Gas
Transmission

Gas Operational Forum

WebEx
28 January 2021
9.32am

Slido
#GasOps21

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Introduction & Agenda

Joshua Bates
Operational Liaison & Business Delivery Manager

nationalgrid

Presenters

National Grid

Joshua Bates – Operational Liaison and Business Delivery Manager

Craig James – Physical Operations Manager

George Killick – Operational Strategy Engineer

Alison Tann – NTS Capacity Manager

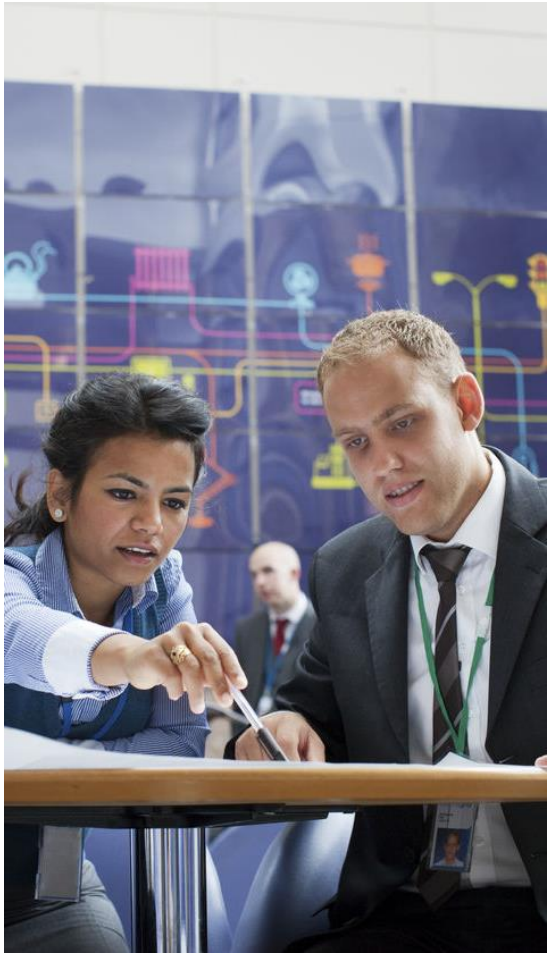
Mark Baker – Principle Capacity Strategy & Development Analyst

Sarah Carrington - Comms & Engagement Lead for Gemini

Tom Wilcock – Safety, Response and Assurance Manager

BEIS

Myra Fazal - Policy Advisor in Gas Security, Networks and Markets team, BEIS



Calendar year 2021 Ops forums

All forums will be held via WebEx until at least June 2021

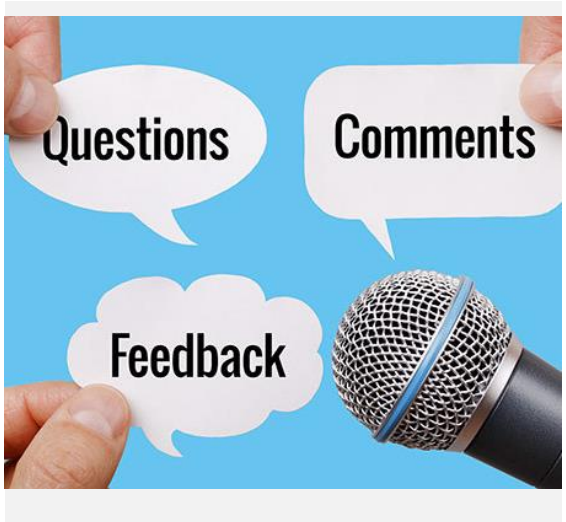
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Online	Online	Online	X	Online	Online	X	X	TBC	TBC	TBC	X
28/01	25/02	25/03		20/05	17/06			23/09	21/10	25/11	

Registration is open for all 2021 events at:
https://www.nationalgridgas.com/data-and-operations/operational-forum

Housekeeping for WebEx Forums

During our WebEx events;

- Attendees will be automatically muted on dial-in, please ensure your cameras are off too.
- We will break at the end of each section to answer questions, please use the ‘raise a hand’ function on WebEx and we will un-mute you.
- Alternatively, you can ask any questions via sli.do and we will answer them at the end of each section. The meeting code is #GasOps21.
- For both presenters and any verbal comments, please state your name and company before speaking.



