with the balance being secured from LNG.

2
We expect to see an overall reduction in demand this summer.
 This is largely due to the expectation of reduced exports to continental Europe, in combination with reduced demand for gas for power generation.

3
The asset maintenance programme in summer 2024 is one of the most extensive we have undertaken, with an expected 32% uplift in the level of maintenance.
 We are carefully phasing our maintenance works to ensure that we minimise the effects of asset unavailability on network resilience while maintaining our operational flexibility.

4
We have the right tools and services available to manage operability safely and efficiently.
 Low summer demand conditions on the NTS generally increase network resilience. Whilst we will do everything we can to avoid constraints on the network, we have the assets and the commercial market tools available to manage any issues should they occur.

Key statistics (bcm)





Demand this summer

Key messages



Demand this summer

Key messages

1

Forecast summer demand for 2024 is down from the previous year – the primary reasons for this reduction are lower gas exports to continental Europe and less gas required to generate electricity.

Total NTS demand for summer 2024 is forecast to be lower than the actual demand for the same period in 2023. This is largely driven by the anticipated reduction in gas used for electricity generation, as well as a reduction in the demand for gas to be exported to continental Europe. More detail and analysis on gas exports to continental Europe is available in our [‘Spotlight on Europe’](#) section.

Gas demand for electricity generation is expected to fall by about 1.2 bcm compared to last year. The key factor driving this difference is the expectation that net imports of electricity are expected to increase by about 6.6 TWh – that rise would reduce gas demand for power by between 1-1.5 bcm. This increase in electricity imports is being driven by increased availability of French Nuclear generation along with an overall increase in capacity thanks to the 1.4GW [Viking Link Interconnector](#) which began operation in December.

2

Domestic demand is expected to be broadly similar to 2023 but, with prices falling from their peak in 2022, there is potential for domestic demand in GB to begin to recover.

We expect the contribution from renewable generation to remain similar to last summer. This forecast is, however, changeable depending on the weather patterns both GB and continental Europe see over the summer period, as this could impact the effectiveness of renewable generation.

We would expect the high days of gas demand for electricity generation to remain similar to last summer with gas operating flexibly to cover for days of low wind and/or less imported electricity coming to GB. See our [‘Spotlight on power’](#) for more information.

Table 1

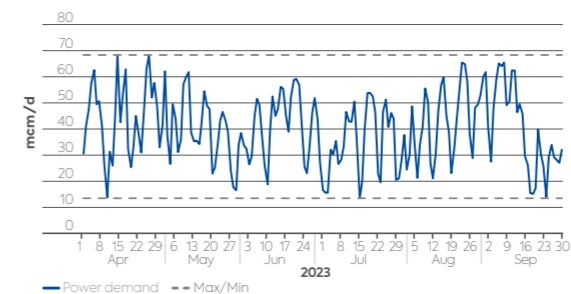
Forecast total gas demand (bcm) for summer 2024 and historical actual gas demand (2018-2023)

bcm	2018	2019	2020	2021	2022	2023 forecast	2023 actual	2023 weather corrected	2024 forecast
Non-daily metered demand (NDM)	10.6	11.4	10.4	12.5	9.7	10.2	9.2	9.8	9.8
Daily Metered (DM) and Industrial demand	4.1	4.2	3.9	4.0	3.6	3.4	3.7	3.7	3.5
Electricity generation	10.3	10.6	9.3	10.1	11.5	8.6	7.8	7.8	6.6
GB gas demand	24.9	26.2	23.7	26.6	24.7	22.1	20.8	21.4	19.8
Export to Ireland	1.6	2.0	2.2	2.4	2.6	3.0	2.3	2.3	3.0
Export to continental Europe	4.5	4.3	5.3	0.7	12.2	5.5	7.1	7.1	3.6
Storage Injection	2.3	2.2	2.1	2.1	2.3	2.4	2.3	2.3	2.4
Total gas demand	33.3	34.8	33.5	31.9	42.1	33.3	32.7	33.3	29.0

NB: All totals include NTS shrinkage and will therefore not tally. GB demand is comprised of gas used domestically, and for industry, power generation, and storage injection. Total gas demand is GB demand combined with export gas demand (gas exported via interconnectors to continental Europe and Ireland).

Figure 1

Summer 2023 Daily gas demand for electricity generation



Demand this summer

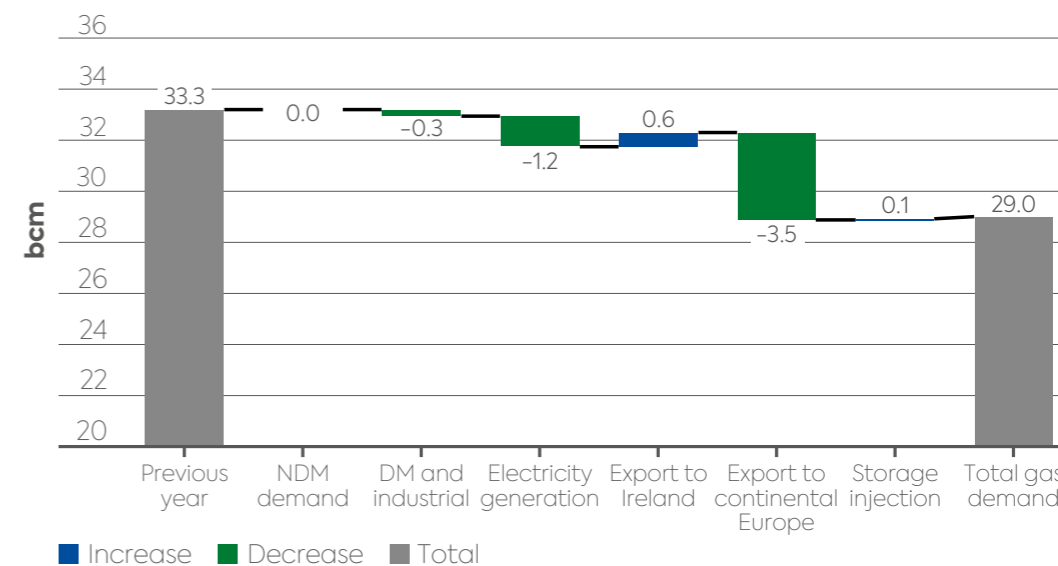
In recent years, we have observed a reduction in NDM demand as consumers used less energy to save money. Energy prices are beginning to stabilise and trend downwards (April 2024 Energy Price cap is 32% lower than April 2023). We do not expect these lower prices to translate into increased demand this summer as many consumers spread the cost of energy over the year which can delay the impact on energy bills. For this reason we don't expect an immediate change in consumer behaviour and our forecast NDM demand is therefore at a similar level to last year. If we do see some recovery, this could result in an increase of around 1 bcm to weather corrected demand.

