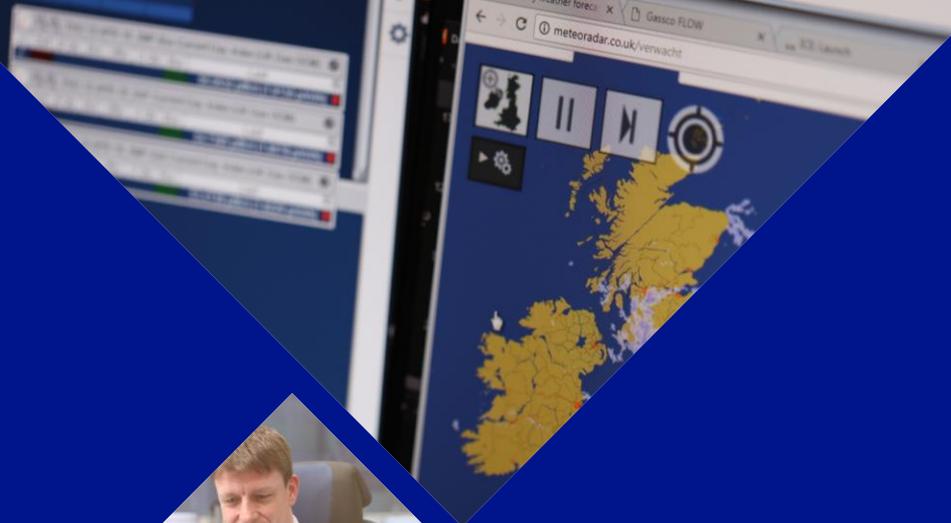


Gas
Transmission

Gas Operational Forum

Amba Hotel, Charing Cross
23rd January 2020

nationalgrid



Gas
Transmission

Introduction & Agenda

Josh Bates
*Operational Liaison & Business
Delivery Manager*

nationalgrid



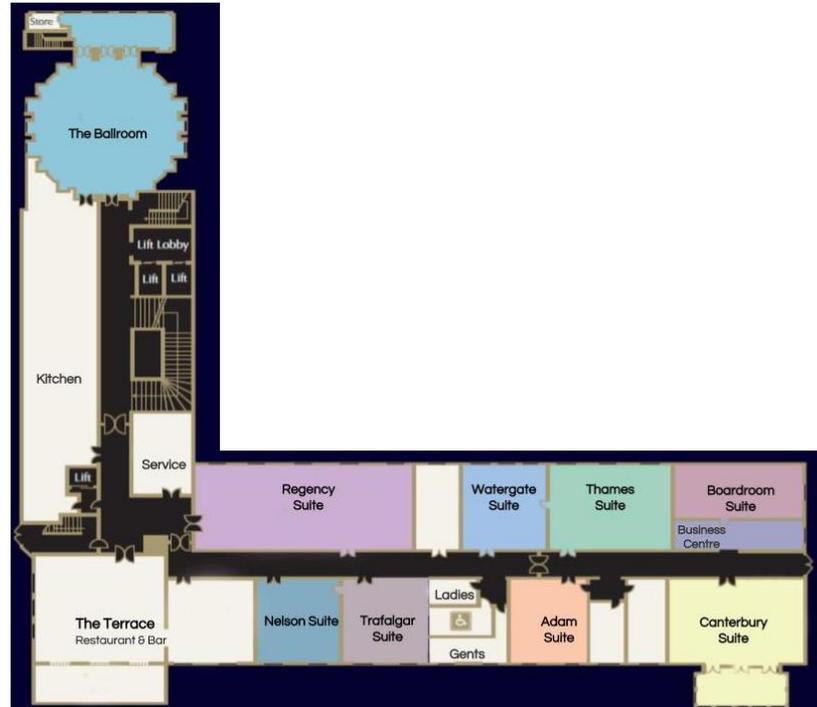
Site Layout

No Fire Alarm testing is planned for today

In case of an alarm, -please follow the fire escape signs to the end of the corridor

Catering will be served in the room

Morning Break will be at 10:30, with lunch available following presentations



National Grid and Xoserve Attendees

nationalgrid

- Josh Bates
- Martin Cahill
- Alison Tann
- Bradley Charles
- Nav Dhesi
- Scott Keogh
- Claire Gumbley
- Ffion Davies-Cale
- Luke Benson
- Cara Finn

xoserve

- Matthew Smith

Calendar year 2020 Ops forums

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------|-------|-------|-----|-------|-------|-----|-----|-------|-------|-------|-----|
| Lon | Lon | Lon | X | War | Lon | X | X | Lon | Lon | War | X |
| 23/01 | 20/02 | 19/03 | | 14/05 | 18/06 | | | 17/09 | 22/10 | 19/11 | |

New Location:

Amba Hotel
Strand
Charing Cross
London
WC2N 5HX

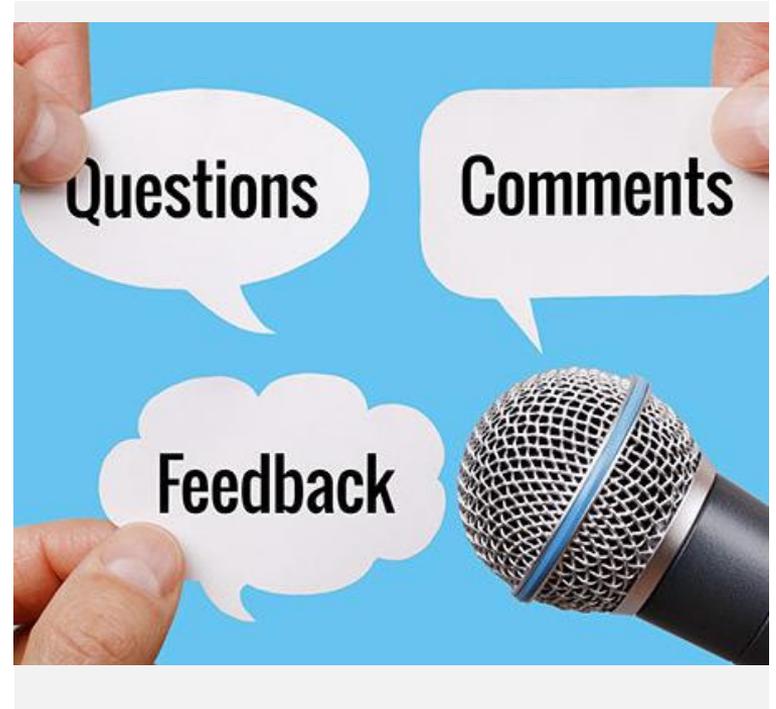
Registration is open for all 2020 events at:

<https://www.nationalgridgas.com/data-and-operations/operational-forum>

Feedback & Questions

For any questions during the forum you can:

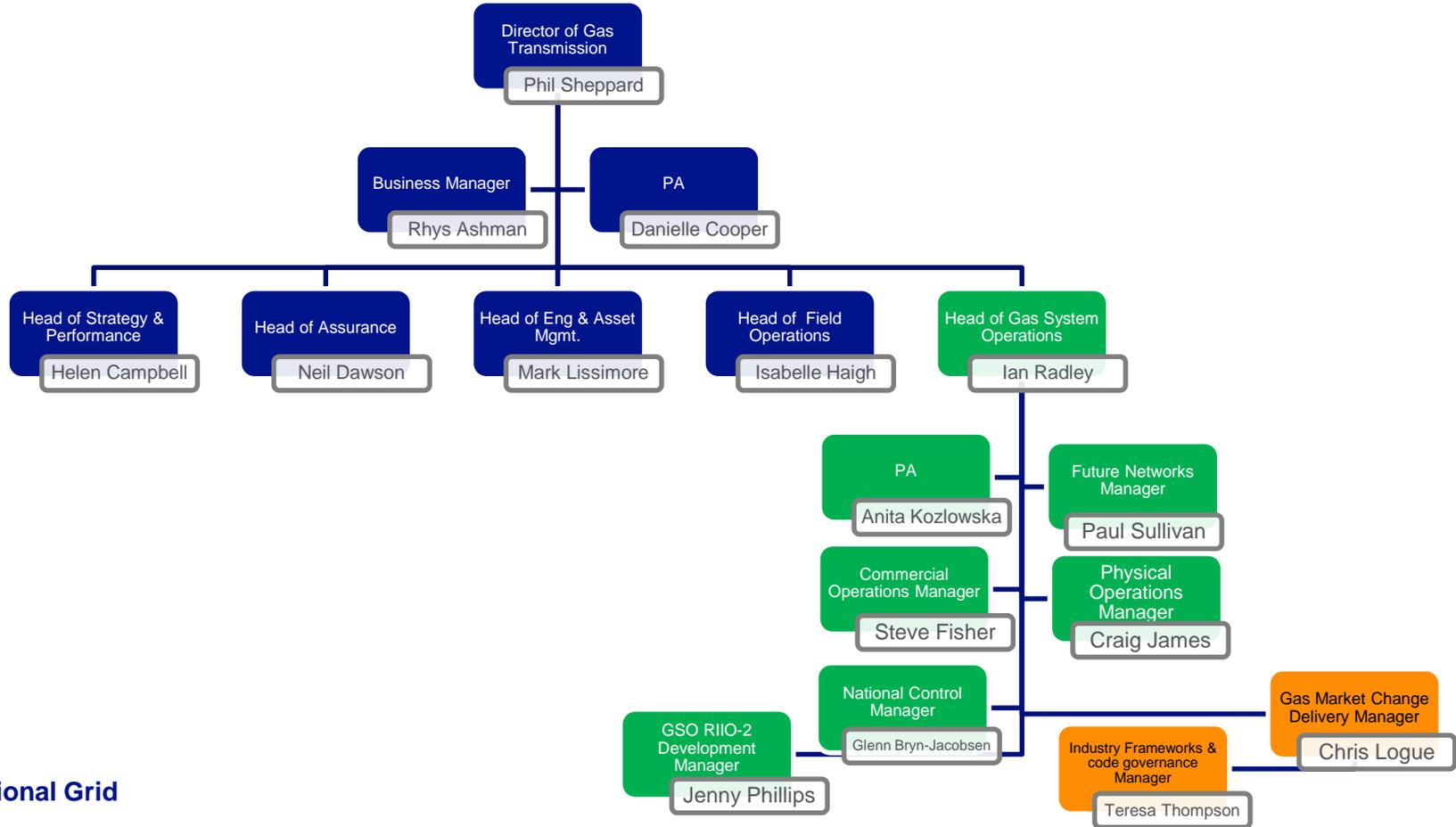
- Ask during the presentations
- Speak to an NG representative during the break
- Utilise the Query Surgery time at the end of the Forum



Actions & Feedback since Last Forum

| Item | Action/Feedback | Detail |
|---|---|--|
| Interesting Day 10 th November | Share NG summary of trading decisions on 10 th November when buying gas despite PCLP showing as long at the time | To be covered within Operational Overview agenda item today |
| Negative Implied Flow Rate | Share update when future changes are known | Included today |
| Online event | Sound issues when running online event previously | Online event re-started for 2020 |
| Demand Attribution | Issues experienced with Demand Attribution towards the end of 2019 | Project in place to migrate legacy integration platform to a new improved solution, with greater continuity of data publication. Issues occurred during migration activities – mitigations are in place to prevent this happening again, with a review in place currently to identify further improvements |

New Gas Transmission Structure



Query Directory

We have recently updated the contact list to cover any changes within the business

Printouts of the latest version available today

I have a query...

Putting you in touch with the RIGHT people.



FOR GAS TRANSMISSION QUERIES ONLY

FOR DOMESTIC GAS QUERIES, PLEASE CONTACT YOUR NETWORK OPERATOR

[Who is my Network Operator?](#)

Agenda for Today

| | | |
|-----------|--|-------|
| 01 | Introduction, Feedback since last Forum and Agenda | 09:30 |
| 02 | Operational Overview | 09:40 |
| 03 | Annual QSEC & [A]MSEC Auctions | 10:05 |
| 04 | Pressure Forecasting Service | 10:15 |
| 05 | MIPI Project Update | 10:55 |
| 06 | Xoserve & NG Customer Journey Work | 11:10 |
| 07 | Connections | 11:20 |
| 08 | New Site Meter Setup | 11:30 |
| 09 | Deemed to Flow Process | 11:55 |
| 10 | Other Updates | 12:05 |

Breaks:

Morning Break

10:30 – 10:55

Lunch Break & Query Surgery

12:15

**Gas
Transmission**

Operational Overview January 2020

Martin Cahill
Operational Liaison Lead

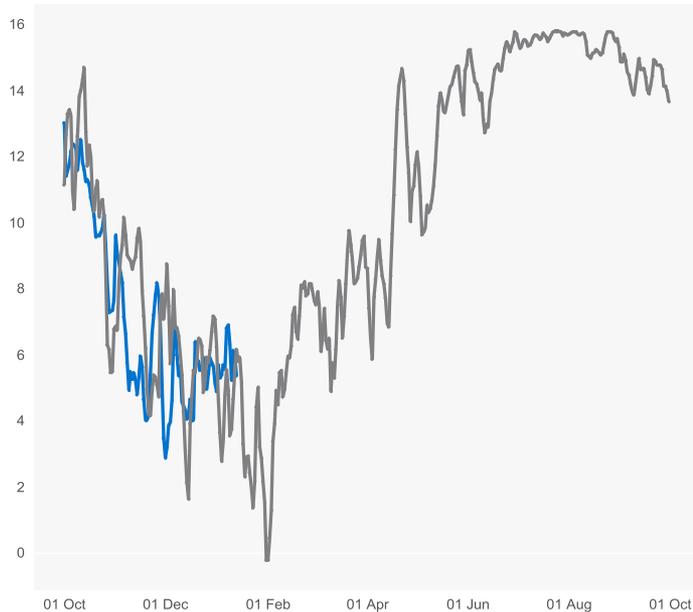
Luke Benson
Operational Risk Team Leader

nationalgrid



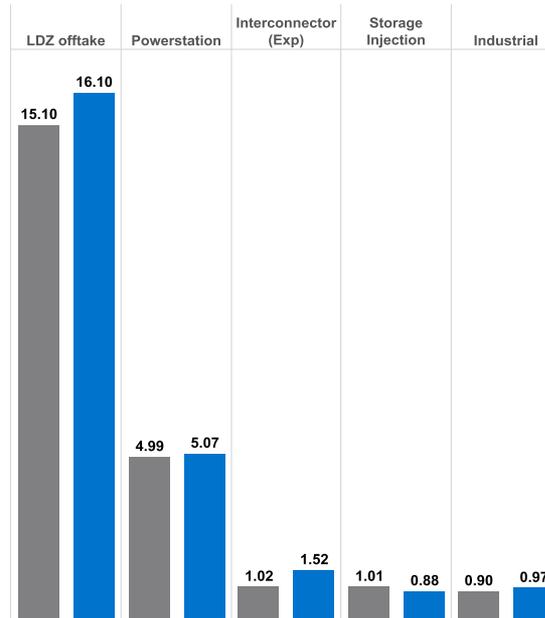
Demand – CWV & Components

CWV



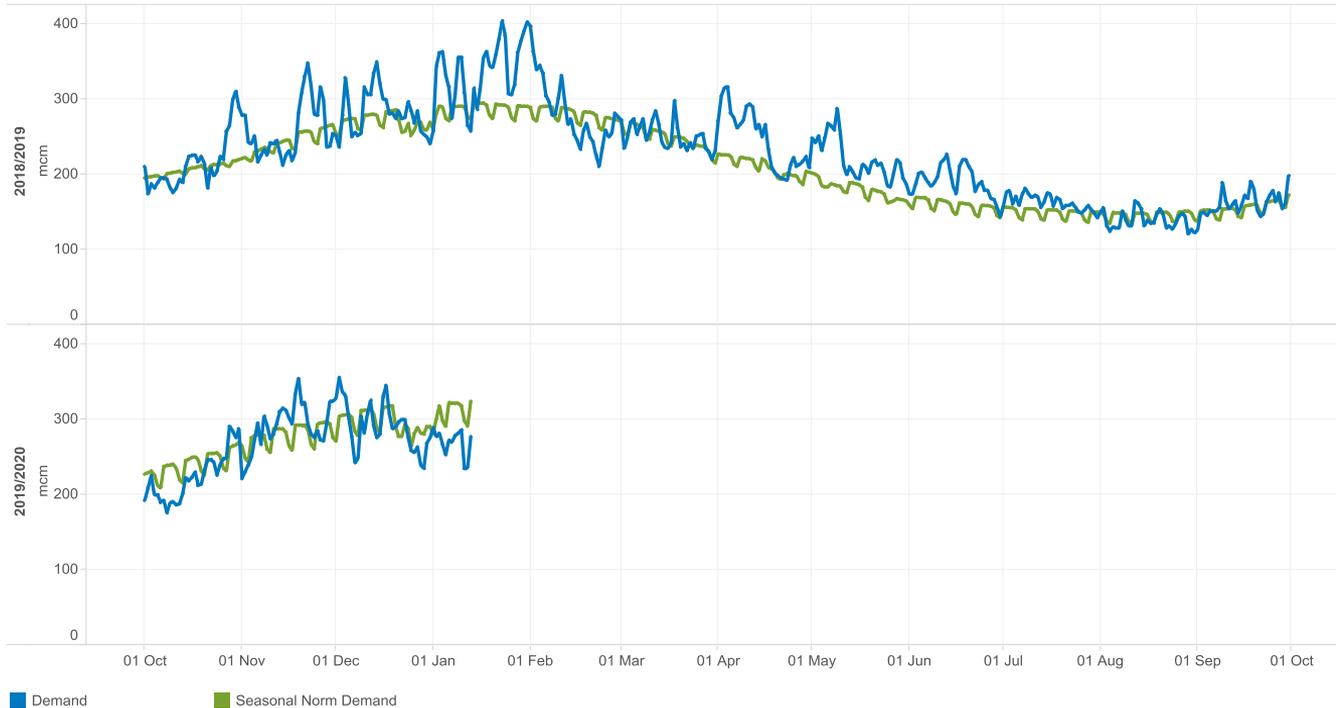
■ 2018/2019 ■ 2019/2020

Demand (BCM, October, November, December)



