

Gas Operational Forum

Clermont Hotel & MS Teams 19th October 2023 10:00am

Questions SLIDO = #OPSFORUM1





Introduction & Agenda

Bridget Hartley Head of Operational Delivery





Housekeeping for Forum

- For Microsoft Teams participants;
- Attendees will be automatically muted on dial-in and cameras will be unavailable.
- You can ask questions via Slido (#OPSFORUM1)
- We have included some time to answer questions following the presentations





Agenda for Today

Welcome and Introduction	Bridget Hartley – Head of Operational Delivery	10:02
Operational Updates	Bridget Hartley – Head of Operational Delivery	10:05
Winter Outlook	Chris Thompson– Engagement and Publications Manager	10:20
Gas DSR Update	Phil Hobbins – Commercial Change Manager	11:05
Emergency Exercise	Tom Wilcock – Energy Resilience Manager	11:35
General Updates	Craig Shipley – Senior Operational Liaison Officer	11:50
Ops Forum Feedback	Craig Shipley – Senior Operational Liaison Officer	11:55
AOB & Close	Craig Shipley – Senior Operational Liaison Officer	12:00

Please ask any questions using Slido: #OPSFORUM1

Questions will be covered at the end of each agenda section.



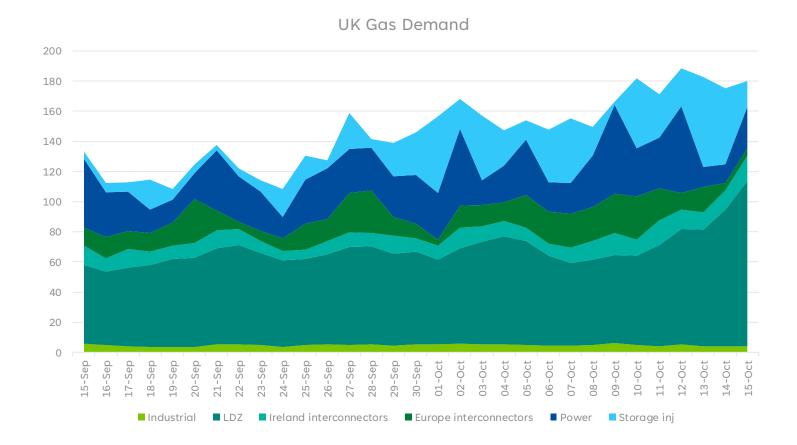
Operational Updates

Bridget Hartley Head of Operational Delivery **SLIDO #OPSFORUM1**

Agenda

- UK demand
- Power Station Demand
- Storage UK and EU
- Interconnector Exports
- LNG imports Milford Haven and Isle of Grain

NTS Demands



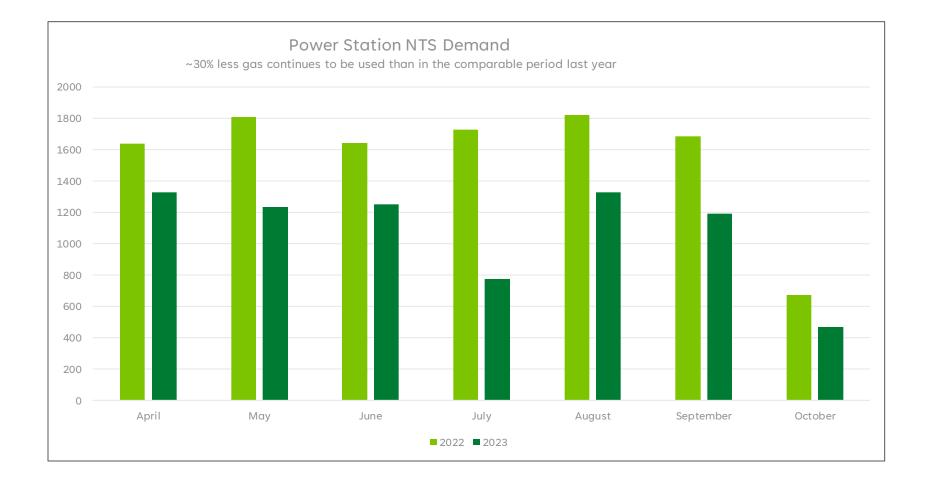
The recent cold snap has led to an increase in LDZ demand

During October significant gas has been put into storage.

Power demand reflects the balancing gas provides to intermittent renewable generation ranging between 12.6mcm/d to 58.9mcm/d in this period.

European exports have remained low – average of 26.2mcm/d compared to 75mcm/d this time last year.