We are expecting demand for the Daily Metered (DM) and directly connected industrial sites to be similar to last year.

Whilst storage stocks tend to regularly cycle between injection and withdrawal*, we expect fairly strong net injections into storage facilities this summer, similar to what was observed last summer. Whilst the seasonal price spread is lower compared to last year, it is still much higher than it was before the invasion of Ukraine, and therefore there is greater incentive for higher injection over the summer period.

An increase in exports to Ireland is expected primarily as a result of an increase in gas for power demand in Northern Ireland, as coal-fired power stations are gradually phased out. More information is available in GNI's [Northern Ireland Gas Capacity Statement \(2022/23-2031/32\)](#).

Figure 2
Demand comparison 2023 Weather Corrected vs 2024 Forecast



NB: the Rough storage facility is a slow cycle, seasonal storage facility. It is unlikely to withdraw at all over summer.



Spotlight on power

The role of gas in power
generation



The role of gas in power generation



Key messages

1 Total demand for gas is expected to drop year-on-year. Installed electricity interconnector capacity with the EU, and an increase of installed renewable capacity, will reduce the amount of gas required to generate power.

The continued growth of renewable (wind & solar) and electrical interconnector capacity in GB has vastly reduced the need to continually use gas as one of the components of power generation. Therefore, gas demand for electricity generation has reduced significantly over recent years.

It is, however, important to remain aware that the load factor of renewables is entirely dependent on weather conditions and as such, GB still needs gas as its key source of flexible power to ensure energy security – gas converted into electricity via CCGT power stations for days where the wind isn't blowing, as an example.

Gas is able to balance the grid as wind and solar ebb and flow, and acts as a flexible source of 24/7 power.

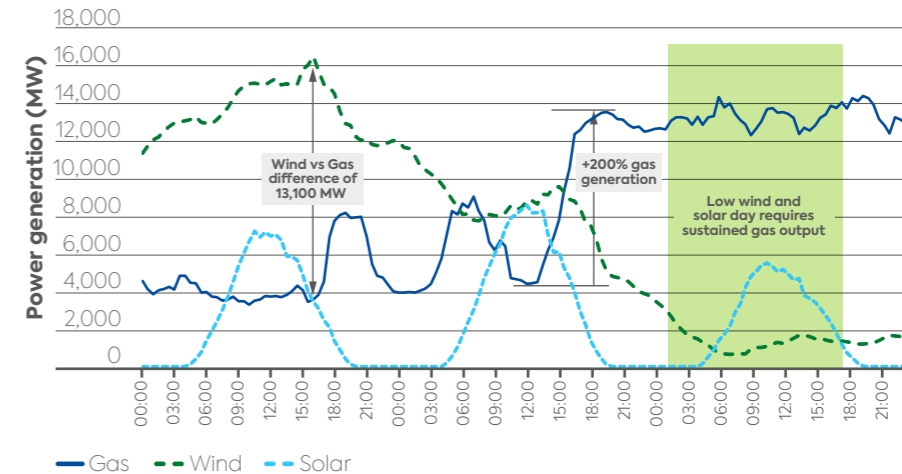
2 Gas will, however, be crucial in balancing the electricity system when renewables and imports are unable to make up the shortfall in supply. The key attribute of gas for power generation is its flexibility and responsiveness.

Using gas in this way ultimately leads to the enablement of a larger share of renewable power generation. GB is able to rely more on renewable power sources because gas is available to make up the difference when renewable output isn't high enough to meet demand. This responsive, flexible nature of gas is just as important during the winter period where renewable supply sources are more restricted as solar output drops off, and on cold days when the wind typically doesn't blow.

In a scenario where wind, solar or imports are not able to meet demand, gas is GB's key continuous source of power to make up the shortfall. Figure 3 demonstrates this by showing how, over a short period of time, gas use can increase by more than 200% over a 3-hour period to ensure electricity supply and demand remain balanced.

Figure 3

Power generation mix between Gas, Wind and Solar during 3 days in summer, demonstrating the fluctuation in generation mix and importance of gas as a dispatchable power source



As renewable build out continues, the likelihood of larger intra-day volatility in gas demand (see figure 3) also increases and therefore the need for gas becomes, perhaps surprisingly, more important during certain periods. Even though the total volume of gas consumed over summer is decreasing, the critical role gas plays in 'plugging the gap' to achieve energy security is increasing.



Spotlight on Europe

European storage

Exports to continental Europe



European storage Spotlight

Key message

1 European storage is currently sitting at 59% fullness, which is well above the 5-year average. Europe have therefore hit their stretch target of 55% storage fullness by 31st March.