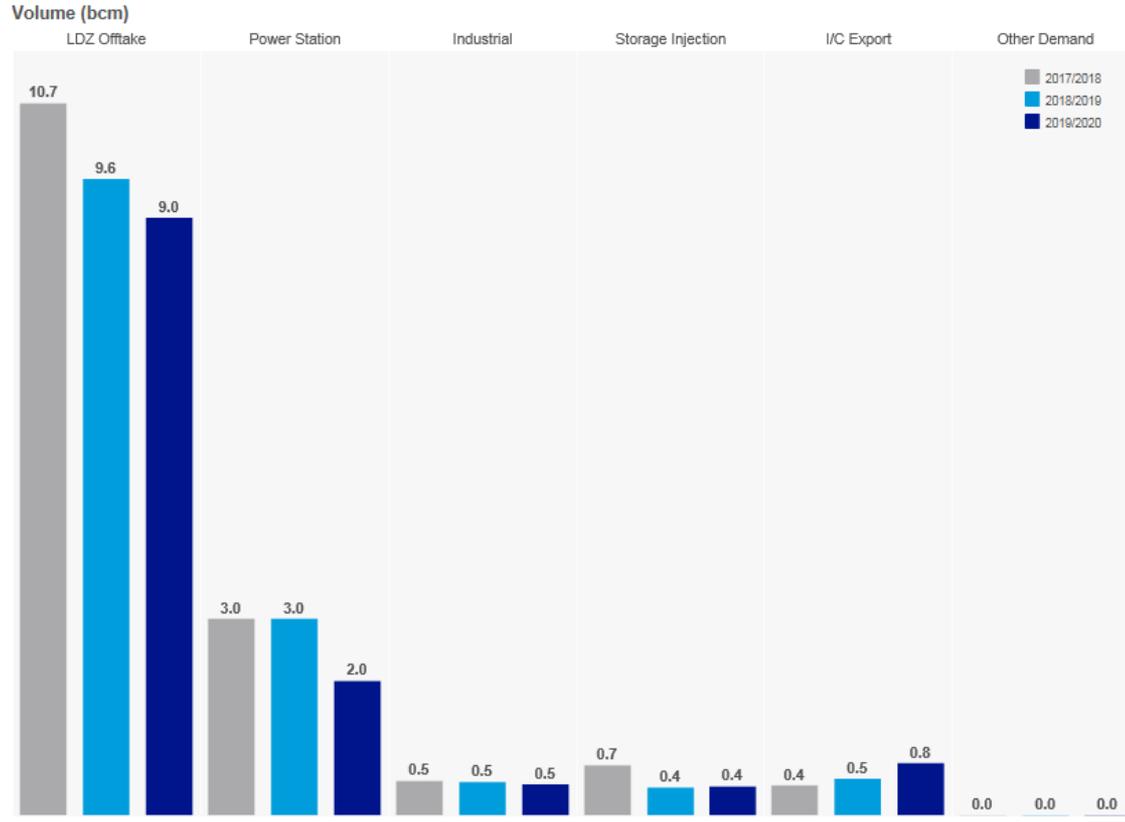
- There has been an increase in domestic demand, though overall winter so far has been mild
- With the UK market over-supplied we have seen exports through both IUK and BBL in recent weeks as gas supplied to Zebbrugge and TTF markets

Demand – Comparison to Seasonal Normal



In Early January Demand has dropped significantly below Seasonal Normal

Recent Demand (1 December – 15 January)

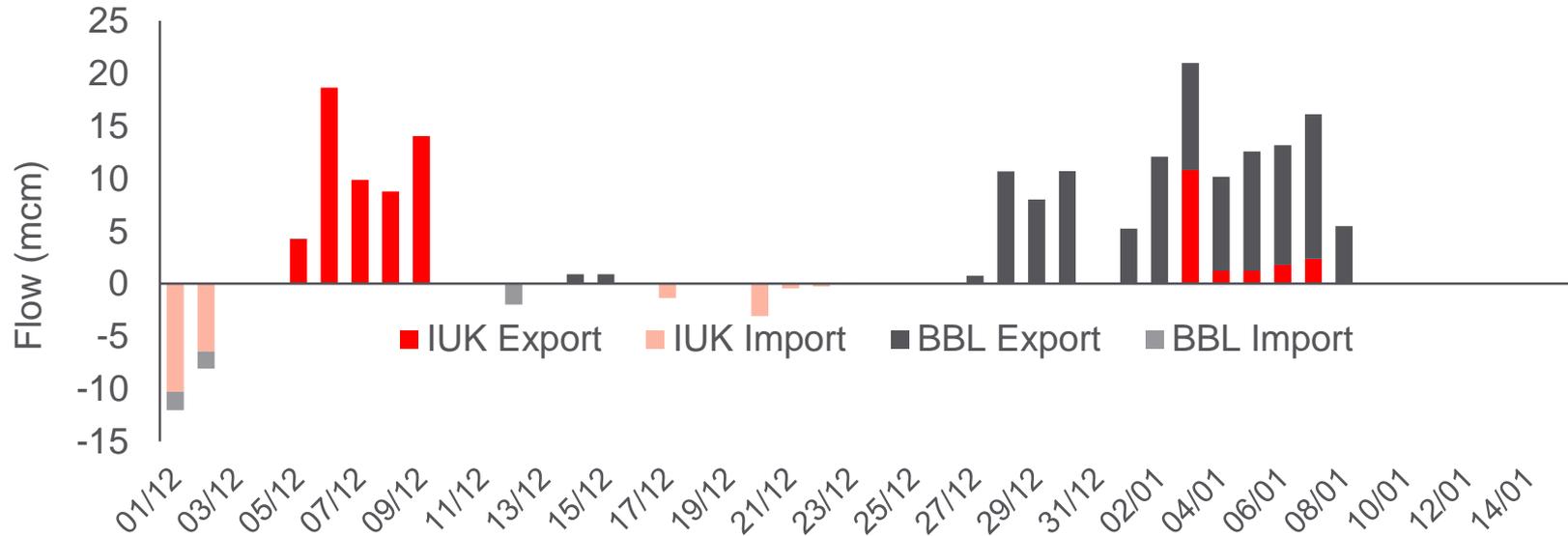


During December and early January demand has been particularly low, with temperatures significantly below the same period last winter

We have seen this increase briefly with some colder weather in the last week

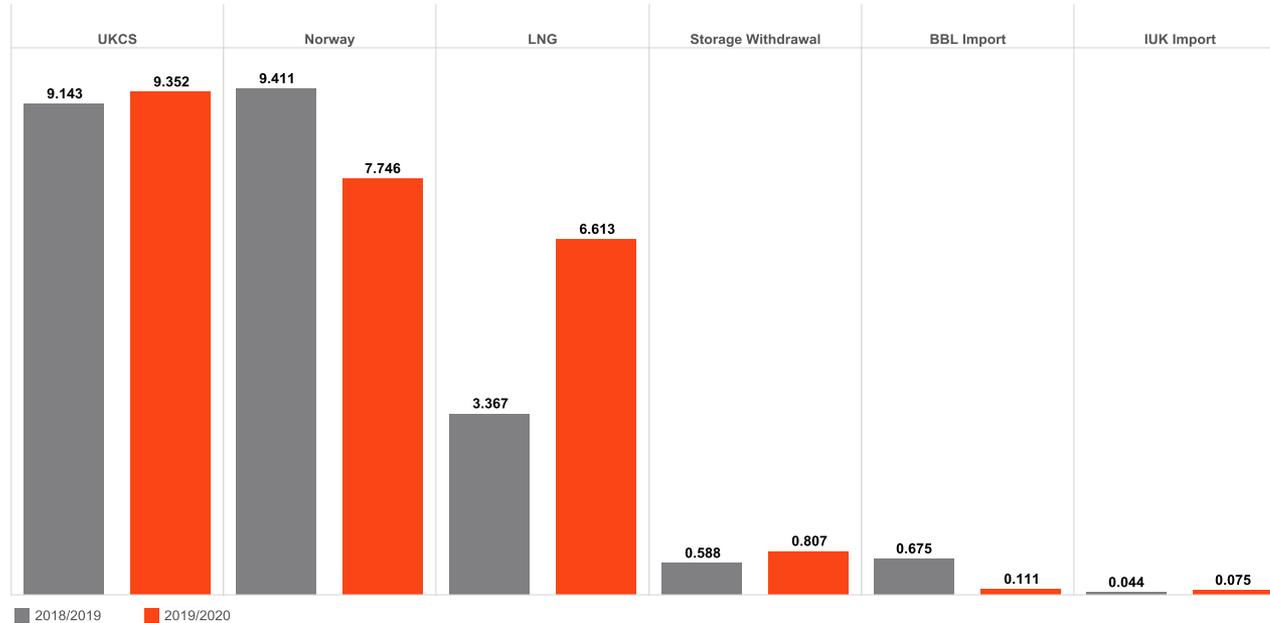
Bacton Interconnector Exports

At the start of December exports were only through IUK, but BBL turned around into export mode later on in the month



Supply - Components

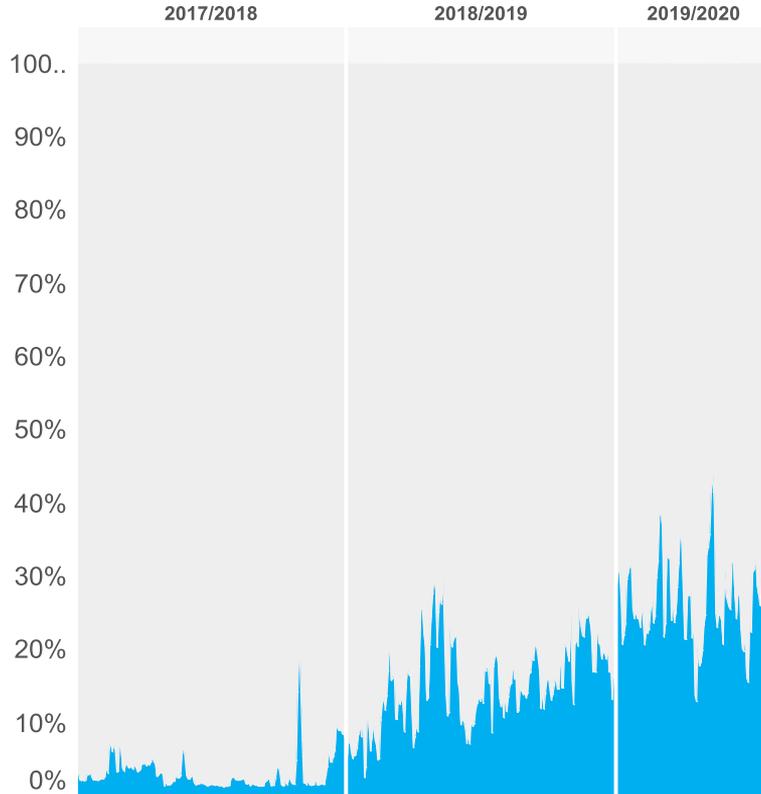
Supply (BCM, October, November, December)



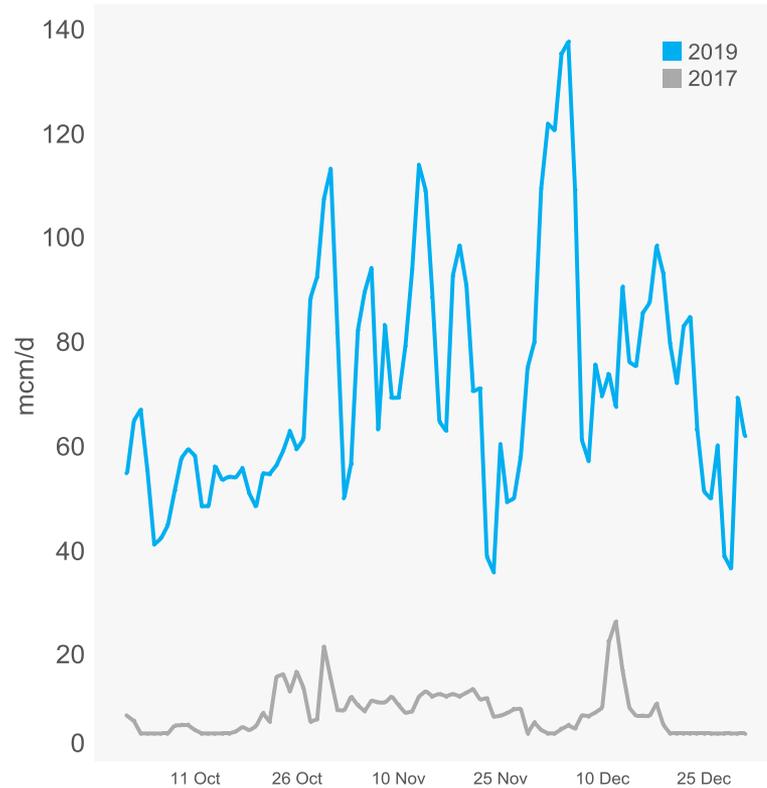
- LNG sendout has continued to increase, with supplies across the winter coming close to Norwegian quantities
- With Low Gas Prices in the UK there is currently no commercial driver to import on the Interconnectors at Bacton