Power Station NTS Demand (to 15th October)





Storage & LNG

2K

1K

OK

2K

1K

LNG

Storage

Total LNG Stock and Percent Full Snapshot as of: 16 October 2023

1,033 mcm 80% full

Total GB Storage Stock and Percent Full Snapshot as of: 16 October 2023

> 2,565 mcm 77% full



All values shown are volume in millions of cubic metres (mcm)

Previous year data is shown for the equivalent time period from the start of the gas year (01 Oct) to latest data

LNG & Storage stock (mcm)

Amon Ch

Oct

2022/2023

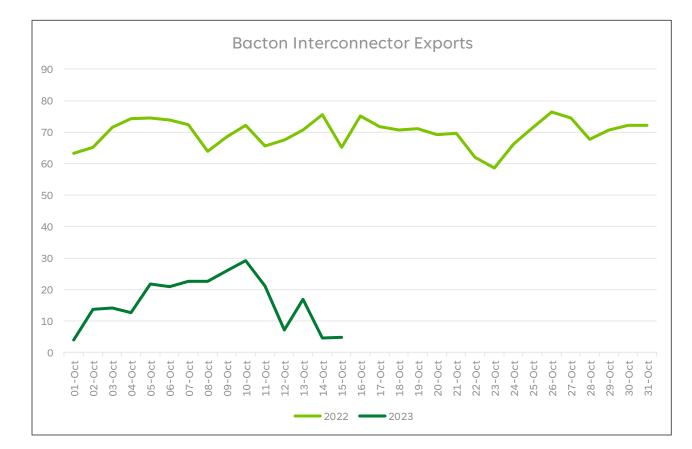
2023/2024

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Interconnector Exports

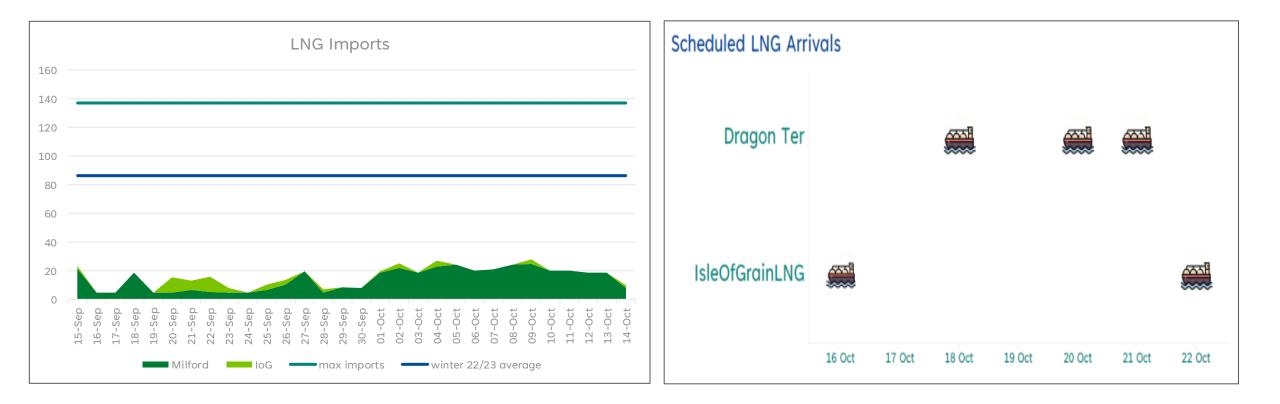
Exports to Europe have continued to be low as we've moved into October.

With European storage being full this is not expected to change significantly in the coming months.



LNG Imports

LNG imports have picked up slightly as we've moved into October, but still remain below the levels of last winter. There are several boats due to dock in the UK in the coming week



Winter Outlook

Chris Thompson Engagement and Publications Manager





Q1

Have you read the Winter Outlook 2023/24?

A. YesB. NoC. Planning to

Slido: #OPSFORUM1

Key messages

1.

We have sufficient capability to meet peak (1-in-20) demand, with a positive supply margin under both intact and N-1 network conditions.

2.

We forecast that GB demand (excluding exports to Europe) for winter to be comparable to last year with the increase in residential demand being offset by reduced demand for power.



3.

Total NTS demand (including exports to Europe) is forecast to reduce, as we expect reduced levels of exports to Europe when compared to the previous winter given that EU will enter winter with extremely high storage levels and now have increased LNG import infrastructure in place.

4.

We have illustrated how the NTS could be balanced under a range of credible demand profiles. In all of our scenarios GB will be dependent on continued substantial imports of LNG and Norwegian gas this Winter. In cold winter scenarios, GB will likely also require imports from the EU

5.

Disruptions to other markets could impact the GB market, with a particular focus on the second half of winter dependent on the extent of EU storage usage. Overall, whilst we have more confidence that the market will perform as expected, we shouldn't discount the risk of events occurring, either in isolation or in combination, to put the EU and therefore by extension GB, under stress.

6.

We have the necessary physical, commercial and market based tools to manage a supply and demand imbalance, including those related to a Network Gas Supply Emergency (NGSE), should it be necessary.

Peak day supply margins

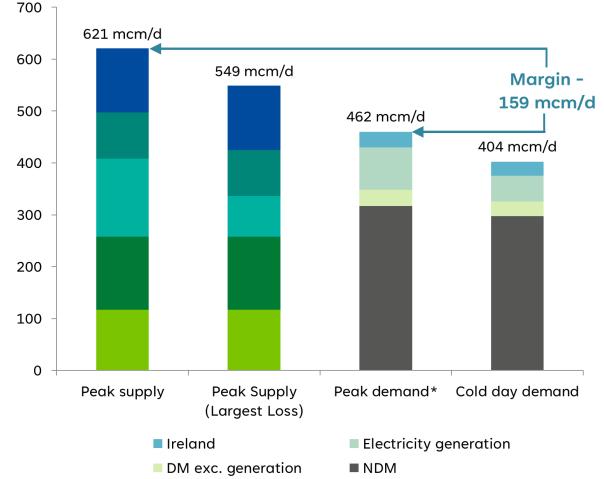
GB benefits from having diverse and flexible supplies, with steady reliable supplies from UKCS and Norway coupled with flexible supplies from LNG, GB Storage and the Interconnectors.