The supply disruption caused by the Russia-Ukraine war has been enough to permanently bolster the EU's stance on gas storage planning since 2022. As a result of reduced gas flows from Russia to Europe, the European Commission have extended their targets for storage fullness ahead of winter 2024/25, which therefore requires storage refill during the summer period.

- The current mandated targets are:
- Minimum 45% storage fullness in February 2024 and May 2024.
 - 90% storage fullness by 1 November 2024.

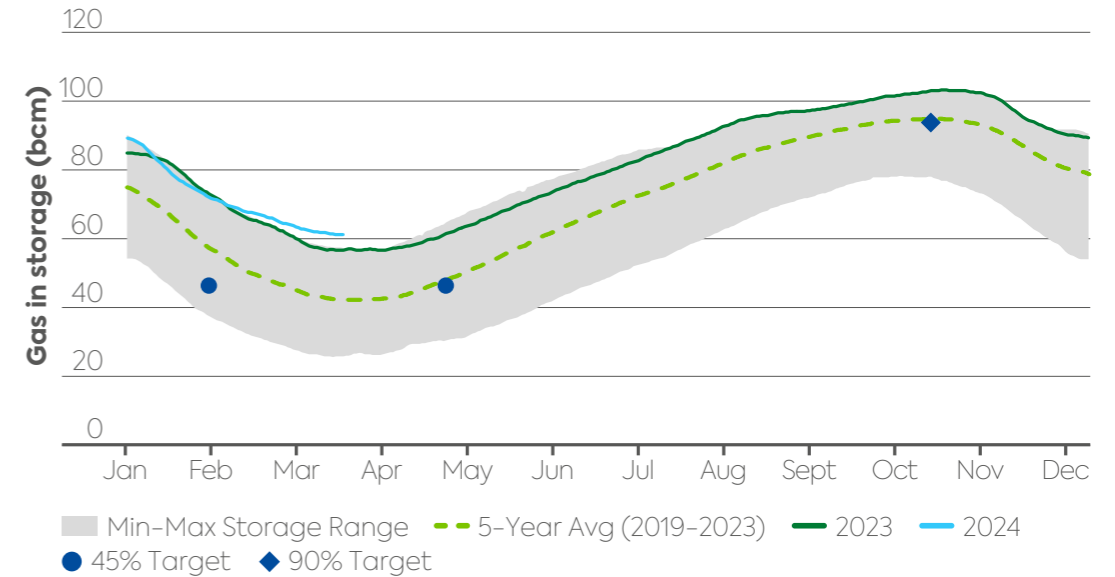
Member states were also asked to strive to reach a collective target of 55% storage fullness at the end of the winter period.

During summer 2023, we saw a significant drop in total gas exports to continental Europe following a much higher storage situation going into winter (56% full) in comparison to 2022 (27% full). This year EU storage levels remain strong (see Figure 4 for a comparison of EU storage levels vs previous years).

At the end of winter, storage fullness was 59%, which is 3% higher than the same time last year. To reach the 90% target by November this would require 32 bcm injection, whereas last year it took 36 bcm of injections – this is a reduction of 4 bcm compared to last year.

It is worth noting, however, that given storage fullness could reach an all time high, it is possible that the EU may utilise up to 10 bcm of additional storage capacity in Ukraine. This additional demand could be met from a variety of sources such as EU LNG, Norwegian imports or exports from GB.

Figure 4
Total gas in European storage in 2024 and 2023 vs the 5-year average



All data up to 25th March

Exports to continental Europe Spotlight

Key messages

1 We expect that GB exports to continental Europe will reduce significantly compared to 2023. This is due to a combination of higher stocks in EU storage at the end of winter, additional LNG regasification capacity across the EU and tight NBP/TTF price spreads.

In the last year, we have observed a reduction in exports to continental Europe in comparison to 2022 (see Figure 6).

The EU continues to make progress in improving its security of supply position since Russia reduced the flow of gas into continental Europe, and we therefore expect to see reduced demand for GB gas flows into continental Europe over the summer for a number of reasons:

- The EU’s LNG regasification capacity is expected to continue expanding as Germany and Belgium lead the way, with up to 20 bcm of new capacity forecast onstream in 2024.
- An increase in renewable generation capacity across the continent offsetting the need for gas to generate power.

2 Market volatility will always be a key area of uncertainty, as geopolitical and climate related drivers could significantly change the need for exports throughout summer.

- The return of strong output from Nuclear and Hydropower on the continent (these are susceptible to maintenance and weather)
- An overall reduction in demand. The European Commission have published a [new recommendation](#) for EU member states to continue to reduce their gas demand by 15%.

This expectation is also reflected in the continued narrowing of seasonal price differentials (see figure 5) between GB and EU markets. The season ahead price differential for summer shows a slight favouring of flows to continental Europe, but the spread is very close to zero, which suggests that the incentive to export gas is marginal.