LNG has reached record supply levels

Winter LNG supply as a proportion of NTS Demand

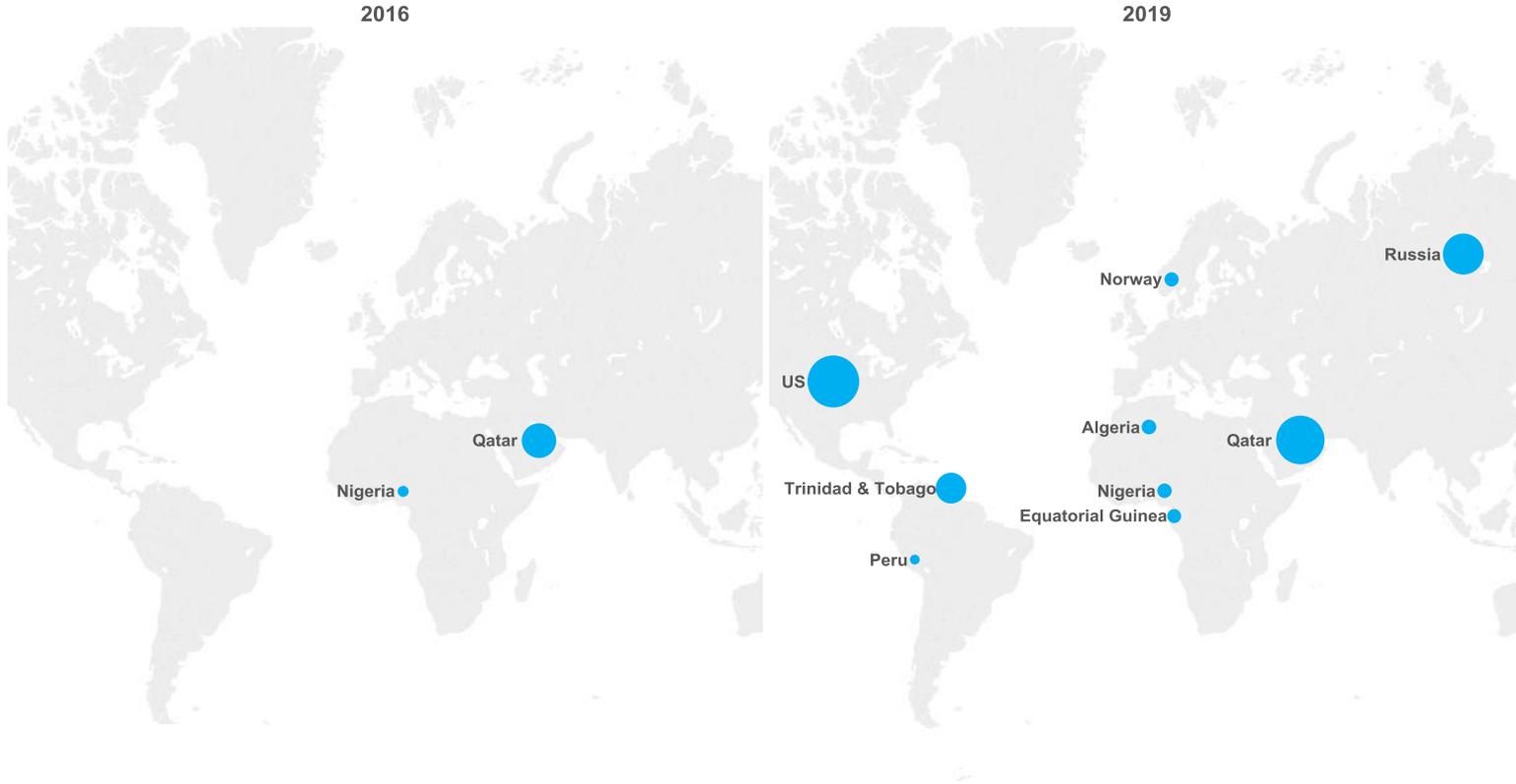


Supply from LNG in December



LNG Supply Sources

Origin of LNG delivered to the NTS October-December



20 Jan Milford Flows

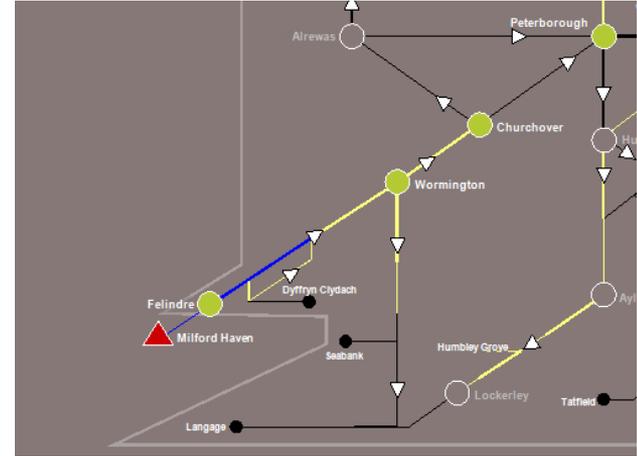
Temporary operational issues at Felindre reduced the entry capability at Milford Haven for a few hours, with Dragon and South Hook flowing close to maximum rates

This has now been resolved, with full capability restored

To manage this on the day:

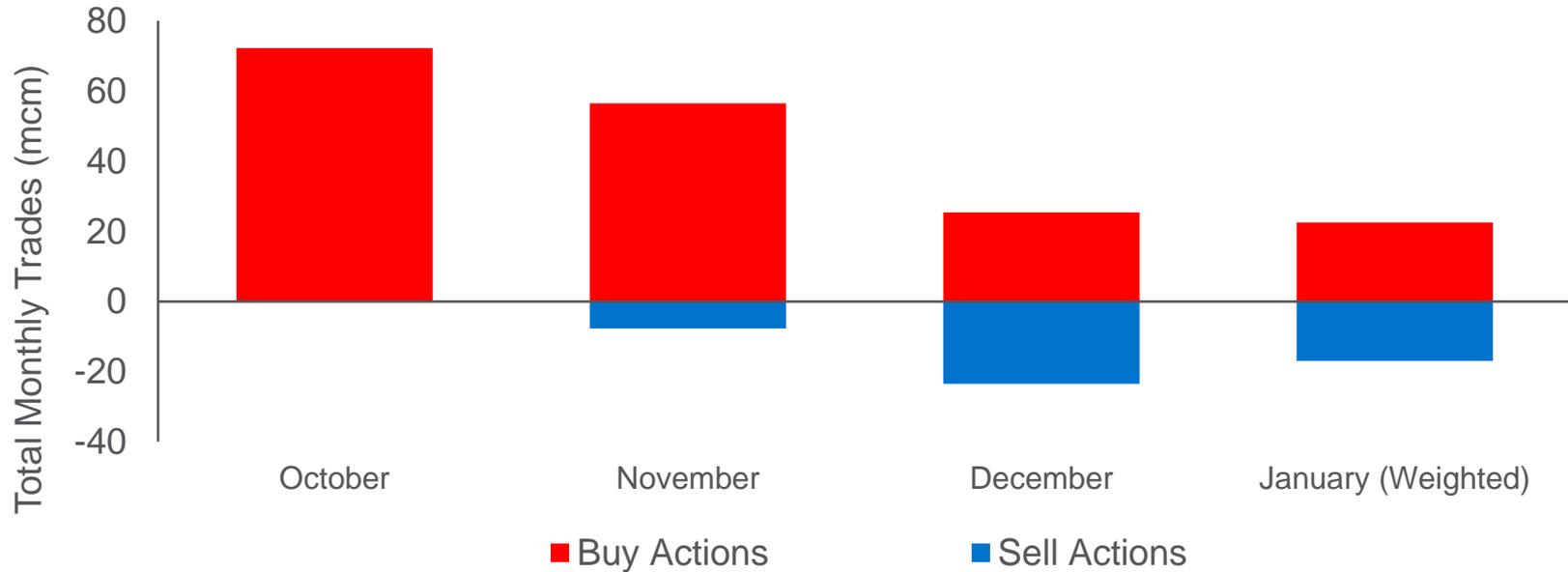
- Interruptible capacity at Milford was scaled back
- NG Invited Locational Bids at Milford via ANS, accepting 4.8 mcm

We are currently analysing the day in detail and welcome any feedback on areas of the day which warrant further review



Balancing Actions

Shoulder months required lots of buy actions preparing for winter. Now in winter patterns, requirement of trade has reduced



10th November Example



Linepack Opened at 352.5mcm

2.7mcm Bought

Linepack gain of 2.8mcm across day

Trend from preceding days of closing below predicted due to late changes. Based on trend likely to close around 6mcm below PCLP.

Demand expected to increase the following week so needed to prevent loss of Linepack.

Review of Gas Day 09/12/19

Calculated flows through the pipes

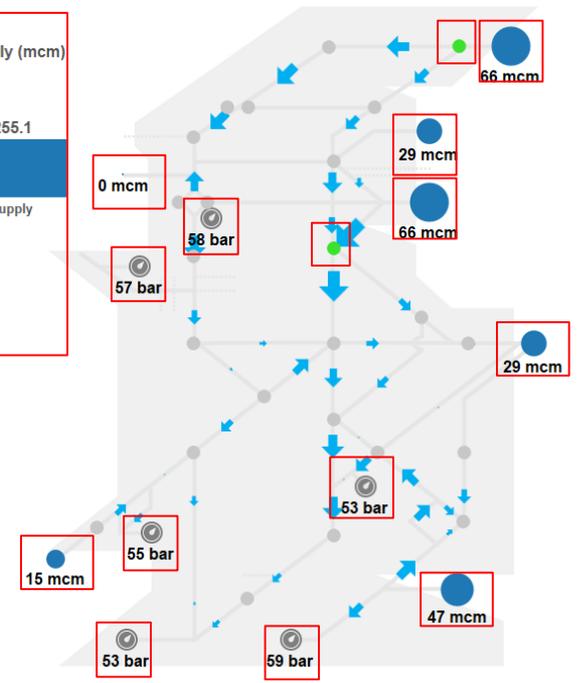
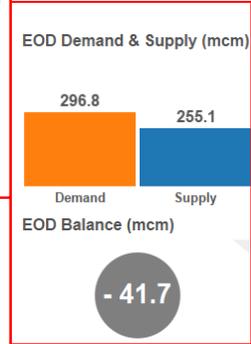
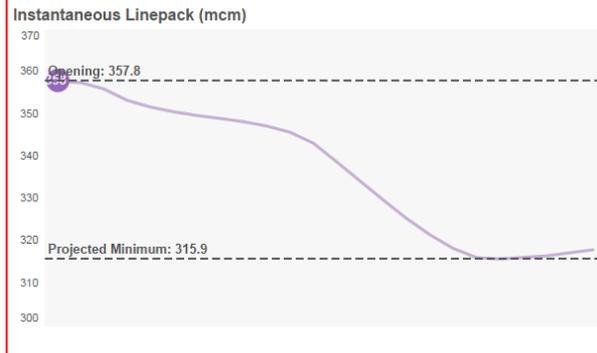
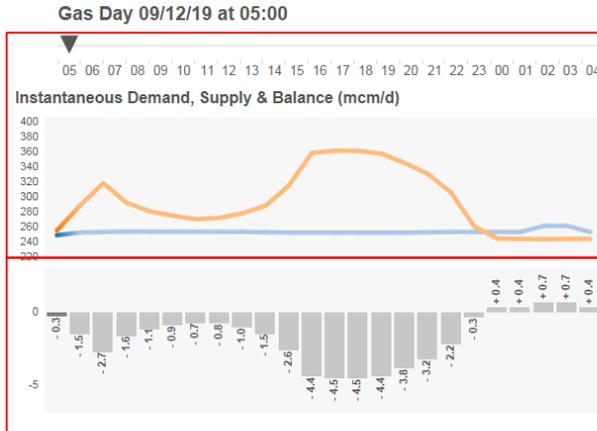
Telemetered Terminal Supply

Extremity pressures

Compressors online

End of Day Supply and Demand & balance

Instantaneous supply, demand, balance & Linepack



05:00

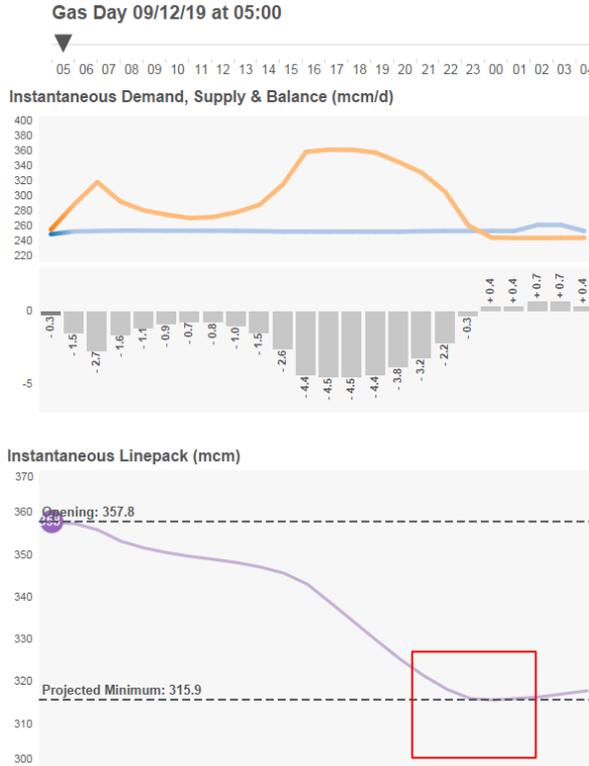
Starting the day with a very light balance

Projected minimum Linepack at 315.9

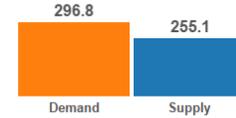
Low flows (compared to recent) at Milford due to weather

Aberdeen and Hatton compressors on.

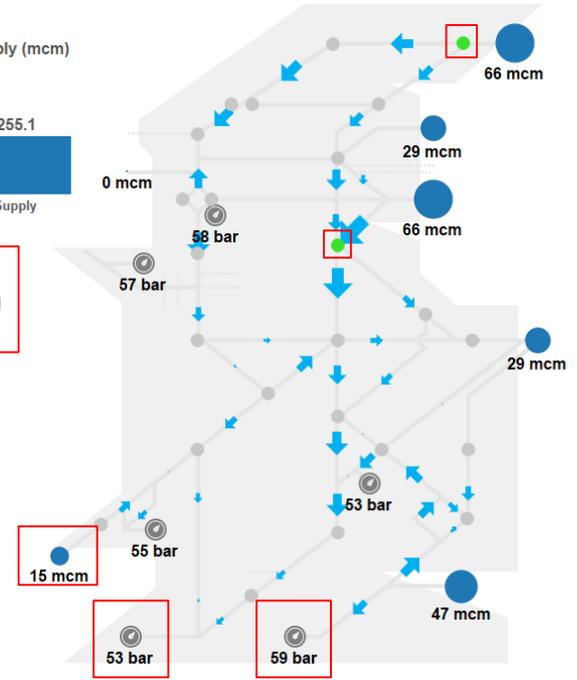
Predominantly North to South transmission



EOD Demand & Supply (mcm)



EOD Balance (mcm)



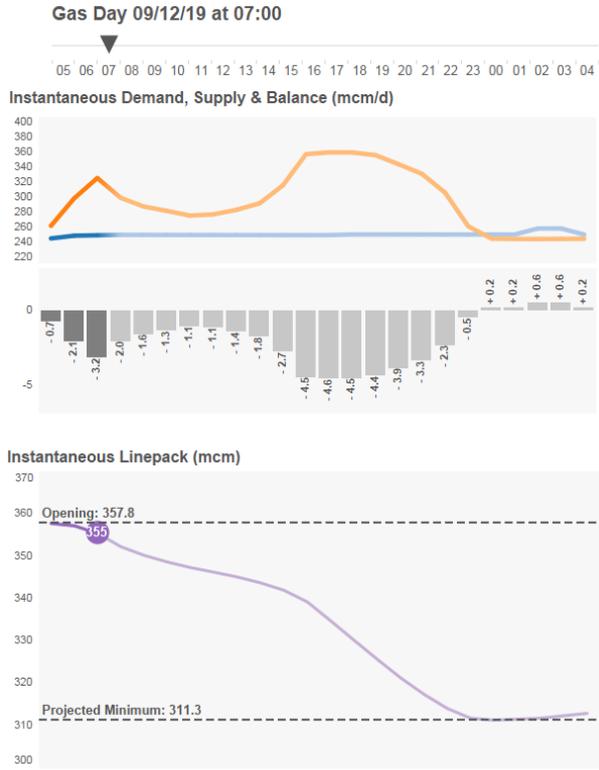
07:00

Balance has worsened. Now at -47.4 started at -41.7. Due to both Supply drop off and Demand pickup

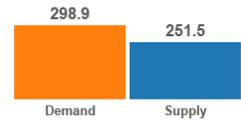
Huntingdon Compressor started

5mcm pickup at Milford Haven

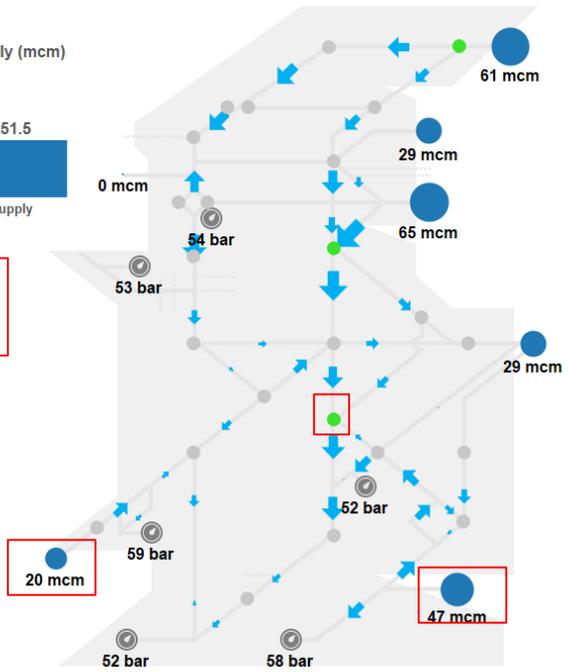
Isle of Grain flows steady at 47mcm



EOD Demand & Supply (mcm)



EOD Balance (mcm)



09:00

Balance position improved by 14mcm

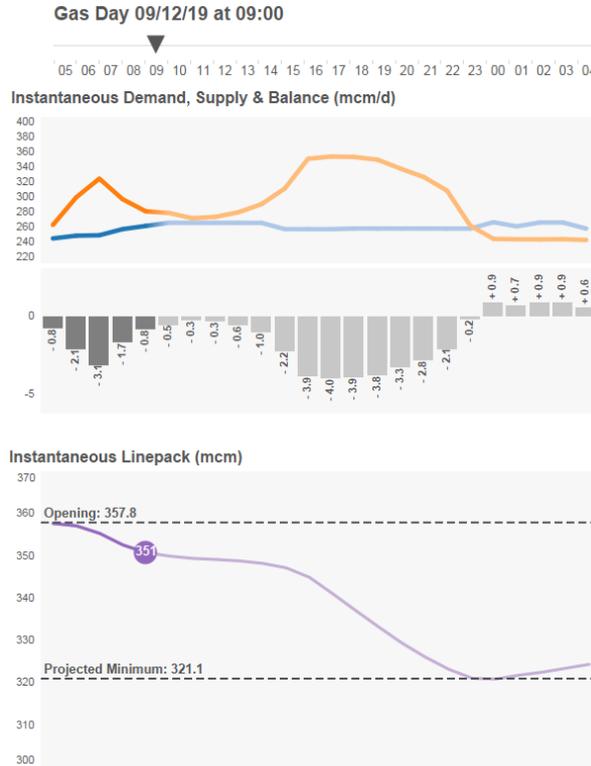
Addressed by interconnectors and Isle of Grain