Our network has sufficient physical capability to accept gas from each of these sources in response to how the market chooses to balance demand and supply.

Peak demand is lower than peak supply, meaning a positive supply margin is expected for the coming winter period.

A positive supply margin offers flexibility in how supply can meet demand, e.g. if storage supply is low, LNG supply could increase to meet demand.

Peak day supply margin and cold day demand for winter 2023/24



Demand forecast

Total GB demand for winter 2023/24 is comparable to last year, with the increase in residential (NDM) demand being offset by reduced demand for power generation.

Total NTS demand is forecast to reduce, largely as a result of lower interconnector exports to Europe both in terms of gas and electricity generated by gas (power generation). Forecast total gas demand for winter 2023/24, and weather corrected actual demand for 2022/23

Winter demand (bcm)	2022/23 Actual Demand (Weather Corrected)	2023/24 Forecast demand	% change
Non-Daily Metered (NDM)	25.9	27.9	+7.7
Daily Metered (DM)	3.8	3.5	-7.9
Industrial	0.5	0.7	+40.0
Power generation	9.3	7.8	-16.1
GB Total	39.5	39.9	+1.0
Ireland exports	3	3.7	+23.3
Interconnector exports (EU)	7.6	3.2	-57.9
Total NTS Demand	50.1	46.8	-6.6

Supply Sources

UKCS continues to provide a steady baseload of supplies. During winter 2022/23, we saw an average supply of 103 mcm/d. We expect to see supply levels similar to last winter, with new fields broadly offsetting any declines to existing ones

This winter we expect that NCS will continue to prioritise flows to Europe as they did last winter, with GB receiving circa 80 – 100 mcm/d most days. If the GB price is higher, then we'd expect GB to receive more supplies (up to the maximum physical capability of 141 mcm/d), especially during high demand periods.

LNG has the most potential to respond to address any supply/demand imbalances, and during winter 2023/24 we expect the market will deliver LNG supplies to GB when needed (as seen in previous years).

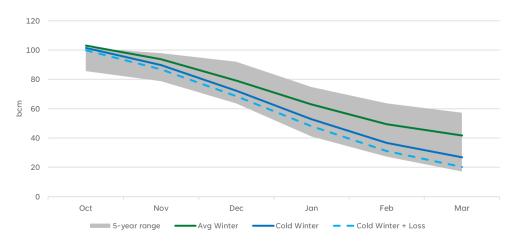
Under a cold winter scenario, the UK would require imports from Europe to balance supply and demand. To test how reliable these supplies would be we have analysed some scenarios for the European market for the winter ahead.

For all of these scenarios, LNG and storage are able to flex to ensure there is enough supply to meet demand. Under all scenarios European storage remains within the range seen over the last 5 years.

Observed daily max, min, average supplies in winter 2022/23 & max capability

	Observed daily (mcm/d)	Max physical		
	Мах	Min	Average	capability (mcm/d)
UKCS*	119	80.1	103	117
NCS*	113	46.3	79.1	141
LNG	137	27.9	86.4	150
EU Imports	7.8	0	0.3	125
GB Storage	74	0	17.6	124

European storage under average, winter and supply loss conditions.



What would you like to see more of in future Winter Outlooks?

- A. Supply and demand
- **B. Supply margins**
- C. Market intelligence
- **D. Scenarios**
- E. Other

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Scenario Assumptions

The Winter Outlook presents three scenarios that illustrate how the NTS could be balanced under a range of credible demand profiles.

Scenario	Rationale
Scenario 1: Typical winter (2019/20)	We simulated demand based on the weather experienced in winter 2019/20 as being representative of the daily demand we would expect in a typical winter.
Scenario 2: Cold winter (2010/11)	We have simulated demands from winter 2010/11 as representative of a cold winter, as this period contains the highest-ever daily gas demand level seen on the NTS, with sustained high demands throughout the majority of the winter.
Scenario 3: Cold snap (2017/18)	We have simulated demands from winter 2017/18 as representative of demand levels during an extreme cold snap as this period contains the 'Beast from the East' which resulted in some of the highest daily demand levels seen in the last five years, and also included the coldest CWV day in the last 20 years.

In summary

Our scenarios seek to achieve a network balance in the following manner:

Supply Surplus

In the event the NTS is over-supplied, gas is presumed to be injected into GB Storage and/or gas exports to continental Europe will increase, before LNG supplies are reduced.