Figure 5
NBP-TTF spreads (season +1)

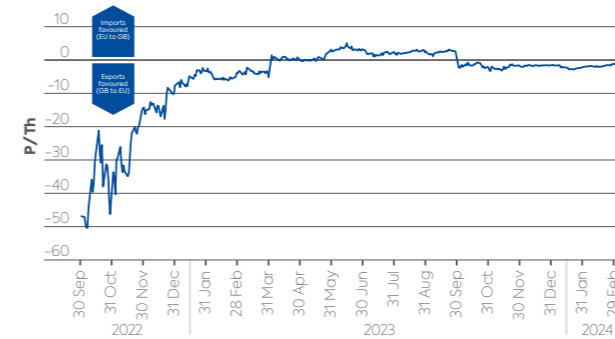
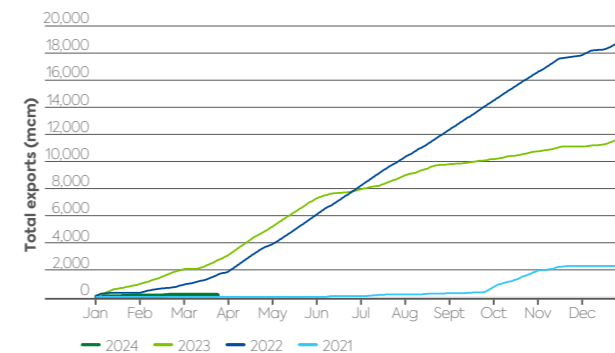


Figure 6
Cumulative exports to continental Europe (2021-2024)





Supply this summer

Supply

Liquefied natural gas



Supply

Key messages

1

During the summer, GB demand will be met primarily from the UKCS and Norway, with the balance being secured by LNG.

UKCS production will continue to decline as legacy fields mature, this is reflected in the slightly lower forecast for Summer 2024.

We expect availability of Norwegian production to increase from last summer. Production is expected to be boosted by new fields coming on line (the Dvalin field and Johan Sverdrup phase 2 expansion). Adding to this, planned maintenance outages are expected to be lower than last summer. While the outages are similar to 2023 levels later in the summer (Aug/Sep) there is a significant reduction in the earlier months, see Figure 7.

For both Norway and LNG there is a significant potential upside for supply this summer. This may be utilised should demands be higher than expected, either due to lower wind output, less electricity

2

The price differential between the GB and EU markets has narrowed significantly, suggesting that there may be less activity over the interconnectors in terms of imports/exports between GB and the EU.

imports or increased gas exports to continental Europe. If this is the case we would expect this increase in demand to be balanced primarily by increases to one or both of Norway and LNG.

Based on historic flows, we do not expect imported gas from continental Europe over the summer. Current price spreads are also not high enough to incentivise any significant gas imports across the interconnectors.

As mentioned earlier, we expect storage in GB to cycle between withdrawal and injection throughout the summer, with a stronger lean towards injection. Occasional periods of significant withdrawals are possible, either due to increases in demand driven by high exports and/or increases in power generation or during gas supply outages.

Table 2

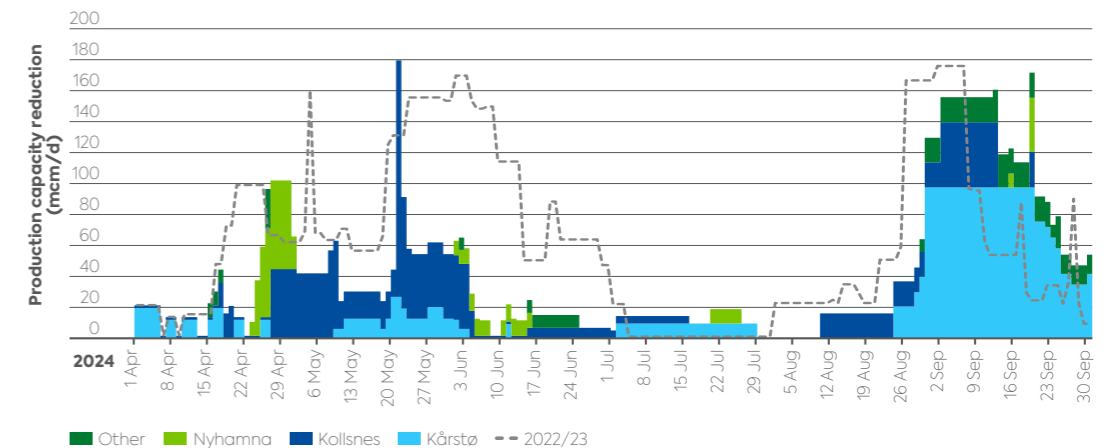
Summer gas supply volumes (bcm) by source – historical (2018–2023), and forecast (2024)³

bcm	2018	2019	2020	2021	2022	2023	2024 forecast
UKCS	16.8	16.9	15.9	12.2	17.2	16.6	16.2
Norway	13.3	9.8	8.8	12.7	13.2	7.1	7.4
Continent	0.1	0	0	0.1	0	0	0
LNG	1.4	6	7.1	5.1	9.8	6.4	3.9
Storage	1.3	1.4	1.3	1.3	2.1	1.6	1.6
Total	32.8	34.1	33.1	31.5	42.2	31.8	29.0

³ Data provided from Gas Summer Outlook 2023

Figure 7

Aggregated Gassco outages (25/03/2024)



Liquefied natural gas

Key messages

1

LNG supplies have been high over recent years, but a reversal of this behaviour is starting to become visible (particularly over the summer period) as LNG supplies no longer need to transit through GB to continental Europe.

GB continues to receive LNG from a diverse range of global suppliers and this is expected to remain the case throughout 2024 (see Figure 8). It is, however, worth noting that due to the recent disruptions to shipping through both the Suez and Panama Canals, Atlantic Basin cargoes have tended to prioritise delivery to Europe, with Middle Eastern cargoes favouring Asia.



Expert view: Mauro Chavez
Head of Europe gas and LNG markets – Wood Mackenzie

“While LNG supply growth is limited, higher storage levels mean that Europe can confidently balance this summer. The drop in global gas prices should drive Asian demand response and contribute to reduced LNG imports to Europe throughout the summer. Nevertheless, with European storage levels moving closer to 90% by the end of July, we see reduced utilisation at LNG terminals across the UK and Northwest Europe.”