Isle of grain increased from 47 to 54

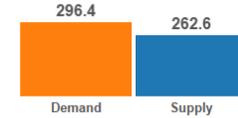
Auckland compressor started for a site requested test run

MEDIUM triad warning – will mean review of Hatton Compressor (electric unit online)

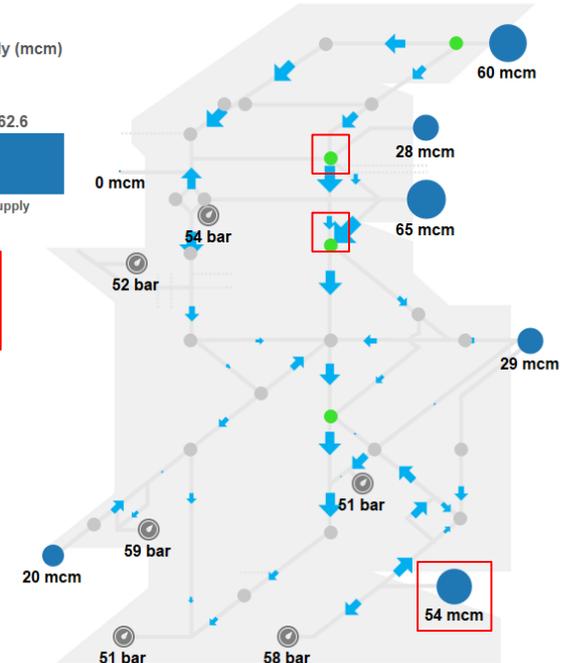
National Grid



EOD Demand & Supply (mcm)



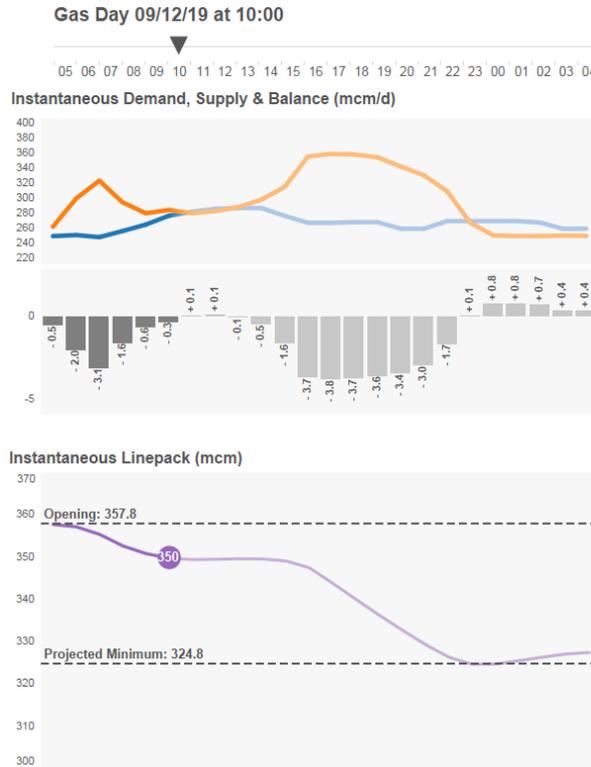
EOD Balance (mcm)



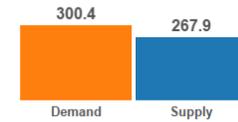
10:00

Impact of Auckland test run is that North South flows have increased

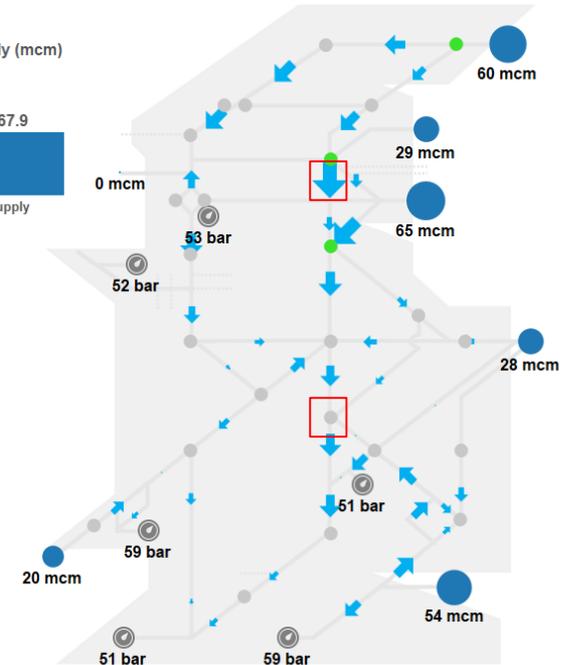
Huntingdon Compressor experienced an ESD. Left offline due to Isle of Grain increase



EOD Demand & Supply (mcm)



EOD Balance (mcm)

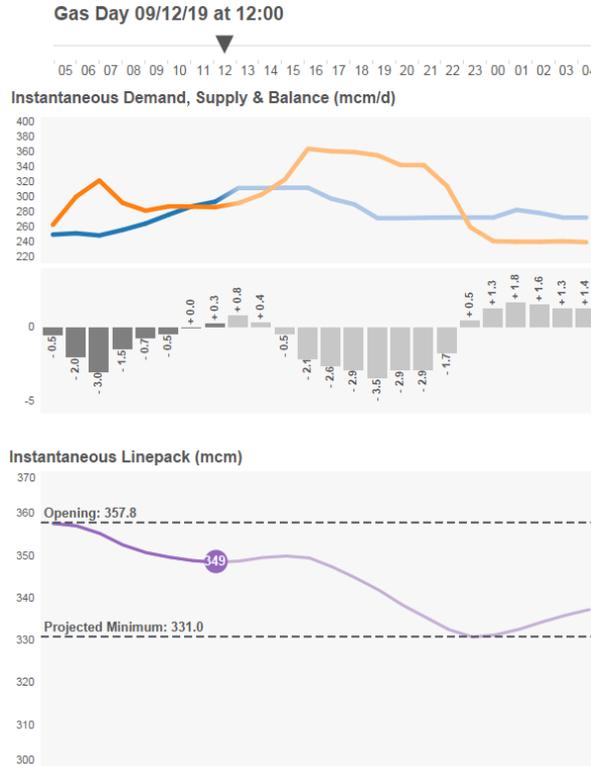


12:00

Hatton Compressor taken off – Reducing North to South transmission

Cambridge started to move gas from the south

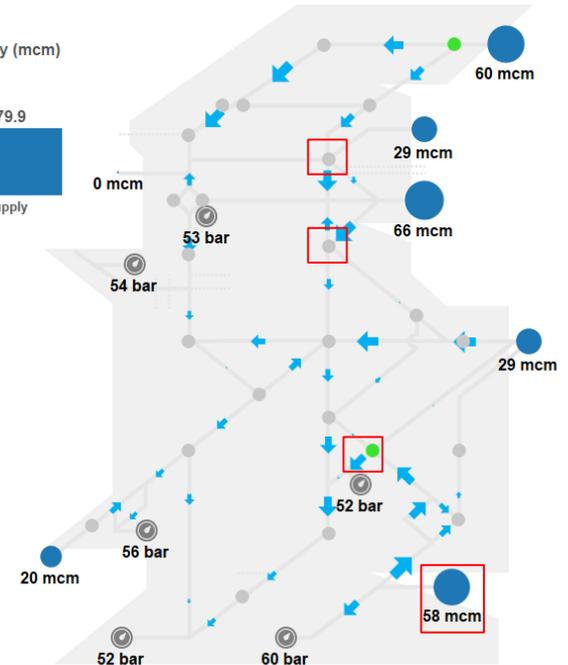
Auckland testing all stopped



EOD Demand & Supply (mcm)



EOD Balance (mcm)



15:00

Further increases at Isle of Grain

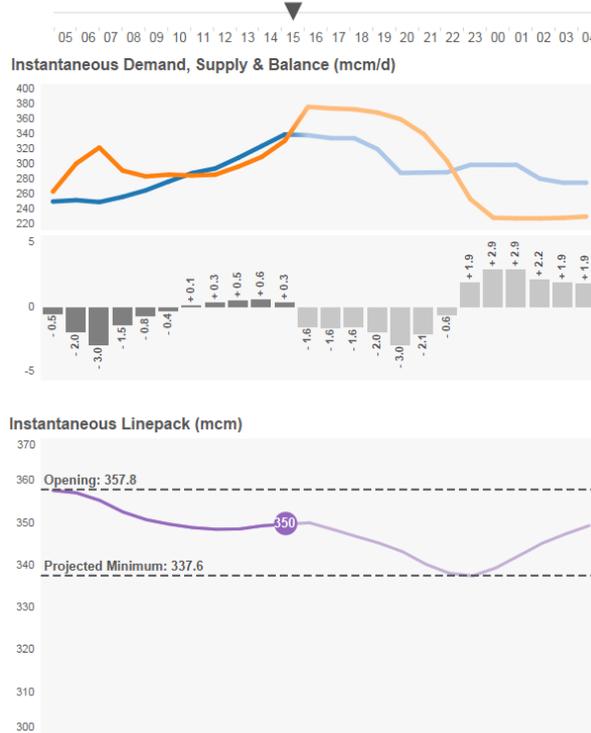
Increase of 9mcm at Langede

Balance now only -7.3 mcm from opening

Auckland testing started up again

Felindre testing also carried out

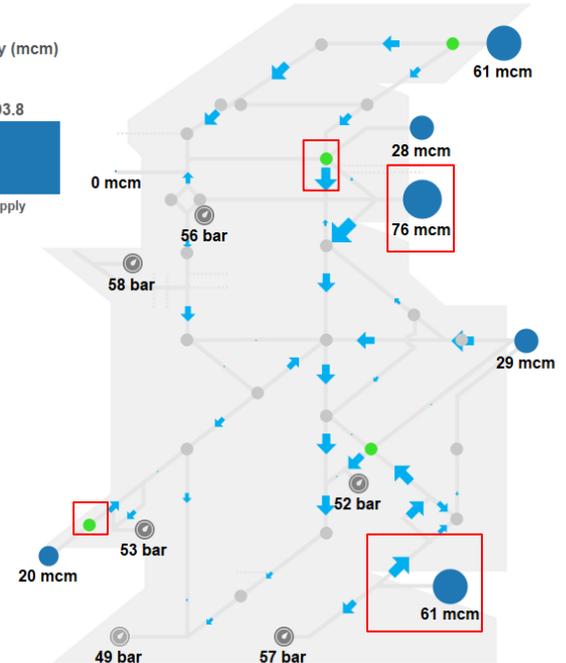
Gas Day 09/12/19 at 15:00



EOD Demand & Supply (mcm)



EOD Balance (mcm)

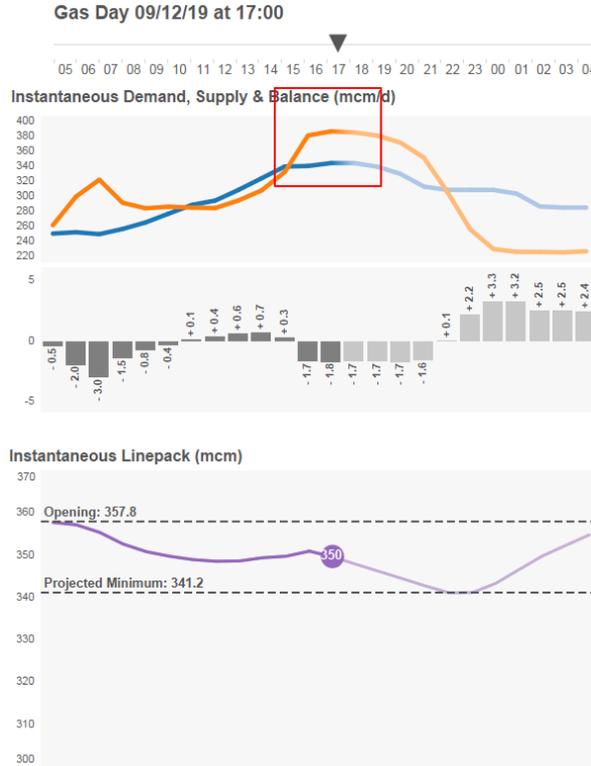


17:00

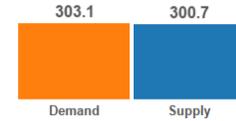
Balance position only
2.4mcm light

Extremity pressure at
45 bar

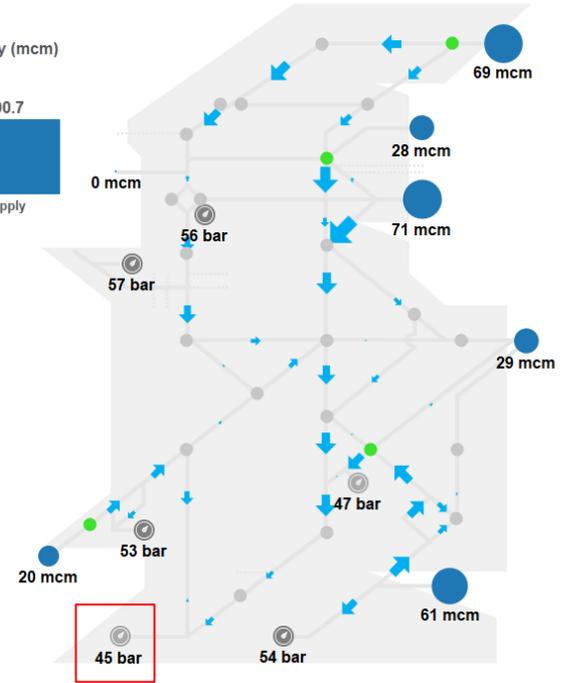
Demand now again
outstripping supply



EOD Demand & Supply (mcm)



EOD Balance (mcm)



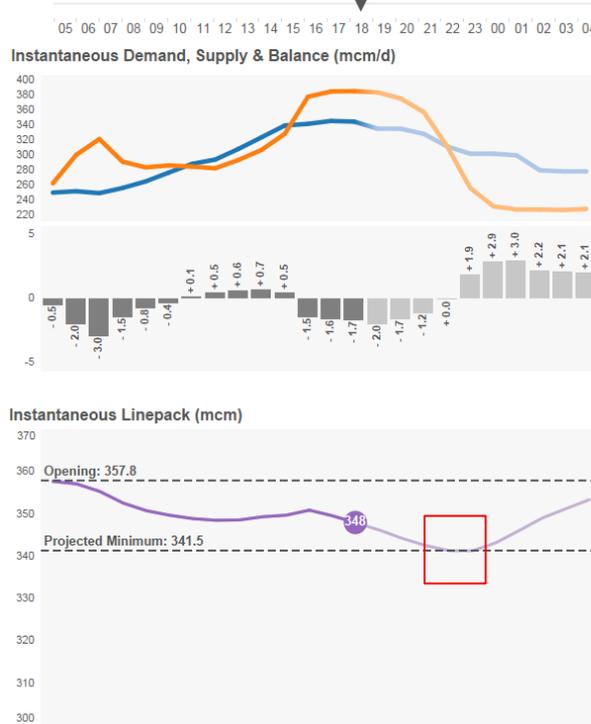
18:00

Cambridge taken offline. Isle of Grain pressures now stable and unit becoming difficult to sustain

Lowest Linepack level (and therefore pressures) expected at 22:00 at 341.5 (21mcm increase from morning)

All testing completed successfully

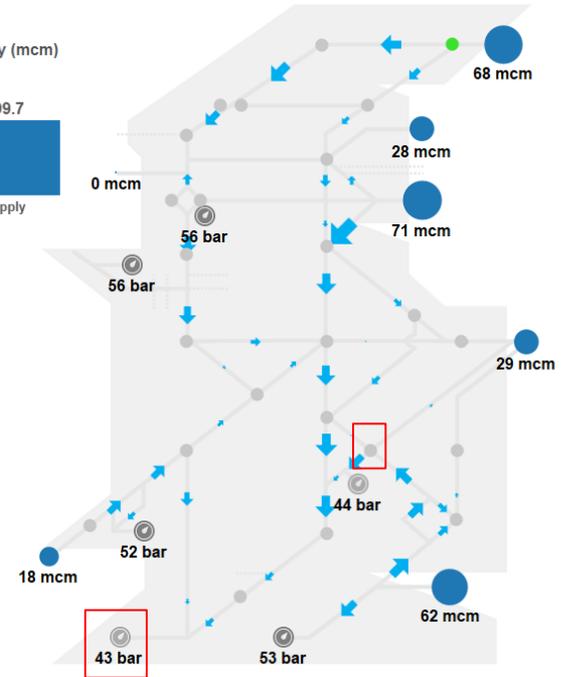
Gas Day 09/12/19 at 18:00



EOD Demand & Supply (mcm)