Resources Available to you

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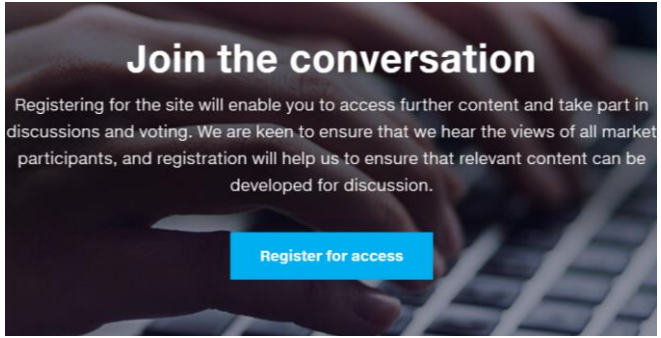
Gas Distribution List

https://subscribers.nationalgrid.co.uk/h/d/4A93B2F6FAF273DE



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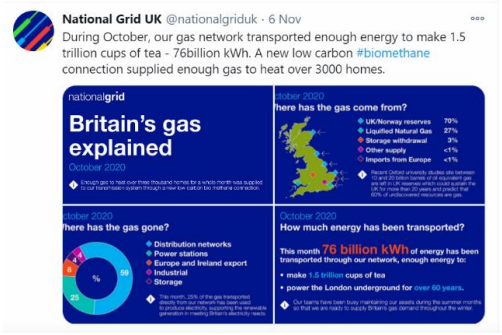

For the monthly Gas Explained information please visit;
https://twitter.com/nationalgriduk

Or follow our personal accounts on Linkedin

How to contact us

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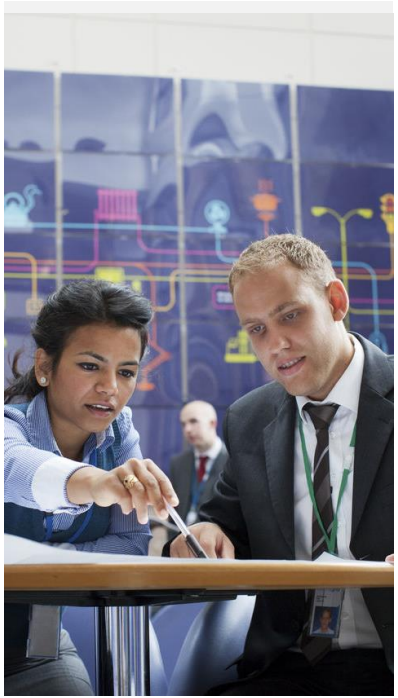
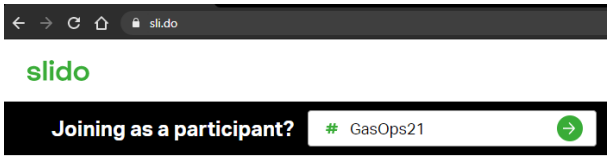


Agenda for Today

01	Welcome and Introduction
02	Operational Overview
03	Interesting Days
04	Interruptible Entry Capacity (An explanation of what we release and why)
05	Bacton IP Firm Capacity
06	Incorrect capacity bid submission – system changes
07	Gemini Change Programme
08	Guest Presentation: BEIS - EU/UK Trade Deal
09	Updates: - Operating Margins - Data Webinars - Emergency Planning Update

Please ask any questions using slido #GasOps21 or by raising your hand.