Supply Deficit

In the event the NTS is undersupplied, it is presumed there will be an increase in storage withdrawal, Norwegian imports and LNG deliveries, whilst reducing any continental Europe exports, prior to requiring continental Europe imports and maximising storage withdrawal

Scenario 1

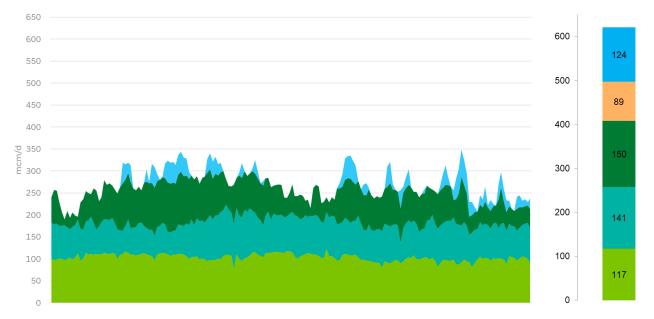
Typical winter, European imports minimised (based on 2019/20)

This scenario illustrates a level of LNG supply that could be required to achieve a supply-demand balance in winter, without requiring any imports from continental Europe.

Key observations

- European imports are not required in this scenario if sufficient alternate flexible supplies come to GB. Our scenario prioritises LNG supplies to illustrate a level of supply that is elevated compared to recent Winters, but well within system capability.
- The volume of LNG required to balance the scenario could be reduced by higher supplies from UKCS or Norway, or by lower levels of exports earlier in the winter.
- GB storage is utilised throughout the winter to meet higher demands. Periods of lower demand provide the opportunity for GB storage to refill.

Scenario 1 supply and Peak Day capability



■ UKCS ■ Norway ■ LNG ■ Storage withdrawal ■ Continental Europe

Scenario 2

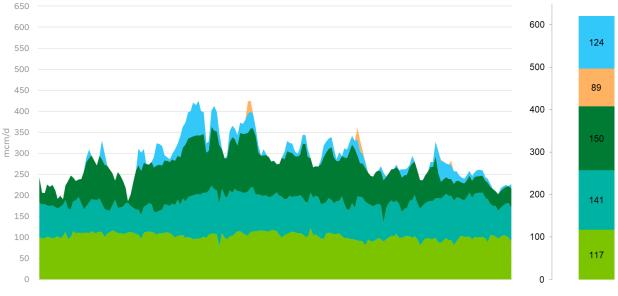
Cold winter, increased gas for power, European imports minimised (based on 2010/11)

This scenario illustrates that in a very high demand winter, imports from continental Europe may be required to achieve a supply-demand balance.

Key observations

- Additional flexible supplies are required in this cold weather scenario to supplement LNG, which reaches maximum capability on several days during the winter.
- The volume of European imports shown could be reduced by higher supplies from UKCS or Norway, or by lower levels of exports earlier in the winter.
- GB storage is utilised throughout the winter to meet higher demands. Periods of low demand provide the opportunity for storage to refill.

Scenario 2 supply and Peak Day capability





Scenario 3

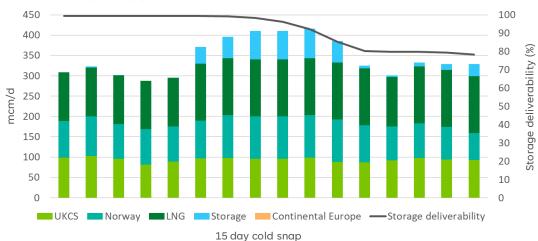
Cold snap (based on Beast from the East 2018)

This scenario highlights the deliverability difference of GB's MRS storage at stock levels of 75% and 25% full, and how that impacts the need for alternative sources of supply, with a focus on LNG, GB storage, and imports from continental Europe.

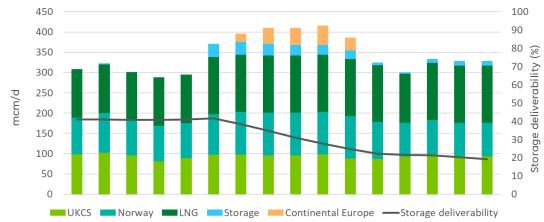
Key observations

- GB storage historically acts as a short-term balancing source of supply during periods of higher demand as shown in this scenario.
- Additional flexible supplies are required when storage levels are low to supplement LNG, which reaches maximum capability during the cold snap.
- The higher demand is a partial reversal of the reduction in domestic consumption due to prevailing high energy prices, demand may not respond to the weather trigger if price is still a critical factor for consumers.
- The volume of European imports shown could be reduced by higher supplies from UKCS or Norway.

Cold snap supplies with 75% full storage



Cold snap supplies with 25% full storage



National Gas Transmission | Winter Outlook

What would you like to see less of in future Winter Outlooks?

- A. Supply and demand
- **B.** Supply margins
- C. Market intelligence
- **D. Scenarios**
- E. Other

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SLIDO Poll

#OPSFORUM

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The poll will be live for 1 day.