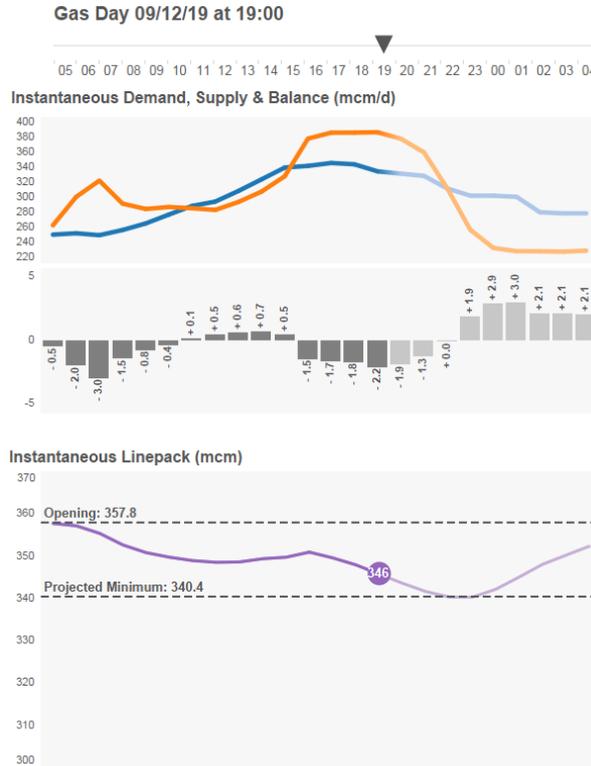


EOD Balance (mcm)

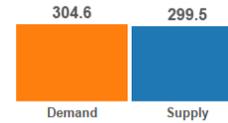


19:00

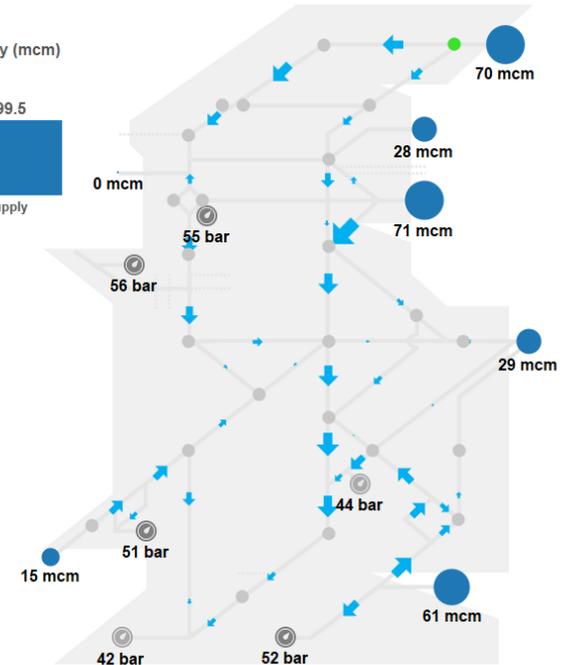
Balance position began to drift further away – trading action taken to head back towards opening



EOD Demand & Supply (mcm)



EOD Balance (mcm)



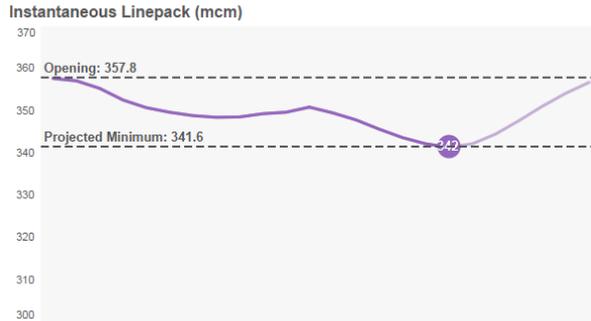
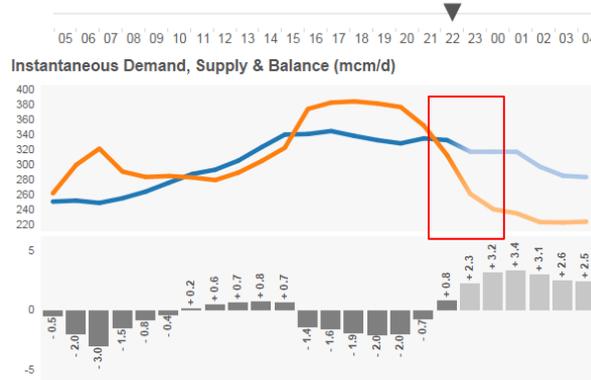
22:00

Lowest pressures seen at 40-41 bar at extremity

Position currently balance due to trade

Supply now again outstripping demand

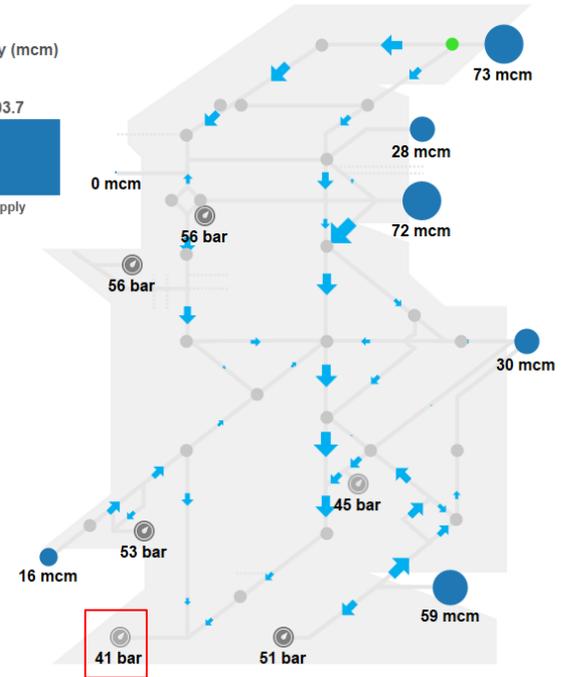
Gas Day 09/12/19 at 22:00



EOD Demand & Supply (mcm)

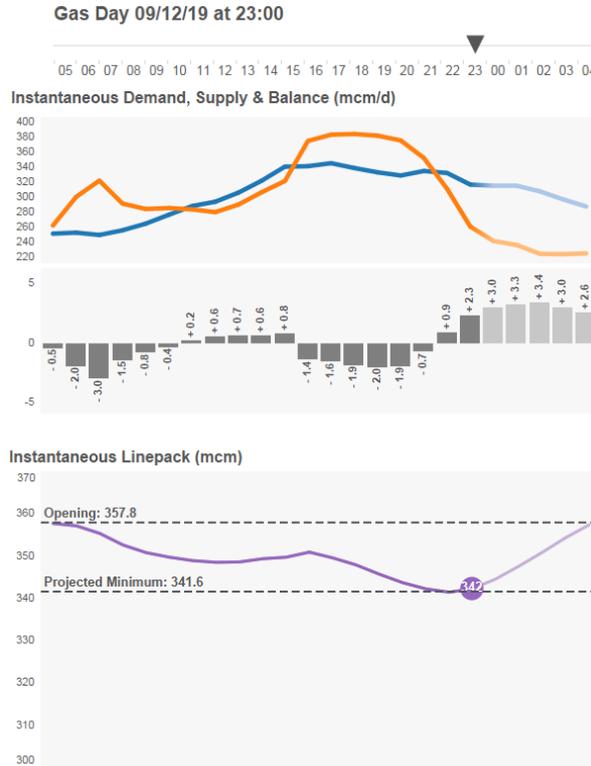


EOD Balance (mcm)

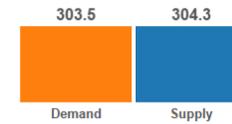


23:00

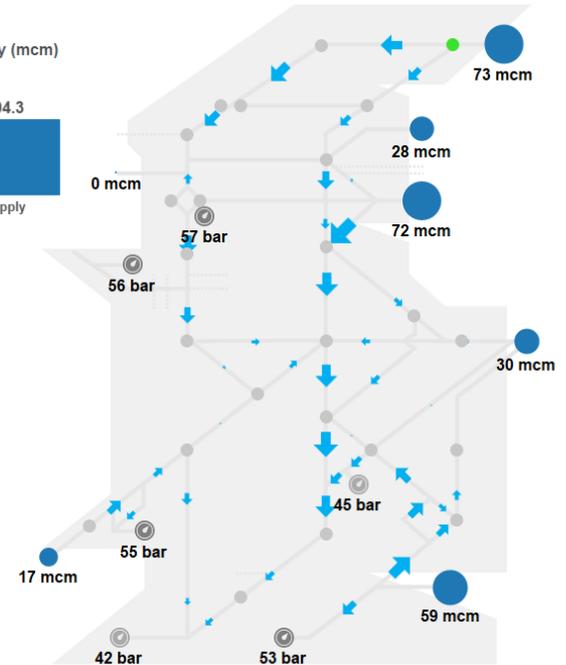
No further actions taken



EOD Demand & Supply (mcm)



EOD Balance (mcm)



04:00

Day finished balanced

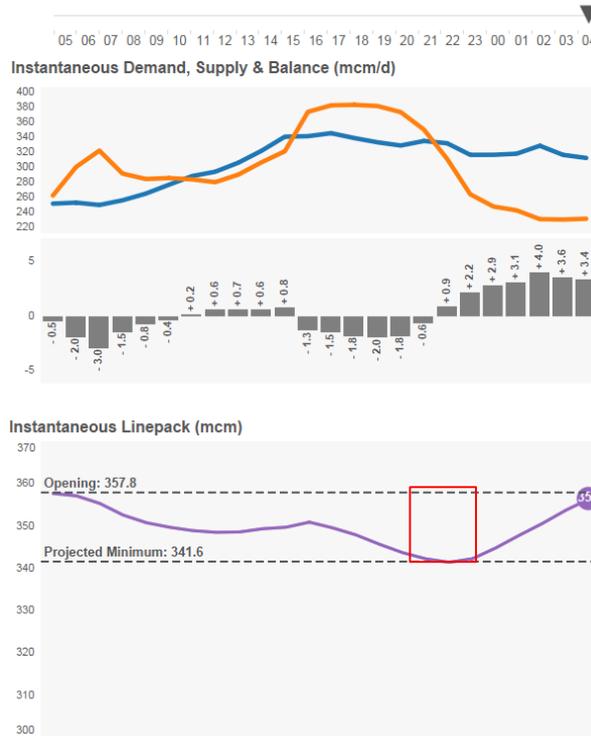
10 bar gain at extremity over the last few hours of the day

Linepack swing on day is 16.3mcm

End of day Demand increased on the day from 296 to 306

Supply started at 255 and increased to meet demand

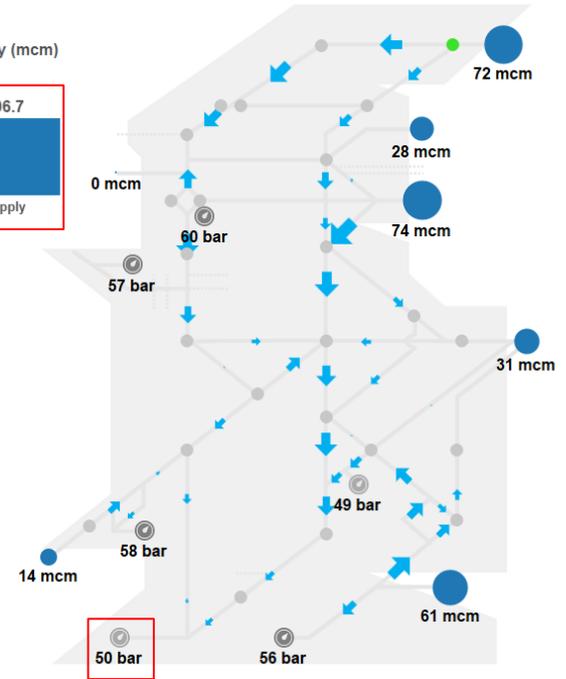
Gas Day 09/12/19 at 04:00



EOD Demand & Supply (mcm)



EOD Balance (mcm)



Gas
Transmission

Annual QSEC & MSEC Auctions

Alison Tann
NTS Capacity Manager

nationalgrid



Key topics for today

- The NTS Capacity Team
- Capacity auctions overview
- Focus on MSEC and QSEC auctions
- The 2020 MSEC and QSEC calendar
- How to get in touch / useful links

The NTS Capacity Team

Our purpose – To ensure compliance with our capacity obligations, support our customers, and optimise performance of the Constraint Management Incentive

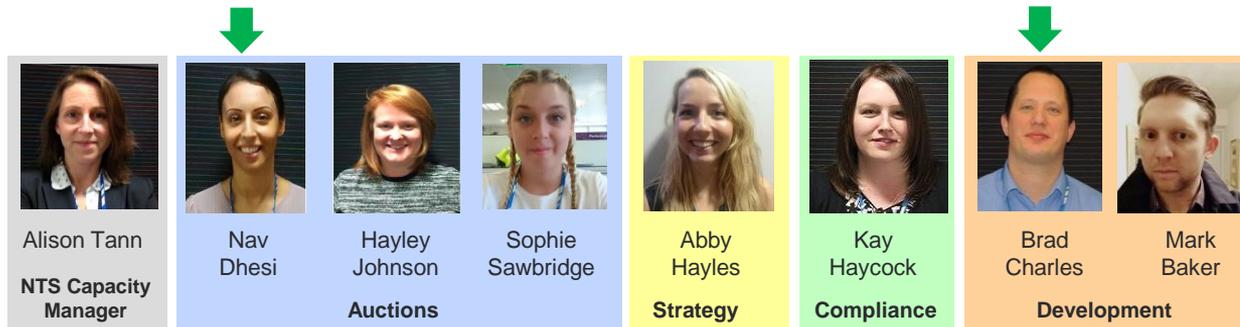
Our key objectives:

Auctions – set up and operate the long-term entry and exit capacity auctions, and support all auction participants

Strategy - provide strategy and tools for GNCC to optimise incentive performance and identify longer-term constraint risk and mitigation strategies

Compliance – ensure awareness of, and compliance with, our UNC and Licence obligations

Development - provide subject matter expertise to support the development and implementation of Gemini changes



Capacity Auctions Overview

| | | Y-16 to Y- | Y-1 to Y | M-1 | D-1 | D | |
|------------------------|--------------|---------------|---|---|--|--|--|
| UK Points | Entry | Firm | Quarterly <i>QSEC</i> | Monthly <i>MSEC</i> | Monthly <i>RMTNTSEC</i> | Daily <i>DADSEC</i> | Daily <i>WDDSEC</i> |
| | | Interruptible | | | | Daily <i>DISEC</i> | |
| | Exit | Firm | Y-6 to Y-4 Enduring <i>EAFLEC</i> | Y-3 to Y-1 Annual <i>AFLEC</i> | | D-1 Daily <i>DADNEX</i> | D Daily <i>WDDNEX</i> |
| | | Off-peak | | | | Daily <i>DONEX</i> | |
| Interconnection Points | Entry & Exit | Firm | Y-15 to Y-1 Annual Yearly <i>IPAYSEC</i> <i>IPAYNEX</i> | Y-1 to Y Annual Quarterly <i>IPAQSEC</i> <i>IPAQNEX</i> | M-1 Monthly <i>IPRMSEC</i> <i>IPRMNEX</i> | D-1 Daily <i>IPDADSEC</i> <i>IPDADNEX</i> | D Daily <i>IPWDDSEC</i> <i>IPWDDNEX</i> |
| | | Grid | Interruptible / Off-peak | | | Daily <i>IPDISEC</i> <i>IPDONEX</i> | |

Focus on MSEC

Firm Entry Capacity, sold in **monthly blocks**

For period **Apr 2020 - Sept 2021**

17th Jan: invitation letter sent to shippers / published

17th Feb: auction opens.