These will be covered at the end of each agenda section



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Operational Overview

George Killick
Operational Strategy Engineer

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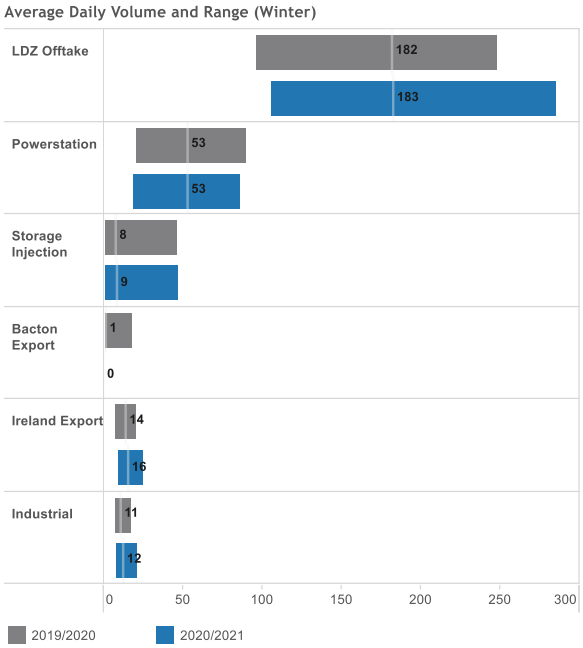
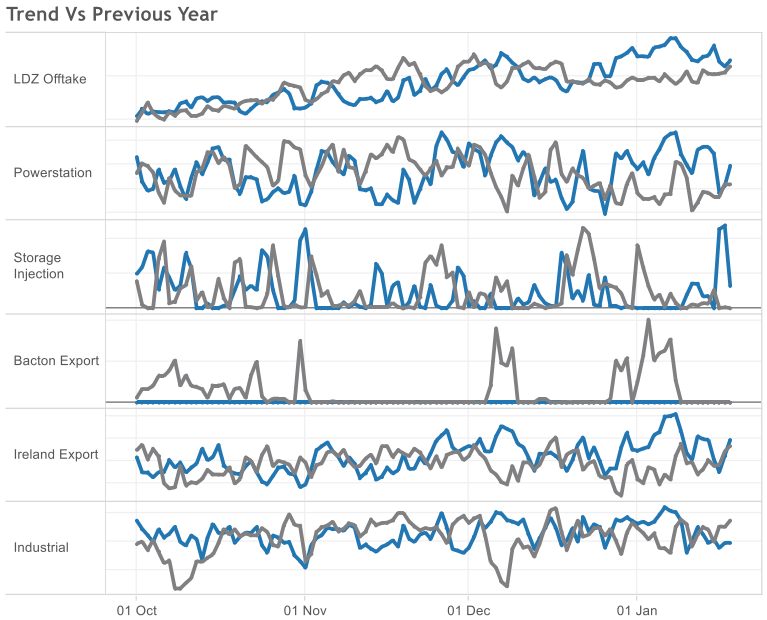
NTS Demand