2

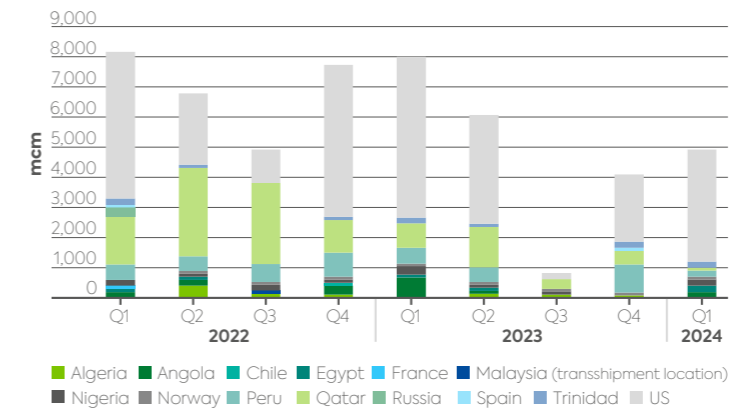
LNG supplies are flexible and price sensitive. Over the last year, GB has demonstrated the ability to attract LNG shipments in a competitive global market.

In Summer 2023, GB saw high levels of LNG cargoes in the beginning of summer to meet the high volumes of gas being exported to continental Europe. As the demand for gas to be exported fell, so too did the LNG cargoes coming to GB (see Figure 9).

LNG supplies to GB are forecast to be lower than seen in 2023 due to greater confidence around gas supply in the EU – the expectation is that LNG supplies to GB will be at a similar level to what was observed in the second half of summer 2023. This is largely driven by the EU starting summer with a strong gas storage position and more direct re-gasification capability already being online.

Figure 8

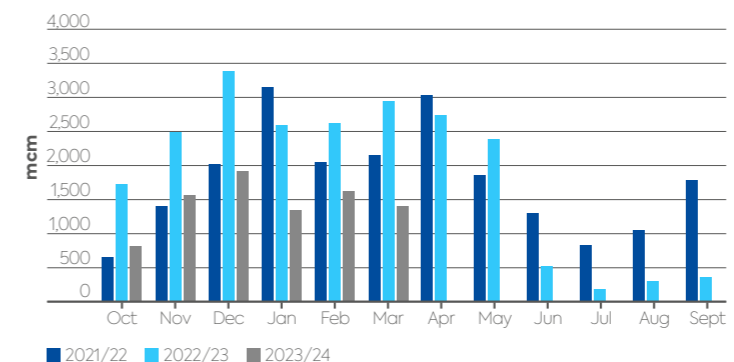
LNG delivery cargoes by global source – historical, 2022–2024 (to date)



* This chart has been developed by National Gas Transmission using confidential proprietary data from the Argus Media Group under licence. Argus shall not be liable for any loss or damage arising from any party's reliance on this data. All data up to 25th March.

Figure 9

Monthly LNG delivery – historical, 2016–2024 (to date)





Operational outlook

Key messages



Operational outlook

Key messages

1

The asset maintenance programme in 2024 is again one of the most significant we will undertake, with an expected 32% uplift in the level of maintenance related isolations and outages compared to last year.

Demand is traditionally lower during the summer as the most significant driver, the need for heating, reduces due to the increase in temperature. For most of our assets, the summer therefore represents the best time to carry out maintenance and invest in our assets. This ensures that we have the flexibility that allows us to continue to meet our customer's requirements and to rapidly respond to the diverse supply and demand patterns observed throughout the year.

We are carefully phasing our maintenance works to ensure that we minimise effects of asset unavailability on network resilience while maintaining our operational flexibility. This will allow us to bring compression online at short

2

We continue to work closely with our customers to minimise the risk of interruptions in their ability to deliver and offtake gas during the summer maintenance period.

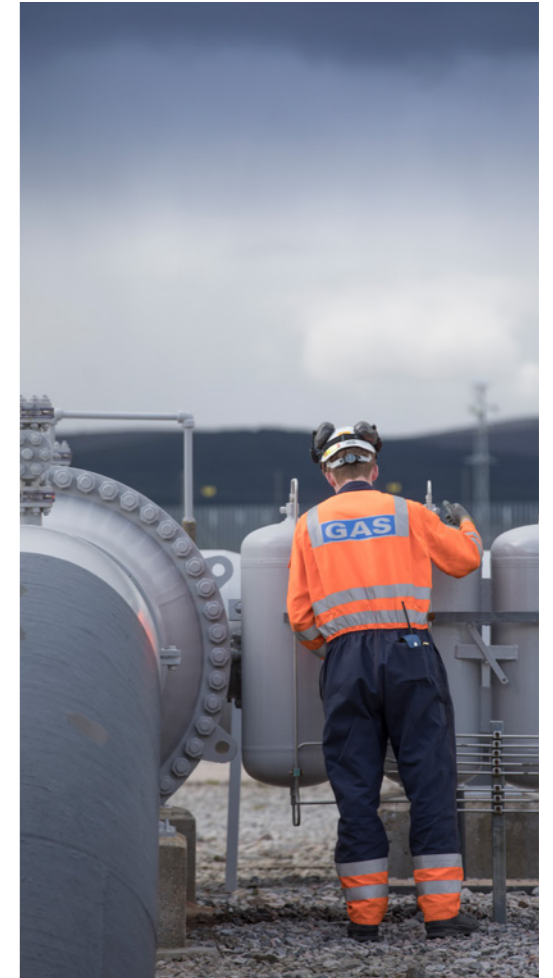
notice to both maintain locational pressures, and to respond to the changes in supply that can occur over the summer period.

To set us on the pathway towards emissions compliance under RII0-2, we are also progressing works at three of our main compressor stations (Huntingdon, Peterborough and Hatton) to install Industrial Emissions Directive (IED) compliant units. At the time of writing, the work is on track to be completed at Huntingdon and Peterborough in the early part of summer 2024, with works at Hatton ongoing during Summer 2024.