Auction tranches: 17th, 20th, 25th, 28th Feb

- Pay as Bid with non-zero reserve price
- 25% of available unsold released in each tranche
- Bids posted / modified / withdrawn 08:00 to 17:00 on each tranche date
- Shippers can bid up to 20 times per ASEP/Mth
- Min quantity 100,000 kWh



Focus on QSEC

Firm Entry Capacity, sold in **quarterly blocks**

For period **Oct 2021 - Sept 2036**

17th Feb: : invitation letter sent to shippers / published

16th Mar: auction opens

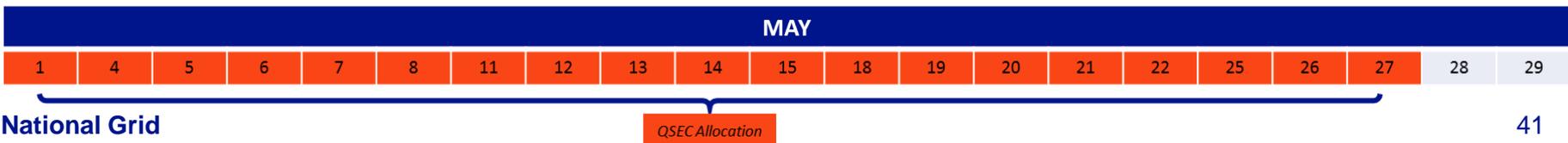
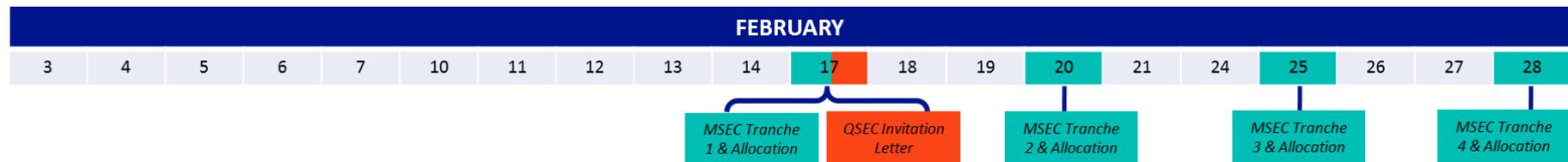
Auction open for up to 10 business days

- Demand-driven price
- Max 10 Business Days bid window (interim bid windows)
- Bids posted / modified / withdrawn 08:00 to 17:00 daily
- Auction can close early if prices stabilise
- National Grid publishes up to 21 price steps per ASEP
- Shippers bid volume (Min qty \geq 100,000 kWh)



The 2020 MSEC and QSEC Calendar

MSEC QSEC



How to get in touch / useful links

We're here to help with any capacity-related issues, queries, concerns.

Email us at: capacityauctions@nationalgrid.com

Call us on: +44 (0)1926 654057

Find out more via: <https://www.nationalgridgas.com/capacity>

Useful links: [FAQ's](#)
[Capacity Guidelines](#)

**Do visit our drop-in desk during the break or at lunchtime,
and please take a few minutes to complete the form left on your chair.**

**Gas
Transmission**

Pressure Forecasting Service

Ffion Davies-Cale
*Operational Strategy
Engineer*
M: 07870483760

nationalgrid



Overview

-
- 01** What is the service
 - 02** How We Can Do This
 - 03** Benefits and User Cases
 - 04** Opportunities
 - 05** Limitations
 - 06** Expected Costs to Customers
 - 07** Timeline of delivery
 - 08** Any Questions?
-

What Is The Service

National Grid are looking to offer an enhanced service for customers in the form of a pressure forecast

- **Pay for pressure forecast at your entry/exit location**
- **Indication of expected pressures for different timeframes**
- **Provide benefits to different customers for different reasons**
- **Develop relationships with customers**
- **More transparent**
- **Provide additional data to customers**
- **Not a pressure service – cannot request a particular pressure**

Information – How we can do it

National Grid will take data and produce useful information for customers. We can utilise the following information to produce the pressure forecast:

- **Compressor Availability**
- **Forecast Supply and Demand**
- **Simulation software**
- **Changes to operational strategy**



Potential Benefits

Different Customers would benefit for different reasons:



Potential Use Cases

Examples of benefits:

- Risk reduction for potential trips on their equipment
- Running assets more efficiently- assets designed to run at a certain pressure range but can be adjusted with notice
- Cost saving e.g. not needing to run as much compression when there is a higher NTS Pressure
- Ability to sell additional capacity at a terminal
- Reduce risk of out of spec gas e.g. trips on equipment which remove components from gas
- Storage sites – ensuring availability of injection/withdrawal
- Generally being able to highlight any upcoming asset risks

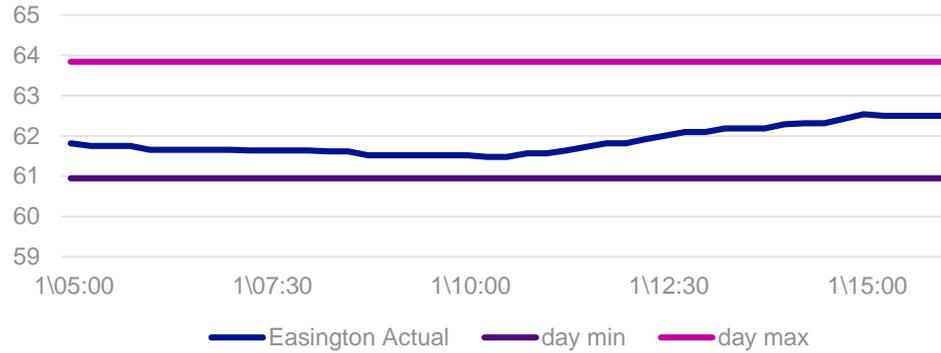
Opportunities Available

We can provide this data at different time scales:

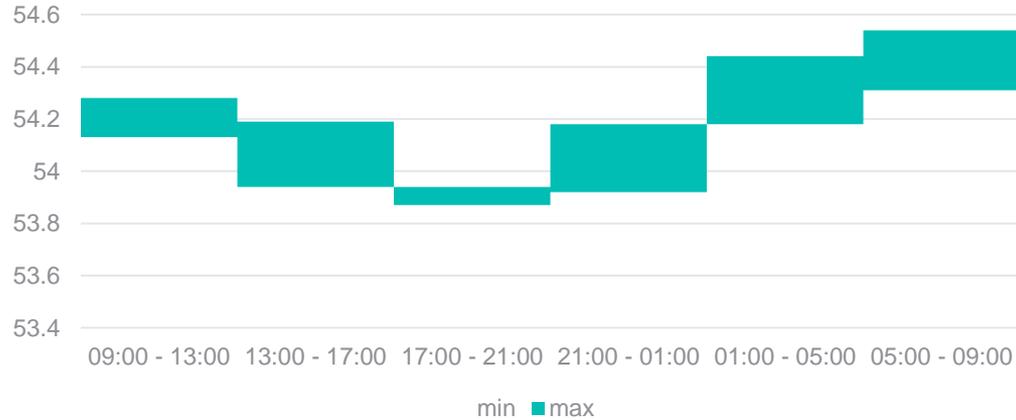
- **Week Ahead**
 - This process is currently being reviewed
- **Day Ahead**
 - This process will be the following gas day
- **Within Day**
 - This process will be consistently updated if pressures are expected to change
- **Ad-hoc**
 - This will be based on any feedback



Pressures at x Forecast v Actual



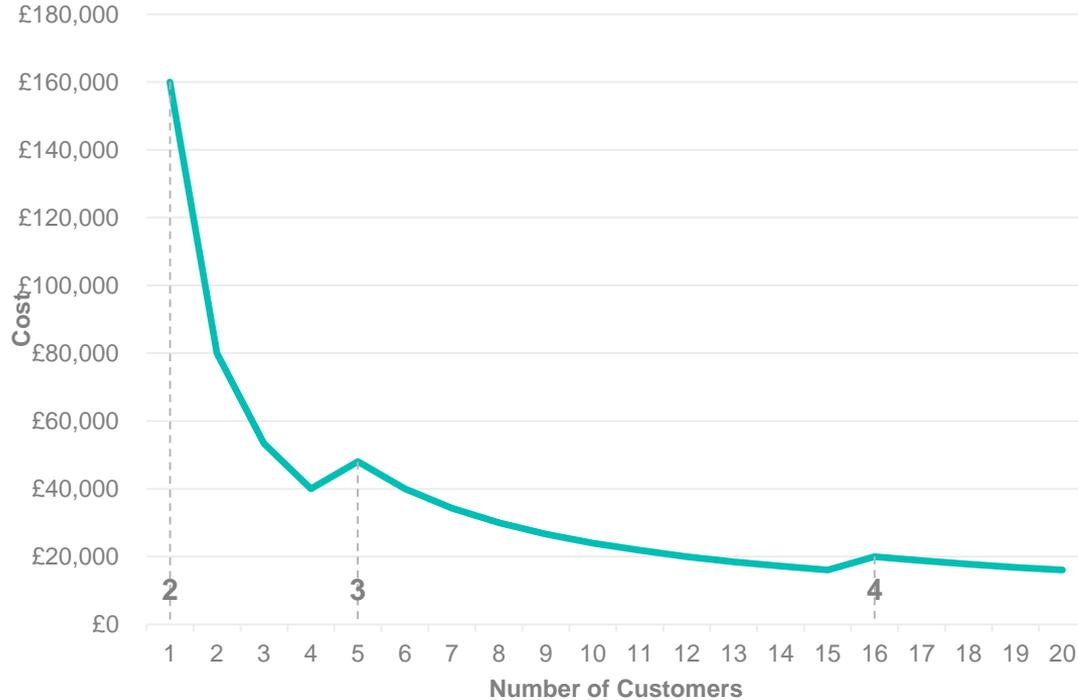
Pressure Forecast at y offtake



Limitations

- **Week Ahead**
 - High level of variability
 - Unplanned outages can't be accounted for
 - Significant changes in operational strategy
 - Likelihood of supply and demand pattern changing
- **Day Ahead**
 - Less variability if compressor strategy
 - Unable to account for compressor trips and unplanned outages
- **Within Day**
 - Compressor trips can be reflected in the next pressure update
 - Most accurate – uses within day notifications
 - Changes in strategy can be accounted for ahead of the change

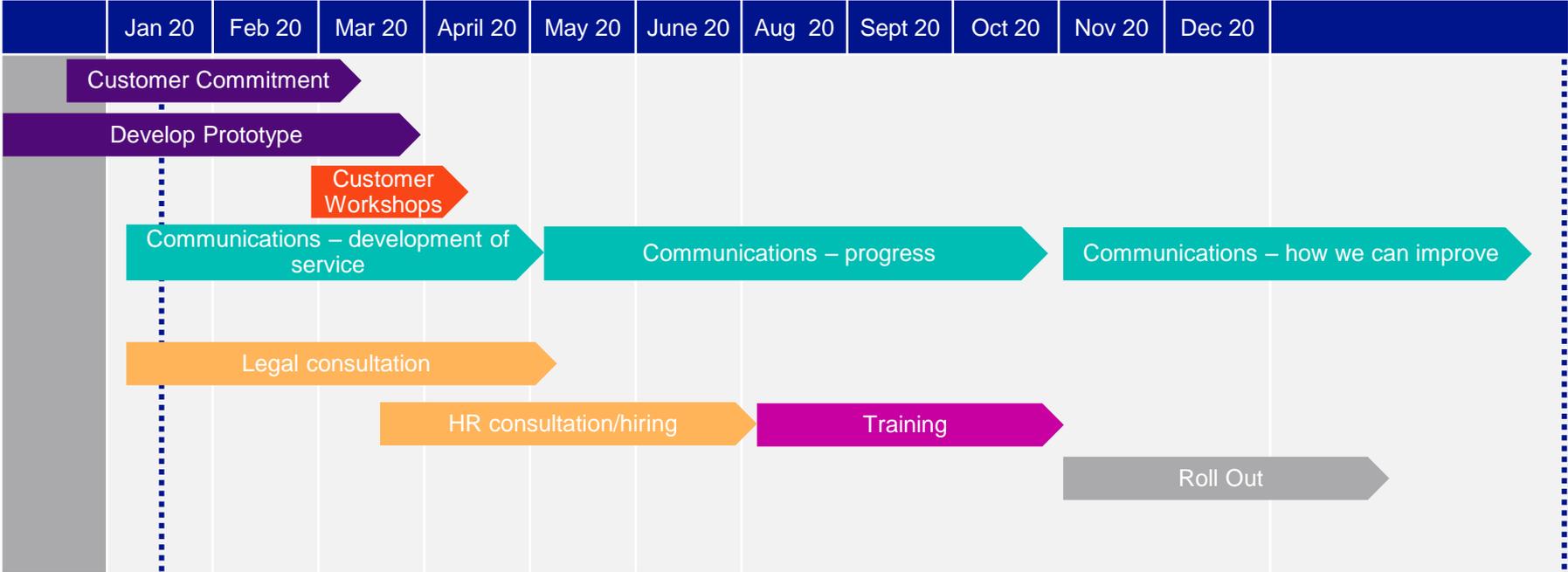
Costs



Cost for Customers

- The cost of customers will change depending on the number of interested parties
- Also depending on the type of service people would be interested in

Timeline of delivery



Any Questions

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Morning Break

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MIPI Project Update

Martin Cahill
Operational Liaison Lead

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Replacement for Prevailing View

- The replacement for Prevailing View will be launched at the end of February, likely w/c 24th, but this is subject to Operational review at the time.
- The existing screen will be available alongside the new screen to give time for users to familiarise themselves with the new visualisation. Likely for a period of around 3 months.
- We are introducing improved data quality measures, alerting and monitoring of MIPI and a new support model which should lead to fewer outages and issues with individual data items.
- This launch is part of a wider programme of work which improves our core infrastructure and improves the way in which we process data, this phase of the project concludes in June.

Replacement for Prevailing View

- There will be further enhancements to the new Gas System Status page in a future release, such as adding the data range on the linepack/trades chart, messages regarding IT issues or planned outages
- We are interested in receiving feedback on the new Gas System Status page and will seek to incorporate suggested improvements in future releases, please contact us through the normal channels or via the Data Community Collaboration website.

Replacement for Prevailing View

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Balancing Capacity Charging Connections Data and operations Land and assets Insight and Innovation About us Contact us

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Market Status Report Explorer Data Item Explorer

Gas Day: 01 JULY 2019

Gas System and Market Status ANS Message

There are no ANS messages.

TODAY: 01 JULY 2019

Gas Balancing Notifications: **NONE**

Margin Notice Trigger: **415.00 mcm**

TOMORROW: 02 JULY 2019

Gas Balancing Notifications: **NONE**

Margin Notice Trigger: **416.00 mcm**

Demand Forecast: **181.86 mcm**

IT Systems m

There are no IT systems

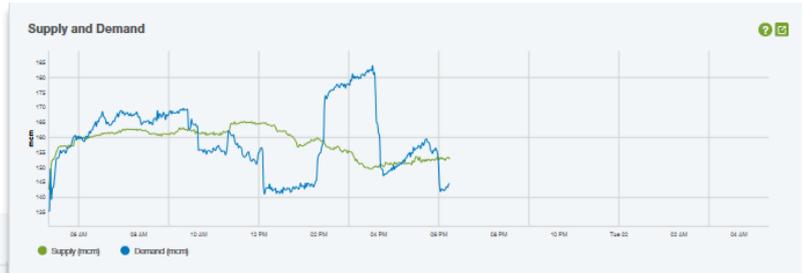
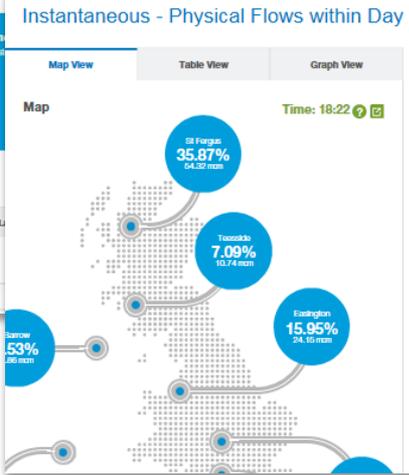
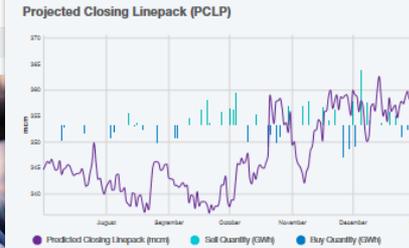
Forecasted End of Day Position

Forecast: Short

-3.0 mcm

Within Day Evolution

Forecast Supply and Demand

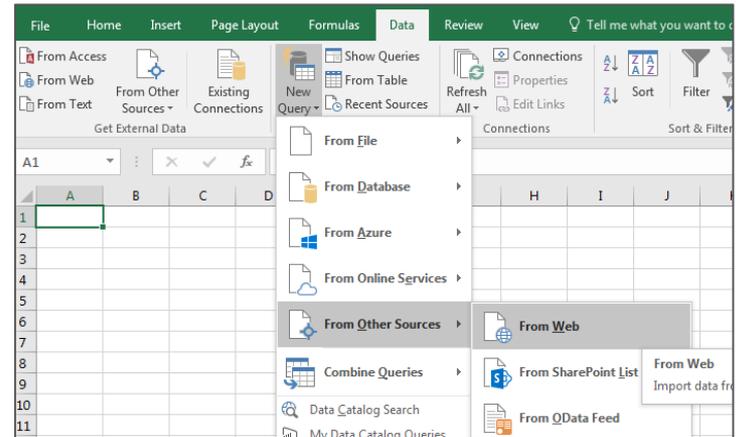
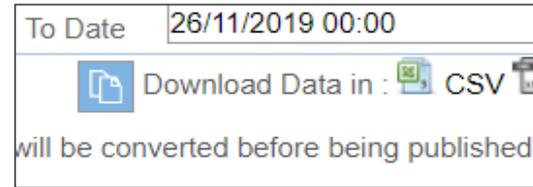


Custom Data Download Tool

Custom Download Tool is available on Data Item Explorer now, allowing you to create a spreadsheet which can be linked to Operational Data and refreshed.