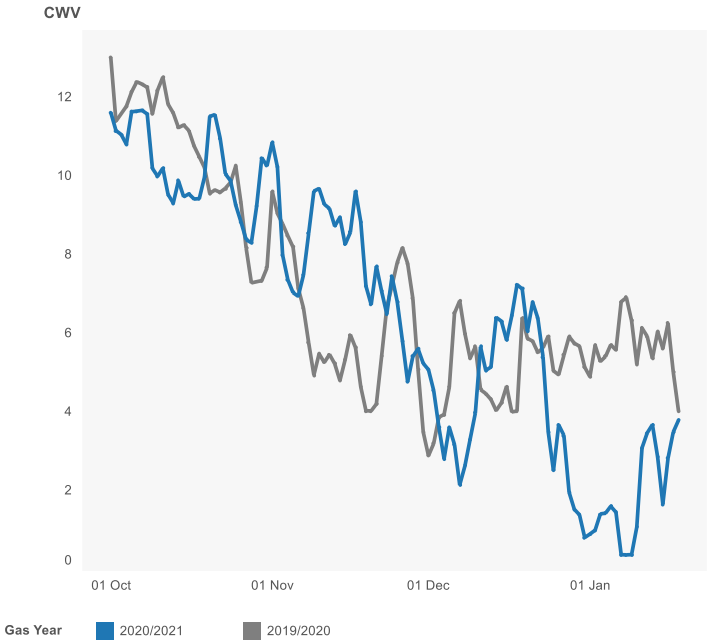


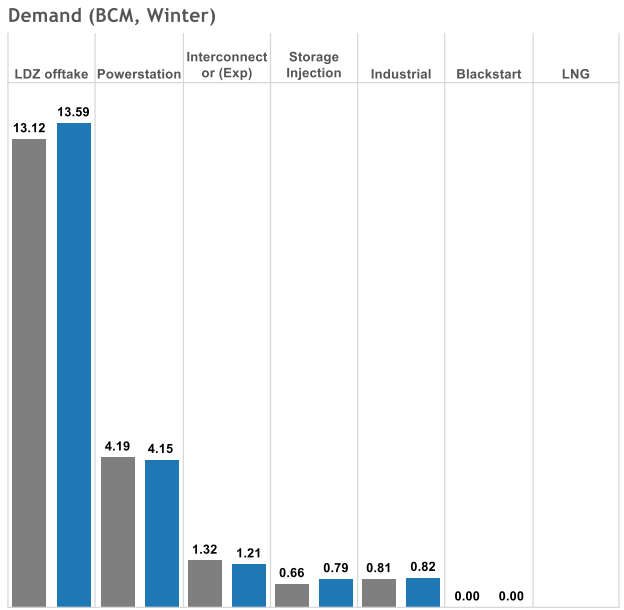
LDZ Average similar to last year, but higher peak demands