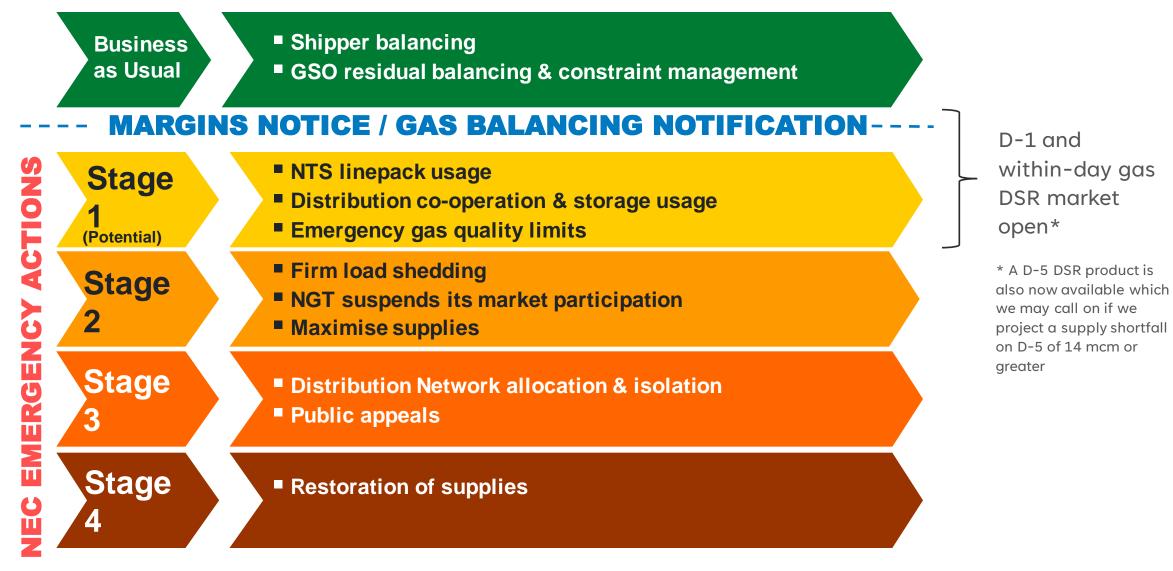


Gas Demand Side Response (DSR) Update

Phil Hobbins, Markets Team Philip.hobbins@nationalgas.com

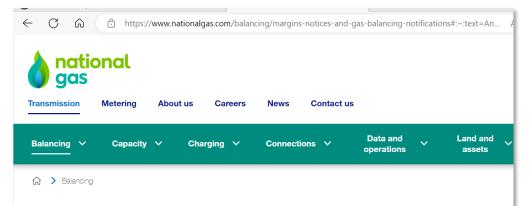


DSR and Emergency Arrangements



Margins Notices and Gas Balancing Notifications

- A Margins Notice (MN) is the means by which we notify all shippers on D-1 of a projected supply shortfall against forecast demand for the next gas day
 - A MN remains in place until the end of the gas day to which it relates, unless superseded by a GBN
- A Gas Balancing Notification (GBN) may be issued on D-1 or within-day if we project a material risk to the physical end-of-day balance
 - Once issued, a GBN remains in force until a GBN withdrawal notice is given
- More information is available on our website here
- Anyone may subscribe to receive an alert if a GBN is issued, we are currently developing the same capability for a MN



Margins Notices (MN) and Gas Balancing Notifications (GBN)

2

Margins Notices (MN) and Gas Balancing Notifications (GBN) provide relevant parties with information about potential or actual risks to the endof-day National Transmission System (NTS) physical system balance. On this page you will find out more about MN and GBN, including what to do when there is a significant supply or demand event.

Gas DSR Update

- Our annual **DSR options tender** has recently concluded
- This year's process reflected our **reform proposals** for winter 2023/24 that were approved by Ofgem in August
 - UNC Modifications <u>0844</u> and <u>0845</u>
 - Amendments to our <u>Gas DSR Methodology</u>
- These reforms introduced some **important changes** to the commercial and operational arrangements for gas DSR:
 - Enable NGT to **contract directly** with consumers
 - Introduction of a **D-5 DSR option product**
 - Broaden eligibility
 - Deliver other **process enhancements** based on consumer feedback
- This update summarises the tender outcome and explains our proposed next steps for 2024/25 DSR reform

DSR Options Tender 2023 - Outcome

- Our tender for **DSR Options** closed on Friday 15th September 2023
- Tender **results** were published <u>here</u> on our <u>DSR webpage</u> on Friday 6th October 2023
- We received **more interest** than last year, with offers from chemicals, glass, steel and paper production sectors
- All offers were direct from **consumers**, not shippers
- **Total volumes** offered (0.75 mcmd) fell short of what we had hoped for but this still represents market growth from the 0.2 mcmd offered last year
- From the 0.75 mcmd offered this year, we accepted 0.6 mcmd for 2023/24 winter only at a total option cost of £6.6m
- At least one offer was accepted in respect of each available DSR product (within-day, D-1, D-5)