Preparatory works for the Western Gas Network Upgrade, which will increase our capacity and

capability to accept gas flows from the Milford Haven LNG Terminal, are expected to continue this summer. As part of this, we have a significant piece of work planned at Tirley that is likely to cause some impact, however this has been communicated to the Milford Haven terminals and aligned with customer outages. We also have work in the east area that will limit our ability to release non-obligated capacity at our Bacton Exit interconnector point. We are exploring various options such as 24-hr shift working to ensure the works are completed as quickly as possible, whilst maintaining safety for all involved.

Further details of our maintenance plans can be found on our [website](#).



Operational outlook

Asset Maintenance Programme

Asset maintenance remains a key aspect of our asset management strategy aimed at ensuring that we maintain a safe, reliable and resilient network.

A significant proportion of the assets are reaching, or have reached the end of their design life. The extensive use and age of our critical infrastructure means our assets now require greater care, increased monitoring, refurbishment and replacement to maintain a safe, reliable transmission system.

Our asset maintenance strategy considers the likely failure modes of each asset type and the consequences should we lose functionality. This consideration leads to decisions on the type of intervention and triggers for maintenance activity.

As part of our RIIO-2 plans, we are committed to investing significantly in the maintenance of our assets and that has influenced the significant increases in our asset maintenance program each summer. Our key maintenance works this summer involve:

- In-line Inspection (ILI) runs, ILI digs; risk-based inspections driven by considering pipeline condition, criticality, safety and performance of corrosion prevention.
- Hatton compressor station outage for the summer to build a new unit.
- Compressor station works which involve condition monitoring, functional checks, scheduled inspections, usage-based inspections and installation of new units. This will involve some compressor unit outages.

Our asset management maturity is underpinned by our routine maintenance activities, which proactively identify asset health issues. The information we collect enables us to manage our Network Development Process by prioritising investment decisions.





Preparing for the coming winter

Preparing for the coming winter



Preparing for the coming winter

Looking to the future: Gas Supply Security Assessment

In 2023, the UK government published the [Powering up Britain: Energy Security Plan](#), which committed to strengthen energy security through a new medium-range Gas Supply Security Assessment. The publication aims to assess gas supply security over a 5-10 year horizon.

We've been working alongside DESNZ and the forthcoming National Energy System Operator (NESO), formerly referred to as the Future System Operator, to support the development of the methodology for this assessment, which has now been published by DESNZ and can be [accessed online](#).

The assessment will be implemented through an Ofgem Licence Condition and will be delivered by NESO on an annual basis once it is launched. We will continue to input into the development of the methodology ahead of the first publication.

As a prudent system operator, we are working closely with the Department for Energy Security and Net Zero (DESNZ), Ofgem, and ESO to assess the potential scenarios and associated risks that may arise during the coming winter.

We have already taken several steps to ensure we are well prepared to maintain safe and secure operation of the gas transmission system, and continue to look for opportunities to implement further improvements in light of the current geo-political context surrounding the energy landscape. Areas with particular focus include:

- Refining the scope of the annual NEC Assurance Exercise (titled Fahrenheit for 2024) and testing the new Public Appeals Policy issued by the NEC in January. The policy sees the modernisation of this process, which asks the public to use less gas in the face of an emergency.
- We have raised two Demand Side Response (DSR) modifications:
 - [Mod 866](#) covers a number of improvements to the existing DSR process based on feedback from industry stakeholders

- [Mod 867](#) would enable additional daily metered consumers to participate in gas DSR by introducing the role of an 'aggregator' to group their DSR into a portfolio and offer it to National Gas Transmission (NGT).

We'll share more information on our winter preparedness activities in the upcoming Winter Review and Winter Outlook publications.

Factors that may influence the outlook for winter

Whilst we are, and will be, taking every appropriate step possible to prepare for the coming winter, there are a number of factors outside of our control that could affect the outlook for winter 2024/25, including:

- The weather – a very cold winter will mean higher demands on the NTS
- The cost of energy and how this may affect demand
- EU storage position and re-gasification capability
- Further disruption to gas supplies or shipping routes due to the ongoing wars in Ukraine and Gaza
- Global LNG availability
- Currently unforeseen global events.



For more information

If you're interested in our outlook for winter, more information will be available in the following upcoming publications:

- 1. Gas Winter Review & early Winter Outlook**
 - planned for June
- 2. Gas Winter Outlook**
 - planned for September

Is there something you'd really like to see in our Winter Outlook analysis? [Get in touch](#) to let us know what matters to you.



Contact us

Continuing the conversation



Continuing the conversation

We look forward to continuing the conversation with you at our upcoming engagement forums. The dates for our next Gas Operational Forums are available in the box below.

The forum agenda varies from month to month depending on requests, operational events, and where we are in the gas year. In 2024 we have introduced themed forums, which will be hybrid events held at The Clermont Hotel in London, as well as our online only events and key standing items.

Upcoming Gas Operational Forum Dates:

- 16 May 2024 (online only)
- 20 June 2024 (hybrid forum)
- 19 September 2024 (online only)
- 17 October 2024 (hybrid forum)

Our online only meetings will be a mixture of different topics including sharing of operational information, updates on key projects or regulation changes and feedback sessions, depending on what is happening at the time of the event. You can find details about the forums, and how to sign up to attend them [on our website](#).

Your feedback is so important to us

Letting us know what you think of the information we share with you, and how we're sharing it, helps us shape our future communications to ensure we're communicating what matters most, in a way that suits you. [Send us an email](#) to share your views and feedback on our publications.