No interconnector exports compared to last winter

Ireland Export had higher peak than last year

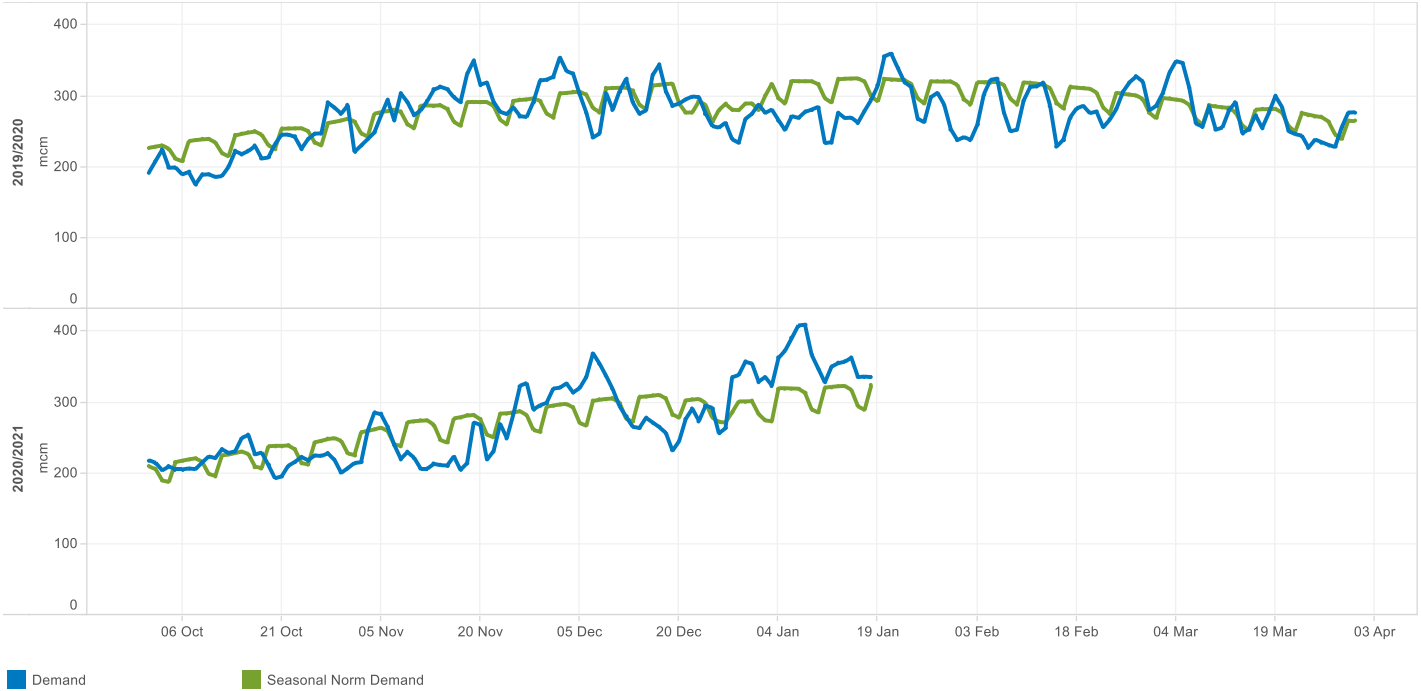
Demand & CWV





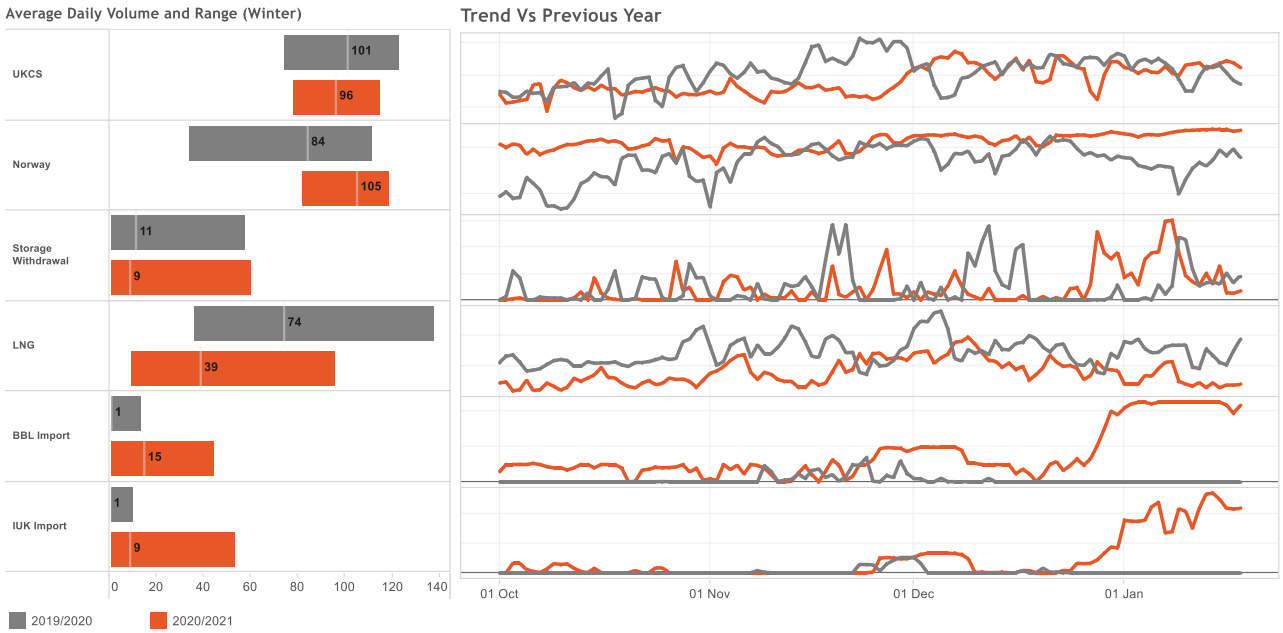
Late December and early January saw a significantly lower CWV than last winter.