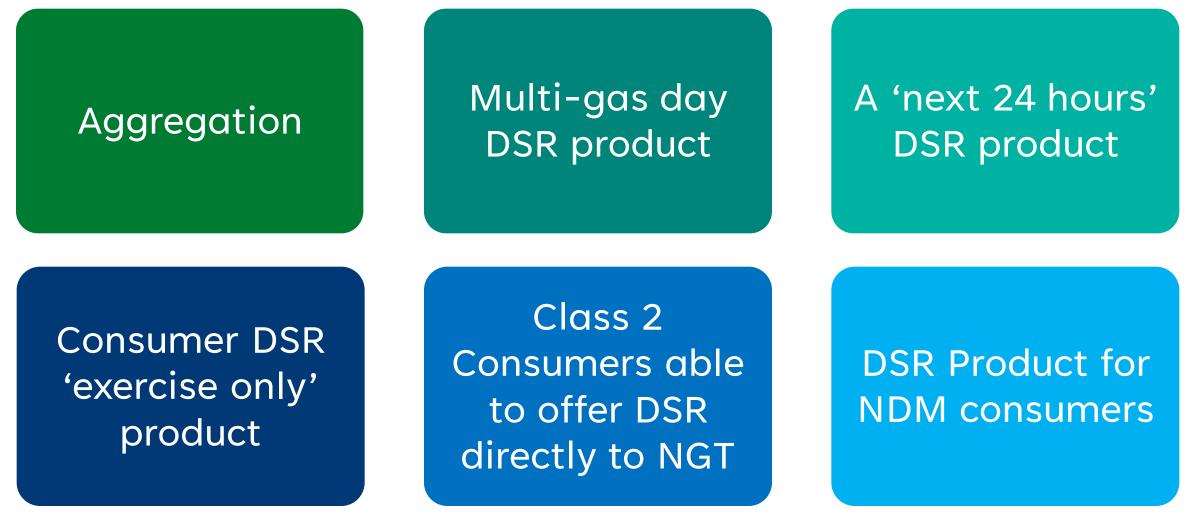
Gas DSR Tender: Detailed Results

Total Option Quantities offered under all DSR Option Offers*	12,752,026 kWh
Total Option Quantities offered available for acceptance	8,065,483 kWh
Total Option Quantities for which offers were accepted	6,396,722 kWh
The number of DSR Participants submitting DSR Option Offers	9
The number of Supply Points in respect of which DSR Option Offers were submitted	12
The weighted average Option Price under all accepted DSR Option Offers	0.57p/kWh/day
The lowest and the highest Option Prices for which DSR Option Offers were accepted:	
Lowest	0.29 p/kWh/day
Highest	1.73 p/kWh/day
The lowest and the highest Exercise Prices for which DSR Option Offers were accepted,	
separately for Exercise Prices:	
Fixed	
Lowest	10.00 p/kWh
Highest	19.18 p/kWh
Indexed	
Lowest	SAP*1
Highest	SAP*1.5
The total Option Fees payable in respect of all accepted DSR Option Offers	£6,638,417
* Two tenderers submitted offers for more than one DSR product, from which NGT was able to accept one	

DM Gas DSR Reform 2024/25

- A draft scope of work has been shared and discussed with shippers and consumers
- The work is being progressed via <u>UNC Request 0835R</u> to:
 - Review the 2023 DSR reforms where either:
 - Stakeholder feedback has been provided
 - We believe that alternative approaches may be preferable
 - Work with industry on **potential new topics**
 - Inform a further UNC Modification(s)
- The reforms we ultimately take forward will be informed by a consideration of effort versus likely reward
 - Some are 'no regret / easy wins', others will require more development time

Potential Future DSR Developments



(further information in Modification 0856)

Emergency Exercise

Tom Wilcock Energy Resilience Manager





Exercise 'Everest'

- Largest, most comprehensive exercise with the broadest participation to date
- Achieved a live data scenario against the warmest October on record and the windiest day of the year
- Undertook a whole energy system route through the commercial and emergency frameworks



Day 1 – What we achieved

Simulated Issues **Response Activity** Simulated Implications Gas Operating Supply High Gas Balancing Margins Loss(es) Prices Notification Electricity Trading LNG Stock Capacity Strategy System Scale-back Limitations Deployment Implications Gas Network Storage G.A.S Report Delivery Pressure Activation Limitations Concerns

Day 2 – What we achieved

Simulated Issues **Response Activity** Simulated Implications Emergency Supply High Gas Emergency Specification Declaration Loss(es) Prices Gas Electricity Direction to Load Shedding LNG Stock System Maximise of EU Limitations Supply Flows Interconnectors Implications Gas Network Storage Load Shedding Delivery Pressure of non-priority Limitations P,I&C demand Concerns



Exercise 'Everest' – Findings

Debriefing and reporting:



- We need your feedback <u>Exercise Everest Feedback Form</u>
- Industry debriefings across October
- Post Exercise Report published December '23

Find out more:

- View the industry briefing note retrospectively <u>Exercise Everest Industry Briefing</u>
- Watch our Emergency process animations <u>Emergency Process Animation</u>
- E1 Network Gas Supply Emergency Procedure Version 11 To be published end of October

Accurate Communication Details

Kamila Evans SGN





Emergency Contact Details

Kamila Evans





Firm Load Shedding Process

Firm load shedding is the procedure used by SGN and other Distribution Networks to secure graduated and controlled reduction in demand on all or part of our system to keep the system safely pressurised.