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Appendix

Data tables in TWh



Data tables in TWh

Table A

Key statistics – historical 2023 and forecast 2024

TWh	2023 actual	2024 forecast
GB gas demand for electricity generation *	85.8	72.2
Export to continental Europe	78.4	39.5
Total gas demand**	366.5	318.9

[A good guide](#) for converting to energy in watt hours from gas volume in cubic metres is to multiply by 11.

So, for example, 4 mcm approximates to 44 GWh and 80 bcm approximates to 880 TWh.

NB: 1TWh = 1,000 GWh and 1 bcm = 1,000 mcm.

* GB gas demand is comprised of gas used domestically, and for industry, power generation, and storage injection.

** Total gas demand is GB demand combined with export gas demand (gas exported via interconnectors to continental Europe and Ireland).

Table B

Forecast total gas demand (TWh) for summer 2024, and historical (2016–2023)

TWh	2018	2019	2020	2021	2022	2023 forecast	2023 actual	2023 weather corrected	2024 forecast
Non-daily metered demand (NDM)	117	125	114	138	106	112	102	108	108
Daily metered (DM) and industrial demand	45	46	43	44	39	37	41	41	38
Electricity generation	113	117	102	111	126	94	86	86	72
GB gas demand	274	288	261	293	272	243	229	235	218
Export to Ireland	18	22	24	26	29	33	26	26	32
Export to mainland Europe	50	47	58	8	134	61	78	78	39
Storage injection	25	24	23	23	25	26	25	25	26
Total gas demand	366	383	369	351	463	366	360	367	319

NB: All totals include NTS shrinkage and will therefore not tally.

Table C

Summer gas supply by source – historical (2016–2023) and forecast for 2024

TWh	2018	2019	2020	2021	2022	2023	2024 forecast
UKCS	184.8	185.9	174.9	134.2	189.2	182.6	178.2
Norway	146.3	107.8	96.8	139.7	145.2	78.1	81.4
Continent	1.1	0	0	1.1	0	0	0
LNG	15.4	66	78.1	56.1	107.8	70.4	42.9
Storage	14.3	15.4	14.3	14.3	23.1	17.6	17.6
Total	360.8	375.1	364.1	346.5	464.2	349.4	319



Glossary



Glossary

Annual Network Capability Assessment Report (ANCAR)

This annual report contains an assessment of our Network Capability. Assessing our Network Capability enables us to calculate and demonstrate the physical capability of the NTS and how that capability compares to the needs of our customers now and into the future. This assessment is carried out against a range of future supply and demand scenarios using the Future Energy Scenario (FES) outputs produced by the Electricity System Operator (ESO). The output of this assessment helps inform potential changes to market rules, commercial tools or physical assets, to ensure continued safe and economic operation of the NTS in meeting our customers' needs.

Asset

Any physical part of the network and includes such things as compressors, pipelines, flow valves and regulators.

Asset Management Plan (AMP)

An AMP provides a view of how we will manage, maintain and invest in our assets in line with legislation and our regulatory requirements.

Bacton

Bacton manages a large volume of the nation's gas, and is a critical component of the gas transmission network now and going into the future. Bacton is a key dynamic swing node for a large subset of our customer base at an interdependent part of the network. In addition, Bacton bridges GB with EU via two interconnectors (BBL and IUK), and controls flows into the South East to ensure security of supply for London and the west-east transit route for LNG into Europe.

Bacton exit capacity bookings

The amount capacity that has been pre-booked to exit the NTS, via Bacton, through the interconnectors to be exported to Europe. Exports booked in advance provide a view of the level of exports that will be observed over winter.

BBL (interconnector)

A bi-directional gas pipeline connecting Bacton in the UK and Balgzand in the Netherlands.

bcm

Billions of cubic metres.

Combined Cycle Gas Turbines (CCGT)

A combined-cycle power plant uses both a gas and a steam turbine together to produce up to 50% more electricity from the same fuel than a traditional simple-cycle plant. The waste heat from the gas turbine is routed to the nearby steam turbine, which generates extra power.

Commercial actions

Actions taken to balance the NTS, such as buying and selling gas either nationally or locally.

Compressor

Compressors are used to move gas around the transmission network through high pressure pipelines. There are currently 71 compressors at 24 sites across the country. These compressors move the gas from entry points to exit points on the gas network. They are predominantly gas driven turbines that are in the process of being replaced with electric units.

Constraints

A restriction affecting part of the system which results in the gas flows in that part of the system being limited. Entry – where a pressure Terminal Flow Advice is in place at an ASEP and firm entitled flow rate is greater than the capability/TFA. Exit – Failure (or forecast) to meet a required offtake pressure obligation. Either the User elects not to offtake gas at a pressure lower than obligated or NTS pressure so low that gas will physically not flow through offtake and down stream users affected or low pressure safety limit reached.

Daily metered (DM) demand

A classification of customers where gas meters are read daily. These are typically large-scale consumers.

Demand Side Response (DSR)

Demand Side Response is a service that was developed by gas industry representatives to encourage daily metered (DM) consumers to offer to reduce their gas demand during times of system stress.

Electricity (power) generation

Electricity generated by the burning of gas.

Glossary

Emission legislation

Emissions legislation relates to The Industrial Emissions Directive (IED), which is the mandatory minimum emission standard that all European countries must comply with by 2023. The IED aims to prevent and reduce harmful industrial emissions, while promoting the use of techniques that reduce pollutant emissions and that are energy and resource efficient. The EU Withdrawal Act 2018 maintains established environmental principles and ensures that existing EU environmental law will continue to have effect in UK law, including the IED.

Entry terminals

These terminals allow gas supply to enter the NTS.