Demand – Comparison to Seasonal Norm



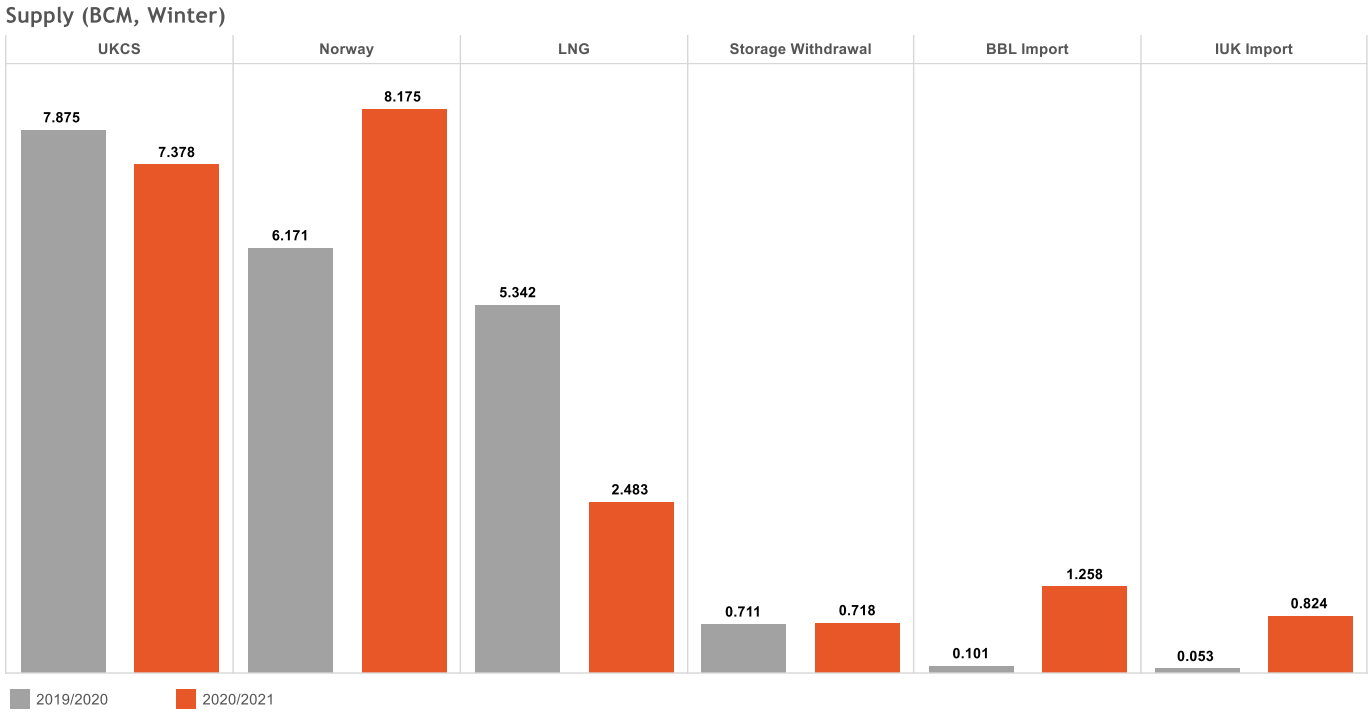
January's demand this winter has been notably above seasonal norm

NTS Supply



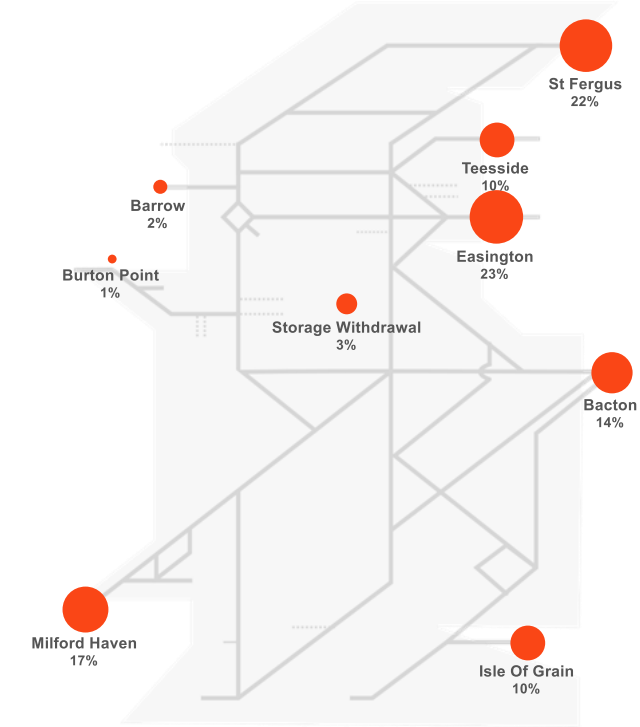
Interconnector imports have ramped up significantly, reacting to colder temperatures and reduced LNG imports