During an emergency, industrial and commercial consumers may be contacted by SGN and requested to stop using gas.





Example of FLS – Clackmannshire- Scotland

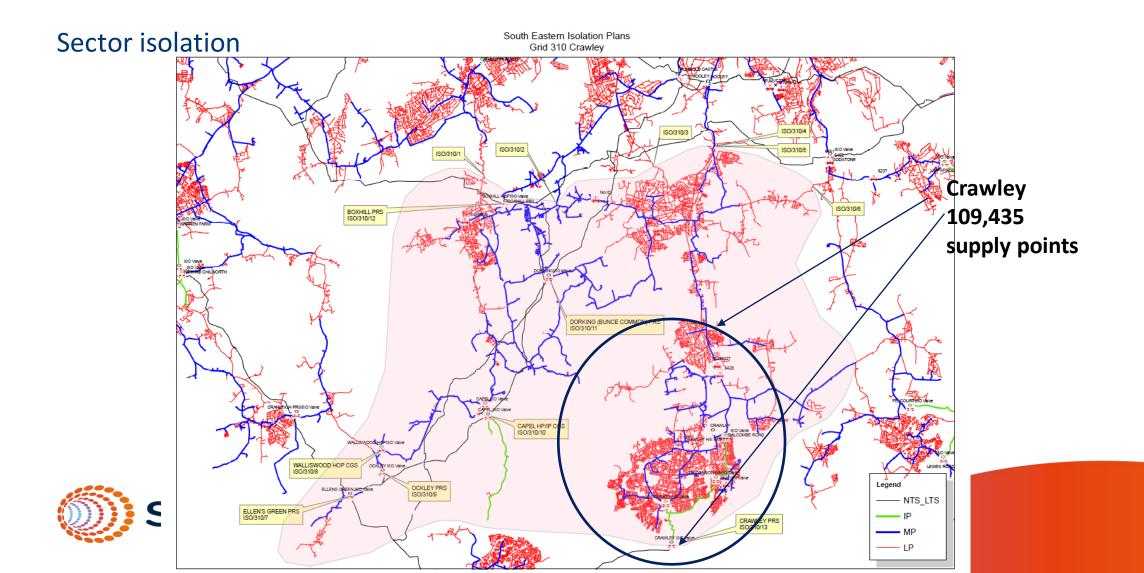
A farmer undertaking drainage work cut through an 8" pipe causing the gas leak and possible loss of supply to 3,500 properties.



Network analysis suggested 2 industrial sites stop using gas and because of that we prevented 3000 customers potentially losing their gas supply



What if Firm Load Shedding is unsuccessful?



Your Legal Obligation – UNC Section Q 2.2

Each User shall provide to the Transporter:

(a) a single telephone number and a single facsimile number by means of each of which the Transporter may contact, 24 hours a Day, a representative of the User in a Gas Supply Emergency





How to update site contact -Xoserve

Emergency contacts that Xoserve holds can be created/amended via 2 different routes. Only the shipper/supplier can amend them.

- 1. A supplier switch can be requested from CSS and a BRN file can be processed adding up to 5 emergency contacts which will include a name and contact number, both phone and fax numbers can be given. The new emergency contacts will go live when the switch effective date is reached.
- 2. A EMC file can be sent to us by the current supplier/shipper. Again up to 5 emergency contacts can be added by the current supplier/shipper.

If there are emergency contacts already registered on a MPRN and a supplier switches then the held emergency contacts will be end dated so it's important for the incoming supplier/shipper to send Xoserve a BRN file with the emergency contacts. However if this update via a BRN is missed the EMC file can be used to update them.

If new emergency contacts are added any previously held emergency contacts will be end dated.

The only organisations who have visibility of the emergency contacts is the networks.





Any Questions?





General Updates

Craig Shipley Senior Operational Liaison Officer

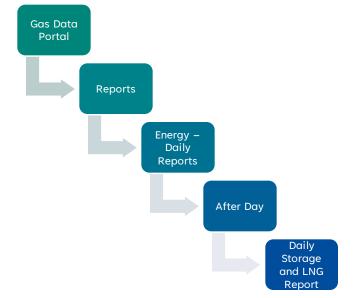




Daily Storage and LNG Operator Information Report

As part of our work on the Gas Data Portal we will be moving the **Daily Storage and LNG Operator Information Report** into the Gas Data Portal.

- The new report, which replicates the existing one, will be available under reports within the Gas Data Portal.
- The Data Items will then also be available in Find Gas Data and via API bringing it together with our other published data.
- The changes will take place in **early November 23**. Further communications will follow in advance of this change.
- Publication Time of this report will be 1:00pm Path to Storage and LNG Report



Storage and LNG Operator Information Report Gas Day: 11/09/2023 Opening Stock(kWh Inflow(kWh Operator Type Site Name Outflow(kWh Deliverability(kWh 1,391,705,960 1,748,359,110 2,151,174,040 2,550,000,000 Dragon 51.000 Isle Of Grain 2.873.955.534 458.318.111 4.831.241.688 749 000 000 759 000 000 0 3.727.182.568 0 -2.304.978.738 2.602.817.622 89.999.999.999 89,999,999,999 South Hook Aldbrough 1.150,330,833 936.616.420 5.017.397.460 185,400,000 54 266,535,500 Hill Top 40.237.857 -119.000 886.465.256 246.535.500 Storage 200 209 384 605 -47 100 000 128 735 520 4 000 Holford 1 220 603 255 -1.115.117.160 2.409.166.171 388 033 33 340 777 778 Download as CSV Download as XML Print report

Find gas data

Example of Storage and LNG Operator Report

Gas system status

Gas flow data 🗸

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Axe the Fax!