1. Define a query in Data Item Explorer
2. Import link into Excel
3. Edit simple coding to increase functionality e.g. moving/re-definable date range

Guidance Documentation is available on the Data Community website, whilst we are happy to demonstrate the tool in the query surgery later today



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Xoserve/NG Customer Journey

Matthew Smith
Xoserve Customer Advocate

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Energy Balancing Invoicing Feedback



National Grid and Xoserve are working together to better understand the experience of customers relating to invoicing.

We are beginning by looking at invoices associated with **Energy Balancing** – any billing/queries that relate to the nominations, measurements, allocations, reconciliations and trading processes.

We would like to gather as much information as possible about the current experience of customers to ensure we understand what works well and where there may be potential to deliver improvements.

If you or your colleagues have any involvement in the invoicing process and are willing to provide feedback, please contact carrie.bury@nationalgrid.com (07967 679326) or Victoria.mustard1@xoserve.com (07519 605 322) and we will arrange a suitable time for a telephone call or meeting to talk about your experience.

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Connecting to the NTS

Claire Gumbley
*Gas Connections Contract
Manager*

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Update on Work Completed

- Created an online connections platform to facilitate the customer experience.
- Innovative physical connection solutions tailored to the needs of non-traditional NTS gas connections at high pressure, a number of benefits have been identified;
 - Modular build with the option of a combined telemetry kiosk with ROV and bypass pipework.
 - Generic designs available
 - Range of sizes to suit
 - Scalable to meet customer requirements over time
 - Utilisation of existing land
- Optimisation of commercial processes.

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Requirements for connecting

The portal is for:

- UK-based connections
- Connecting directly to NTS rated pipeline (between 35 – 70 barg on average)
- Minimum capacity of 100,000 kwh/d (0.38 kscm/hr).

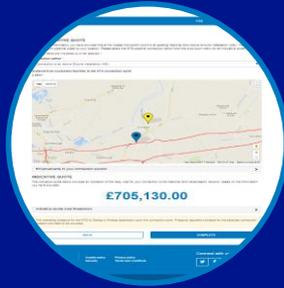


Our Connections Platform



Summary Page

- Retrieve Quote
- Retrieve Application
- Print Applications
- View Customer Journey's



Indicative Cost Estimate

- Easy 5 Click process
- Find the most suitable Connection site
- Choose between an AGI or a new site
- Instant Estimate



Applications

- Bespoke Connection
- Standardised Connection
- Disconnections
- PARCA



Documentation

- FCO Documents
- ICO Documents
- User guides
- Technical help

Why the NTS?

- NTS gas is not odourised. No odourisation equipment, maintenance or consumables are required.
- NTS higher operation pressures benefit CNG offtake customers.
- Higher pressure systems can accommodate higher flow rates in smaller sized pipe and fittings.



Recent Updates

Fordoun

- We have been working on a new connection in Scotland with Air Liquide and CNG Services which will be the first of its kind for the NTS.
- It is Europe's largest "virtual" pipeline, transporting gas to off-grid whisky distilleries to support the transition from oil with cleaner natural gas.
- The connection has reduced the distilleries CO2 emissions by 30 percent.



Fordoun

- President and CEO of The Glenmorangie Company, commented in the Whisky News: ***"We are committed to preserving and improving the world around us, as we meet rising demand for our exceptional single malt whisky around the globe. Cutting our CO2 emissions by 30% is another important step in our quest to become a fully sustainable business."***



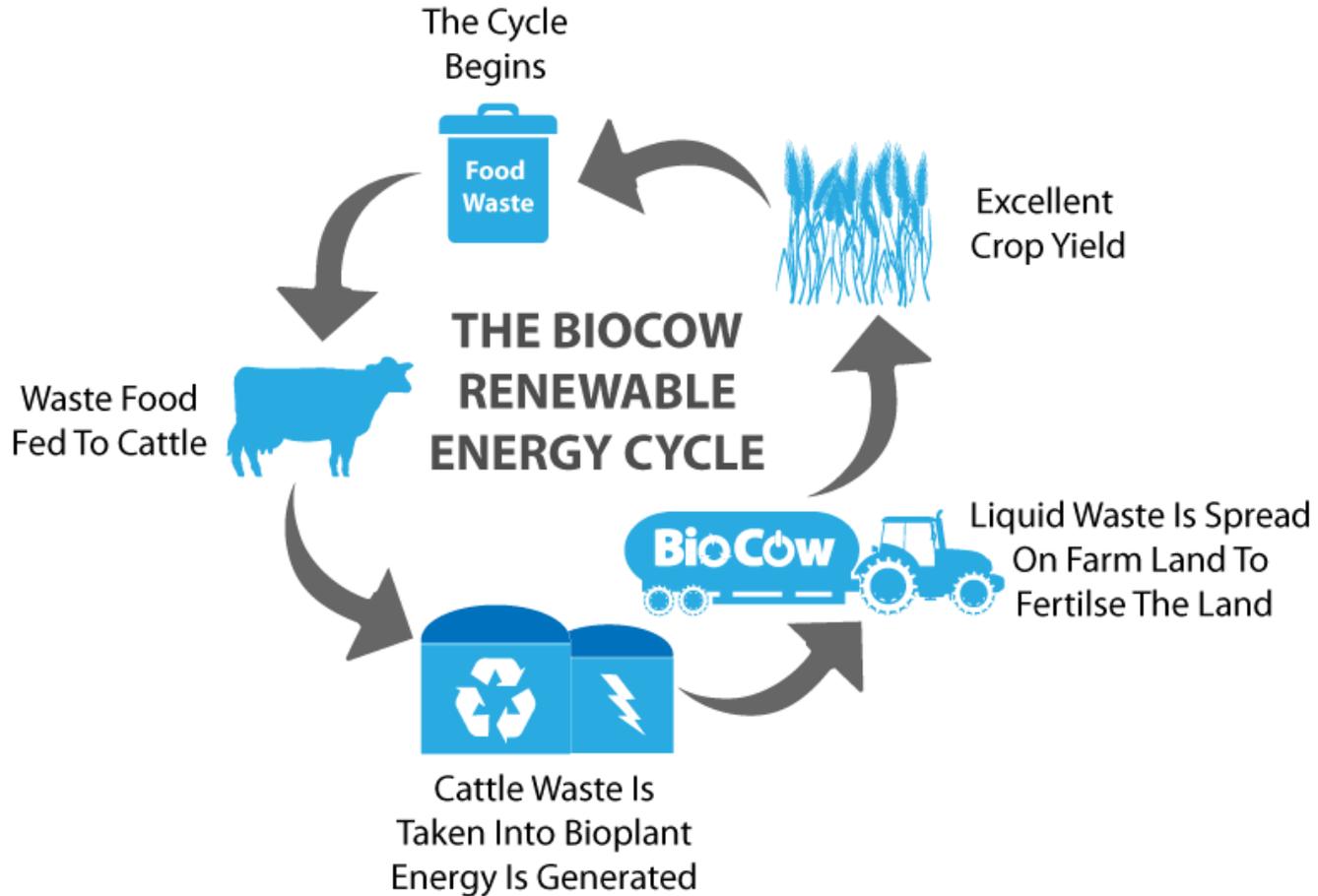
Recent Updates

Somerset Farm: Murrow

- To help us prove the new concepts borne from project CLoCC, we invited expressions of interest from potential pilot customer.
- Somerset Farm AD Plant in Cambridgeshire owned by Biocow Ltd was selected.
- We have been working with Biocow and CNG Services to develop the new connection for biomethane to enter the NTS, the first of its kind.



Somerset Farm: Murrow



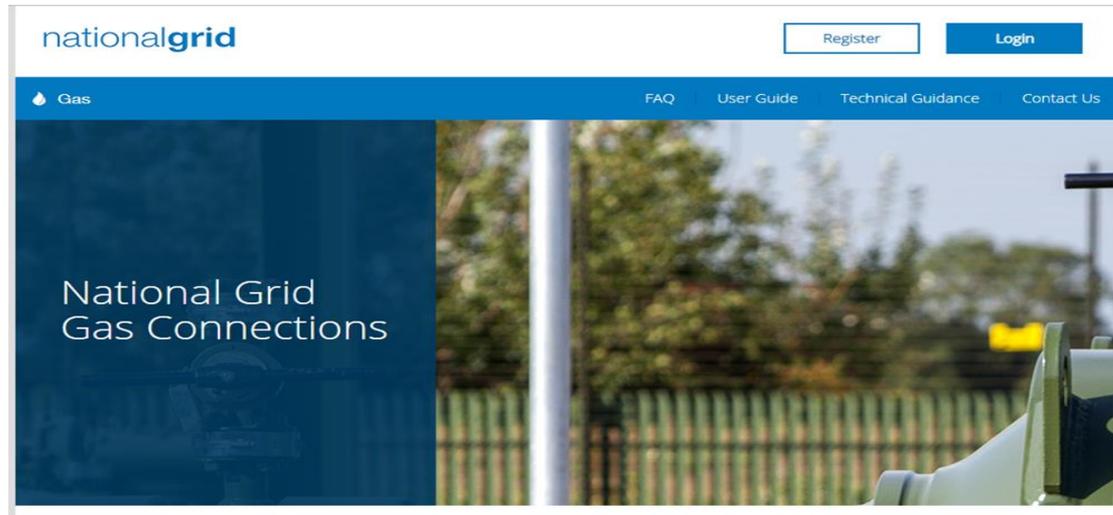
We Would Like to Hear from You...

Contact us if you are interested or have any feedback:

.Box.UKT.customerlifecycle

Our connections portal:

<https://gas-connections.nationalgrid.com/CustomerPortal>



Thank you
for your
time



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New Site Meter Setup

Scott Keogh
Senior Settlements Analyst

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Why are we here

- **Appointment of Allocation Agent**
- **Non Standard Sites MPRN Creation Process**
- **MNEPOR Amendments**
- **Supply Point Administration Process**
- **Shared Supply Setup**

Appointment of Allocation Agent

Shipper

Shipper to request with Storage Site that they can flow from the Site

Shipper to confirm to National Grid that site is visible on there portfolio

Storage Site

Storage Site to confirm with the Shipper that they can flow from site

Storage Site to send Appointment of Allocation Agent form to National Grid

National Grid

National Grid to action change in Gemini

Send confirmation of change back to the Shipper to Confirm the set up has been completed in Gemini

All queries in reference to Appointment of Allocation Agent should be sent to : Box.EnergyBalancing@Nationalgrid.com

5 working days Notice is required to complete this process

Non Standard Sites MPRN Creation Process

Shippers

Xoserve

National Grid

Shipper to supply relevant information to National Grid to process the MPRN Creation

National Grid to process the request and send to Xoserve

The new MPRN to be populated in the template and updated in UK Link together with any feedback and emailed back to National Grid

National Grid to Notify Shipper when UK link is updated

Confirmation has been received. The SPA registration process can be triggered by the Shipper

All Queries for the MPRN Request Process must be submitted to

Box.UKT.customerlifecycle@nationalgrid.com

Supply Point Administration

Shippers

Send Nomination

Offer received and Response sent to Xoserve

TOA File received

Xoserve

Validate request and determined whether the referral is required

A. No referral

Offer sent

Response validated

B. Referral required

Data Review

D-2 Gemini updated

National Grid

All Queries for the MPRN Request Process must be submitted to

nonstandardsites@xoserve.com

Useful information

- Xoserve are holding a Non Standard site discovery day on February 7th 2020
- Non Standard Site Queries- nonstandardsites@xoserve.com
- Please find below the link to the training material published on the Xoserve website for Shippers
<https://www.xoserve.com/media/2651/non-standard-sites-process-reference-guide-shippers-new-template.pdf>
- Energy Balancing Team Box.EnergyBalancing@nationalgrid.com
- Contracts at National Grid Box.UKT.customerlifecycle@nationalgrid.com



Questions

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Changes to Negative Implied Flow Rate Process

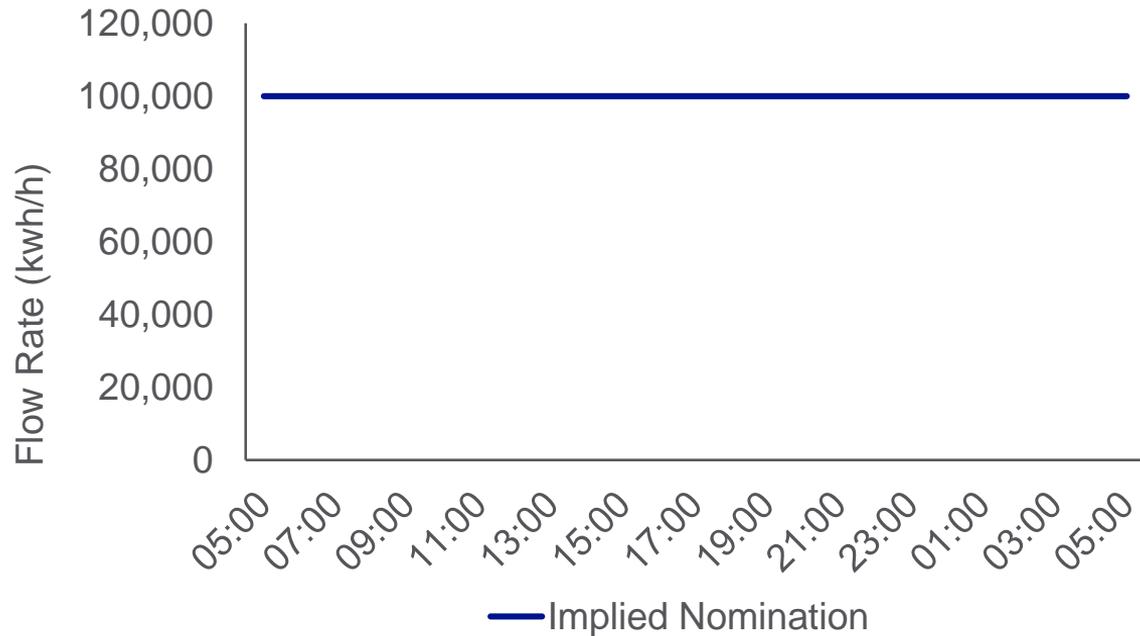
Martin Cahill
Operational Liaison Lead

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Implied Flow Rate

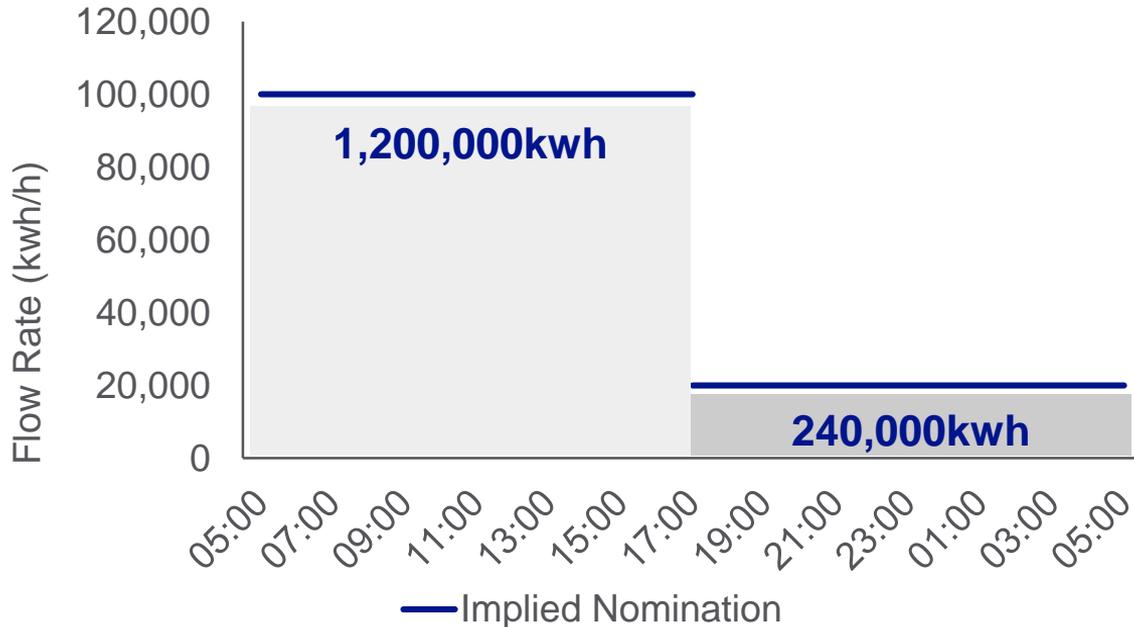
Implied Flow Rate for a nomination of 2,400,000kwh