Supply – Yearly Comparison

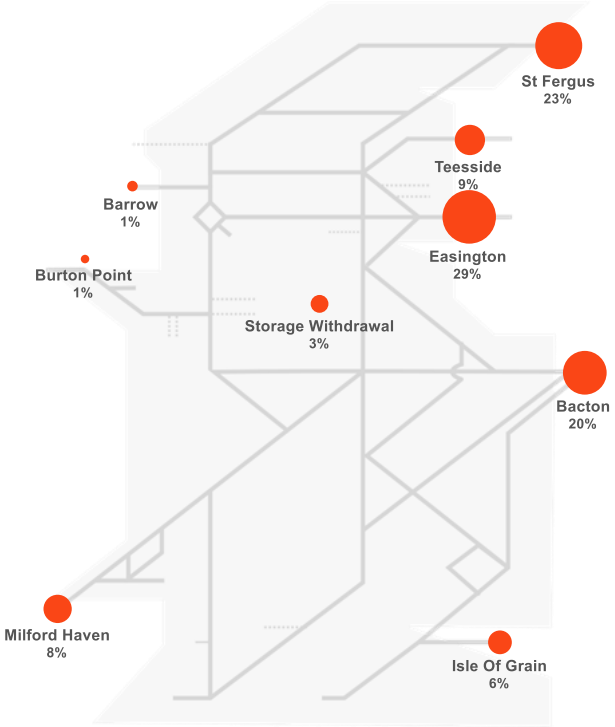


Supply Map

2019/2020 Percentage of total supply (Winter)