- We have been working to remove the fax machines and have removed now from the GNCC.
- We now use other systems for notifications and have ANS back up.
- A UNC Modification is to be raised to remove the references to facsimile from the UNC and this is currently under development and being discussed at relevant workgroups.
- Questions Please contact Gavin Williams
- Code Change Lead.
- <u>Gavin.Williams@nationalgas.com</u>



Future Forums

Nicola Lond Operational Liaison & Business Delivery Manager





Future Forums

Based on limited feedback and recent attendance numbers:

Proposal for 2024 Forums.

- 8 meetings per year continue
- Quarterly in person sessions focused on Themes whilst still covering operational updates/Interesting days etc.
- The remaining 4 meetings to be online/ potentially shorter depending on topical Operational content

Please feed back on **Topics** and the **format** so that we can arrange the 2024 forums. - Use Slido Chat or <u>.box.operationalliaison@nationalgrid.com</u> or a chat.

Will confirm details for 2024 in November – Example to help visualise on next slide



Example of proposal

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
In person & Online	Online Only	In person & Online	х	Online Only	In person & Online	х	x	Online only	In person & Online	Online only	х
Hydrogen ?		RIIO3 Price Control?			Winter Review/ Summer outlook				Winter Focus		

Operational overview/ interesting days/topical content/Q&A

2024 Potential Agenda – Feedback welcome

Slido: #OPSFORUM1 – please add general comments

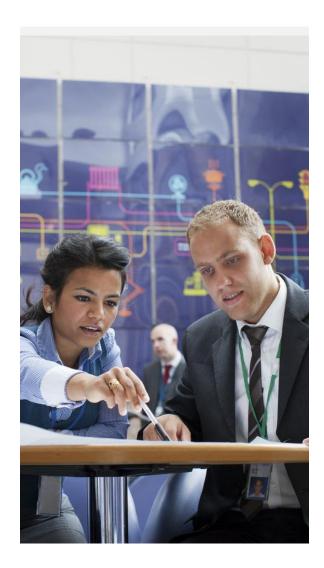
How to contact us

Operational Liaison Team Note our email addresses are transitioning to nationalgas.com

- Nicola Lond: <u>Nicola.j.lond@nationalgas.com</u>_Team Manager (Seconded)
- Craig Shipley: <u>Craig.Shipley@nationalgas.com</u>
- Charlotte Gillan: <u>Charlotte.Gillan@nationalgas.com</u>
- Niall Finn: <u>Niall.Finn@nationalgas.com</u>
- Operational Liaison Email: <u>Box.OperationalLiaison@nationalgrid.com</u>
- Please Note: Mat Currell has left the team for a new role in ESO

If you have any Operational enquiries or would like a liaison meeting, please get in touch.

For the National Gas Website, please visit; Gas Transmission | National Gas



2023 Operational Forums

The forums will be hybrid via Microsoft Teams and at the Clermont Hotel, London

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Clermont & Online	Clermont & Online	Clermont & Online	х	Clermont & Online	Clermont & Online	х	х	Clermont & Online	Clermont & Online	Clermont & Online	х
26/01	23/02	23/03		18/05	22/06			21/09	19/10	23/11	

We welcome your views - What do you want to hear about?

Registration is open for the November event at:

In Person: https://www.eventbrite.co.uk/e/pre-registration-2023-operational-forumsonline-tickets-460807556807?aff=oddtdtcreator

Online: https://www.eventbrite.co.uk/e/pre-registration-2023-operational-forumsonline-tickets-460807556807?aff=oddtdtcreator The Clermont Hotel Charing Cross London WC2N 5HX

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Key resources available to you

Gas Ops Forums

Throughout the year, we hold regular Operational forum meetings. This forum aims to provide visibility and awareness for our customers and stakeholders to help understand and discuss the operation and performance of the National Transmission System (NTS). We also proactively invite any suggestions for operational topics that would promote discussion and awareness.

Activity	Link
Registration for Gas Ops Forums and Gas Ops Forum materials	www.nationalgas.com/data-and-operations/operational-forum
Subscription to distribution list	Please email: box.operationalliasion@nationalgrid.com
National Gas Transmission Website	www.nationalgas.com
Maintenance Planning	www.nationalgas.com/data-and-operations/maintenance



The monthly Britain's Gas Explained information is on LinkedIn; this is information showing the key role Gas plays that is easy to digest for all; especially end consumers



The Energy Data Request Tool to request the publication of any data is available here: <u>Microsoft Forms</u> <u>Link</u>

AOB & Questions?

Thank you



national gas transmission