European interconnectors/interconnector

A term used to describe both of the bi-directional gas pipelines that connect Bacton in the UK to Balgzand in the Netherlands (BBL) and to Zeebrugge in Belgium (Interconnector Limited).

Exit points

Exit points are where gas exits the NTS e.g. to industrial users or to local infrastructure to provide gas to domestic homes.

Export

Gas demand on the NTS from interconnectors to continental Europe or the island of Ireland.

forward price curve

Forward curves represent the market's best estimate for what the eventual spot market price will be for a particular month at a particular location.

GB Demand

Demand excluding interconnectors, storage injection & exports to Ireland.

GWh

Gigawatt hours.

In Line Inspection (ILI)

In-line Inspection (ILI) involves the evaluation of pipes and pipelines using "smart pigs" (both tethered and non-tethered) that utilize non-destructive examination techniques to detect and size internal damage. ILI measures and records irregularities in pipelines including corrosion, cracks, deformations, or other defects.

Industrial Emissions Directive (IED)

The main EU instrument regulating pollutant emissions from industrial installations. The IED was adopted on 24 November 2010. The IED aims to achieve a high level of protection of human health and the environment taken as a whole by reducing harmful industrial emissions across the EU, in particular through better application of Best Available Techniques (BAT).

Injection

Gas for storage injection This is gas which is put ("injected") into a gas storage facility.

Interconnector

Two pipelines connecting GB and the EU. The Interconnector (UK) Limited is a bi-directional gas pipeline connecting Bacton in the UK and Zeebrugge in Belgium. BBL is a bi-directional gas pipeline connecting Bacton in the UK and Balgzand in the Netherlands.

Interconnector Limited

The Interconnector (UK) Limited is a bi-directional gas pipeline connecting Bacton in the UK and Zeebrugge in Belgium.

Land bridge

In this context the land bridge refers to connecting the LNG terminals in GB to the interconnector via the NTS.

LDZ

Local Distribution Zone.

LNG

Liquid Natural Gas that has been converted to liquid form for ease of storage or transport. It is formed by chilling gas to -161°C so that it occupies 600 times less space than in its gaseous form.

Glossary

Margin

The difference between gas supply and demand. A positive margin indicates supply is greater than demand. A negative margin when demand is greater than supply.

Market participants/industry participants

Those involved in buying and selling gas on the NTS.

mcm

Million cubic metres.

Moffat interconnector

The interconnector pipeline that connects the British system at Moffat, in Scotland to the Republic of Ireland, Northern Ireland and the Isle of Man. Physical gas flows are currently only possible in the direction of exit from GB.

MRS (Medium-range storage) / GB storage

Gas storage facilities designed to switch rapidly between injection and withdrawal to maximise the value from changes in gas price.

Network Gas Supply Emergency (NGSE)

A network gas supply emergency (NGSE) occurs when we are unable to maintain a supply – demand balance on the NTS using our normal system balancing tools. As a consequence of the imbalance between supply and demand, pressures in the system fall and it may not be possible to safely maintain gas supplies to industrial and domestic gas consumers who are supplied with gas either directly or indirectly from the NTS. A network gas supply emergency (NGSE) may be caused by unforeseen circumstances, such as pipeline or equipment failure, or where system demand exceeds either total supply or planned system capacity.

National Transmission System (NTS)

A high pressure gas transportation system consisting of compressor stations, pipelines, multijunction sites and offtakes. Pipelines transport gas from terminals to offtakes. The system is designed to operate at pressures up to 94 barg.

NBP

The National Balancing Point (NBP), is a virtual trading location for the sale and purchase and exchange of UK natural gas.

Network capability

This refers to the physical capability of the NTS i.e. how much gas can be transported throughout the system on a given day.

Non-daily metered (NDM) demand

A classification of customers where gas meters are read monthly or at longer intervals. These are typically residential, commercial or smaller industrial consumers.

Non-storage supply

Gas that comes from sources other than gas storage. This includes supply from the UK Continental Shelf (UKCS), Norwegian imports, European imports and imports of Liquefied natural gas (LNG).

Norway / Norwegian Continental Shelf (NCS)

Gas supplied to the NTS via pipelines from Norway.

NTS shrinkage

NTS shrinkage is made up of 3 components. Unaccounted for gas (UAG) is unallocated gas or gas that is lost or stolen from the system. Own use gas (OUG), gas that is used in the running of the system e.g. compressor fuel. And calorific value shrinkage (CVS) where gas of a particularly low or high CV enters the distribution network which differs with the flow weighted average CV of gas entering that network.

OCM

On-the-day commodity market. The OCM is the market we use in our role as residual balancer. The balancing market is operated by the ICE Exch exchange, as appointed by National Gas.

Glossary

Ofgem

Office of Gas and Electricity Markets – Great Britain’s energy regulator.

Physical Capability

The maximum amount of gas that the network can physically flow at specific locations without going outside any of its pressure obligations, or equipment’s safe operational tolerances.

Price differential

The difference in price between markets e.g. GB and continental Europe. Energy supplies tend to flow to whichever market has the highest price.

Renewable

Forms of energy generation from renewable resources, which are naturally replenished, such as sunlight and wind.

Total Demand

All NTS demand, including interconnectors, storage injection & exports to Ireland.

TTF

TTF is the virtual trading point of the Title Transfer Facility or the Netherlands Securities Transfer Fund, which is used as a reference gas market at European level.

UK Continental Shelf (UKCS)

UKCS is made up of the areas of the sea bed and subsoil beyond the territorial sea over which the UK exercises sovereign rights of exploration and exploitation of natural resources.

Weather corrected

The demand expected with the impact of weather removed. Actual demand is converted to demand at seasonally normal weather conditions, by multiplying the difference between actual CWV and expected CWV by a value that represents demand sensitivity to weather.

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