- GEMINI by default assumes a flat flow profile, split into equal 24 hour periods
- So for example, a daily nomination of 2,400,000kwh is an implied flow rate of 100,000kwh
- The implied flow 2 hours into the day would be $2 \times 100,000 \text{ kwh} = 200,000 \text{ kwh}$

Implied Flow Rate

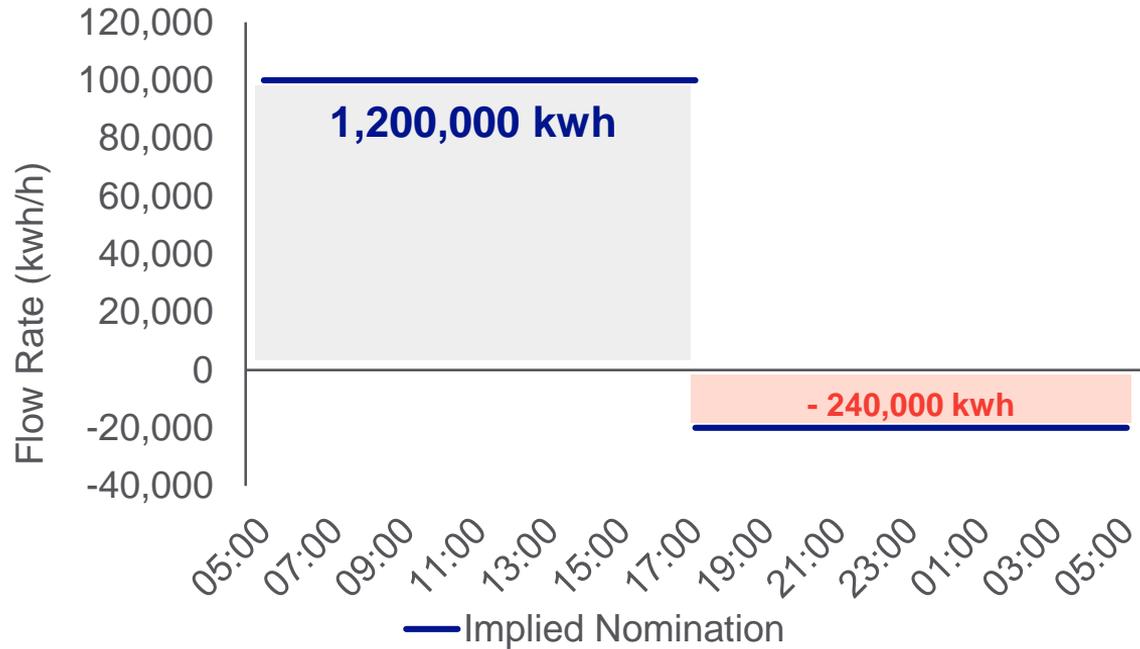
Implied Flow Rate for a re-nomination from 2,400,000kwh to 1,440,000kwh at 14:10



- If a re-nomination is made at 16:10, GEMINI will round up the next full hour bar and calculate the total flow to that point as $100,000 \times 12 = 1,200,000\text{kwh}$
- Re-nomination of 1,440,000kwh would result in an implied flow rate of 20,000kwh/h for the rest of the day $\frac{(1,440,000 - 1,200,000)}{12}$

Implied Flow Rate

Implied Flow Rate for a re-nomination from 2,400,000 kwh to 960,000 kwh at 14:10



- A nomination less than 1,200,000kwh is initially rejected as the Implied Nomination Rule deems that more than this has already flowed
- E.g. a re-nomination down to 960,000 kwh would need a negative implied flow rate to match the daily quantity
- A Deemed to Flow Fax is required as a workaround for this

New NIFR Process – April 2020

- **Summer 2018 Gemini Enhancements Workshop**
 - Your primary area for improvement was the NIFR re-nomination process.
 - Opportunity now available to implement a solution
- **A new Gemini process for managing NIFR re-nominations will be effective from April 2020.**
 - IP NIFR re-nomination requests are out of scope
 - Fax based process will cease
 - New Gemini Screen available for Shippers and GNCC
 - Compatible with Gemini Front end or API re-nominations
 - NIFR reschedule Process window extended from 02:00 to 04:00
 - Efficiency savings for GNCC and Shippers
 - Reporting on utilisation for NG

Re-Nominations

The screenshot displays a web browser window with the address bar showing a local file path: `C:\Users\di335587\AppData\Local\Temp\updaterenominationsres_6426.XML`. The page content is an XML document with the following structure:

```
<?xml version="1.0" encoding="UTF-8"?>
- <UPDT_RNM_OUT xsi:noNamespaceSchemaLocation="http://172.16.99.173:8001/gemini/api/schema/geminiapiupdaterenominationsres.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  - <METADATA>
    <TMSTMP>2019-12-05T01:28:08</TMSTMP>
  </METADATA>
  <GAS_DAY>2019-12-05</GAS_DAY>
  <SERVC_ID>BG-SS-000365</SERVC_ID>
  - <ACTVTY>
    <ACTVTY_NBR>6426</ACTVTY_NBR>
    - <STEP>
      <STRT_TM>11</STRT_TM>
      <REQ_NRG>340000</REQ_NRG>
      <STS>F</STS>
      <MSG_CD>GEM_API_ERROR_0502</MSG_CD>
      <MSG_DESC>Flow rate validation has failed for the entered steps of this activity. Request for reschedule has been raised and is pending with NG.</MSG_DESC>
    </STEP>
  </ACTVTY>
</UPDT_RNM_OUT>
```

On the right side, a sidebar titled "Nominations" shows a form with the identifier "G-SS-000026" and buttons for "Query" and "Clear". Below the XML, a table-like interface is partially visible with a highlighted error message:

Pending with NG for processing
Please re-enter or cancel

At the bottom of the interface, a status bar displays the volume information: "Volume requested < Volume flowed. Pending with NG for processing. Please re-enter or cancel." and includes buttons for "Save", "Cancel", "Verify", and "Next>".

Summary

- New NIFR Process effective April 2020
- Fax NIFR requests will not be accepted
- Process window extend to 04:00
- Compatible with API re-nominations
- New 'Reschedule' screen available for monitoring NIFR requests
- E-Learning available via Xoserve
- News Items & ANS message reminders prior to implementation

Any Questions?

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Updates/ Signposting

Martin Cahill
Operational Liaison Lead

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Gas Ten Year Statement 2019

<https://www.nationalgridgas.com/insight-and-innovation/gas-ten-year-statement-gtys>



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Industry Change

| Title | Status | Governance | Proposer/ Sponsor | Name | Targeted Implementation Date |
|-----------------------|-------------------------|--------------------|------------------------------------|--|------------------------------|
| Mod 0667 | Awaiting Ofgem decision | UNC - Transmission | South Hook Gas Company Ltd | Inclusion and Amendment of Entry Incremental Capacity Release NPV test in UNC | No implementation specified |
| Mod 0670R | With Workgroup | UNC - NTSCMF | NTS | Review of the charging methodology to avoid the inefficient bypass of the NTS | TBC |
| Mod 0678 (A-J) Urgent | Awaiting Ofgem Decision | 0678 WG | Various proposers | Amendments to Gas Transmission Charging Regime | October 2020 |
| Mod 0683S | With Workgroup | UNC - Transmission | Cadent | Updating the Offtake Arrangements Document (OAD) with recommendations resulting from UNC Request Workgroup 0646R – Review of the Offtake Arrangements Document – Phase 1 | NA |
| Mod 0686 | Awaiting Ofgem Decision | UNC - Transmission | Vermilion Energy Ireland Limited | Removal of the NTS Optional Commodity Rate with adequate notice | TBC |
| Mod 0705R | With workgroup | Review group | NTS | NTS Capacity Access Review | TBC |
| Mod 0708 | with workgroup | UNC - Governance | Northern Gas Networks | Re-ordering of the UNC in advance of Faster Switching | TBC |
| Mod 0710 | With Workgroup | UNC - Distribution | Wales and West Utilities | CDSP provision of Class 1 read service | TBC |
| Mod 712 | With Panel | New Modification | OMV Gas Marketing and Trading GmbH | Amending the oxygen content limit in the Network Entry Agreement (NEA) at the St Fergus SAGE plant | 16-Jul-20 |
| Mod 713 | With Panel | New Modification | Wales and West Utilities | Amendments to TPD V3.1.7 Independent Assessment table | 21st May |
| Mod 714 | With Panel | New Modification | Centrica | Amendment to Network Entry Provision at Perenco Bacton Terminal | Jun-20 |

Capacity Access Review

- The Capacity Access Review (CAR) will review the principles of the capacity regime to ensure they are aligned to the future needs of our customers and will address issues being experienced in the short-term.
 - The current entry and exit capacity arrangement were built on the foundations of an expanding gas network where historically incremental capacity signals from long-term auctions would trigger investment on the NTS.
 - Today, the environment has changed and we are not experiencing the capacity signals requiring expansion we were 10 years ago.
- NG raised UNC Request 0705R in October. Transmission Workgroup have focused on defining the scope of the review, developing long-term strategy for the future Capacity Access Regime and developing a list of specific short term problems which will be looked at as a part of the review.
- Further, wider industry engagement will be carried out throughout 2020. Consultation is in progress and will close on Thursday, 20th February.
- For more information please contact Jennifer Randall on jennifer.randall@nationalgrid.com

XP1 Token renewal

29th February 2020

- XP1 tokens are provided to organisations that use Gemini as a backup connectivity option (contingency only). Tokens (maximum of 3 token per organisation) are provided by Xoserve on behalf of National Grid Transmission.
- The current set of tokens will expire on 29th February 2020 and will need to be replaced before that date to ensure you have continuous availability of this option.
- Xoserve have already contacted all associated individuals from each organisation and have been working with those that have responded to ensure we have the most up to date contact and address details.
- There are some organisations that are yet to respond and we encourage you to speak with your Gemini users or the Xoserve Customer Lifecycle team to progress further at the following: LSO@Xoserve.com

National Grid



GT RIIO-2 Incentives Consultation

Consultation open until 30th January

<https://www.nationalgridgas.com/document/129251/download>



Other Publications

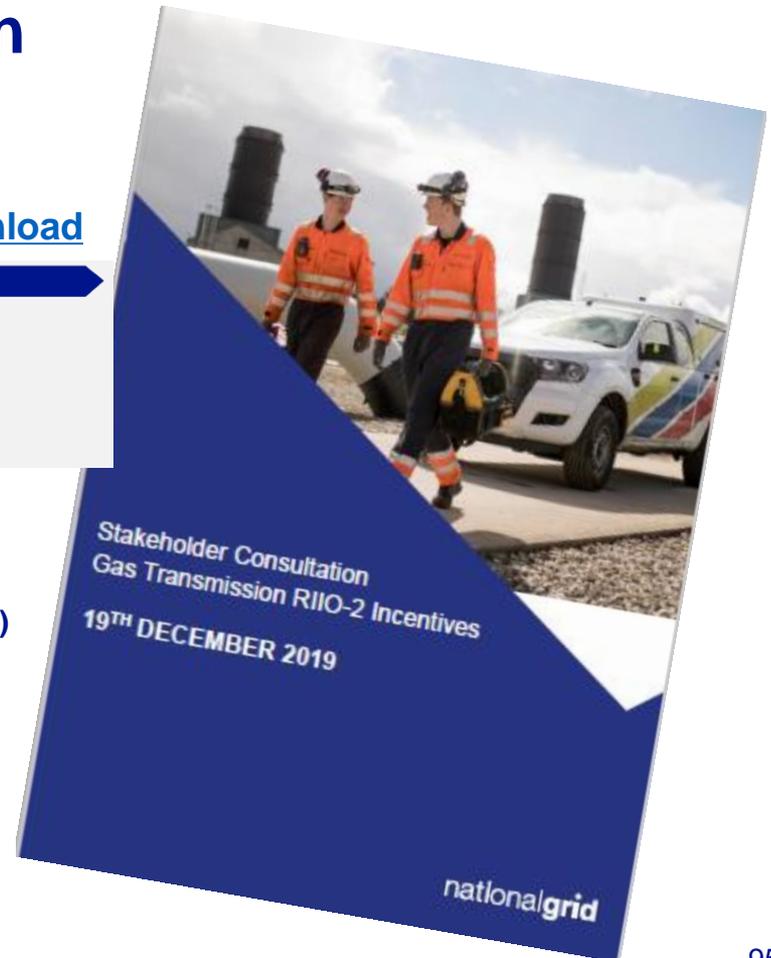
The Stakeholder User Group report has been published (link includes all)

<https://www.ofgem.gov.uk/publications-and-updates/reports-ofgem-riio-2-independent-customer-engagement-groups-and-user-group-energy-network-company-business-plans-riio-2>

Ofgem has issued a call for evidence which closes on 10 February

<https://www.ofgem.gov.uk/publications-and-updates/call-evidence-electricity-transmission-gas-transmission-gas-distribution-and-electricity-system-operator-business-plans-riio-2>

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Join us at one of our RIIO-2 regional workshops

28 January: Edinburgh

30 January: London

06 February: Cardiff

13 February: Hull

- Opportunity to get a detailed understanding of **WHAT** we have committed to deliver and what that might mean for you. We will share what happens next and how to get your voice heard throughout
- You can help shape **HOW** we will deliver those commitments, including how we will continue to embed your voice into our business
- You will **EXPLORE** key topics such as the road to net zero and our Environmental Action Plan

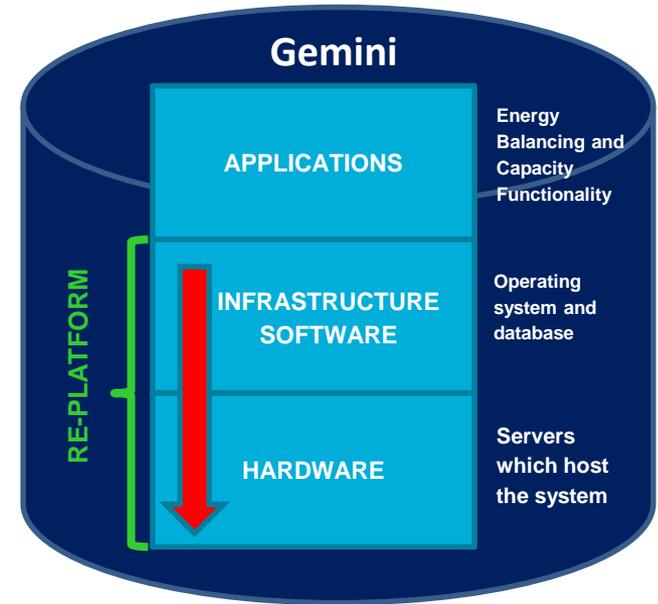
GEMINI Re-platforming Project

Scope

- Gemini Infrastructure will be replaced, to provide stability over the next few years. The functionality will remain exactly the same as well as how industry participants interact with the system.

Connectivity Testing

- All Industry participants will have the opportunity to test connectivity to the new Xoserve data centre during the period 13th April to 8th May 2020.
- Please contact box.xoserve.geminire-platform@xoserve.com if you wish to participate in the External Connectivity Testing
- Will be included on the agenda at the February Ops Forum



Query Surgery and Next Forum

The Next Operational Forum will take place on February 20th at the Amba Hotel

Please let us know any requested topics

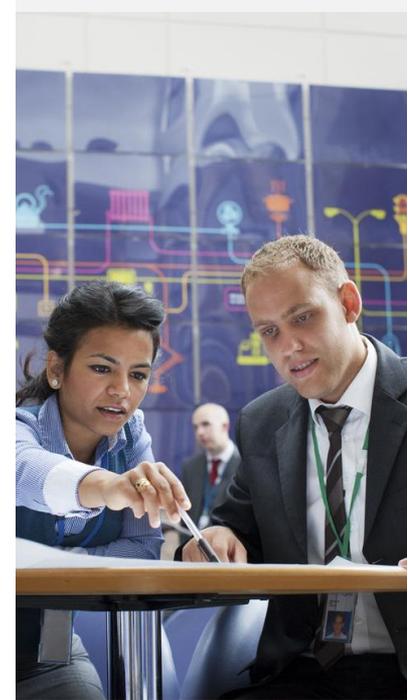
Opportunity now for 121 discussion with NG and Xoserve attendees

Draft Agenda includes:

Argus Media Guest Presentation – European Gas Prices

Update on Charging Review

How National Grid Forecast Demand



Registration is open for all 2020 events at:

<https://www.nationalgridgas.com/data-and-operations/operational-forum>

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