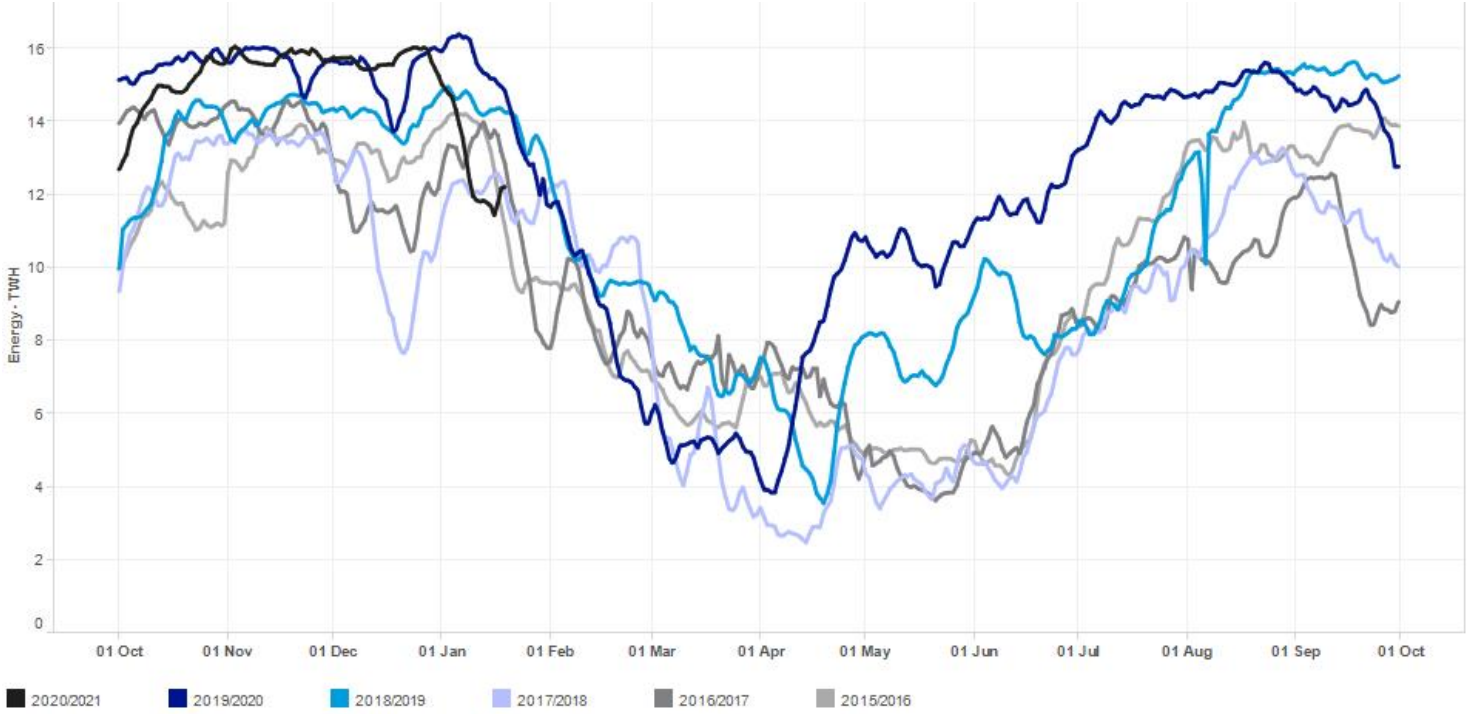


2020/2021 Percentage of total supply (Winter)



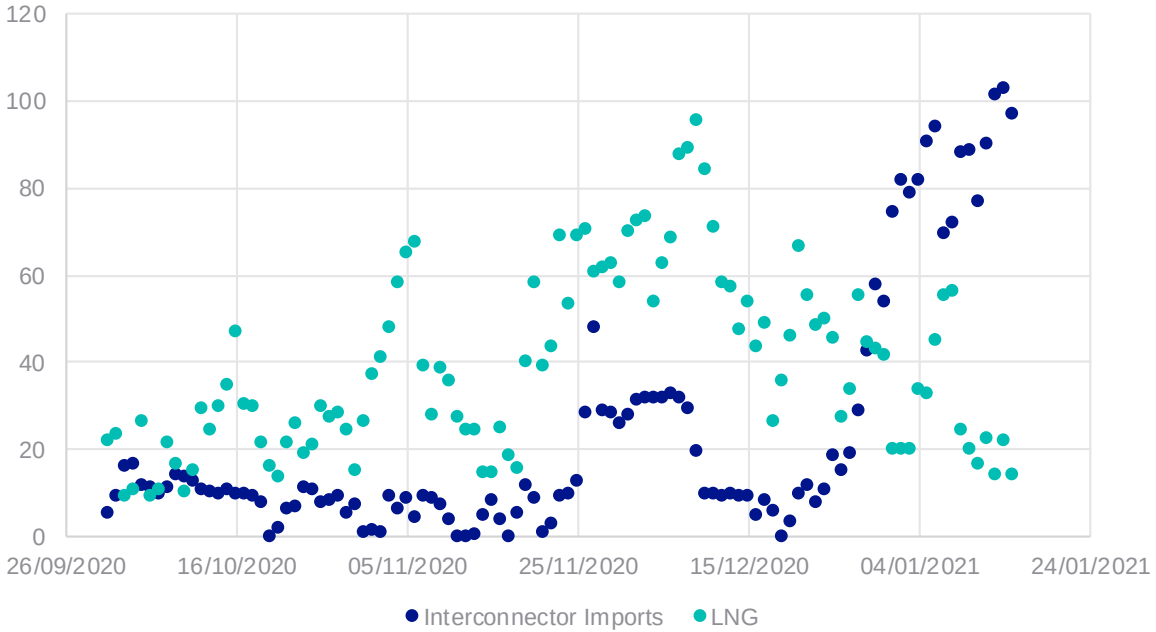
This winter has seen a 9% reduction of LNG supplies compared to last winter

Storage Stocks



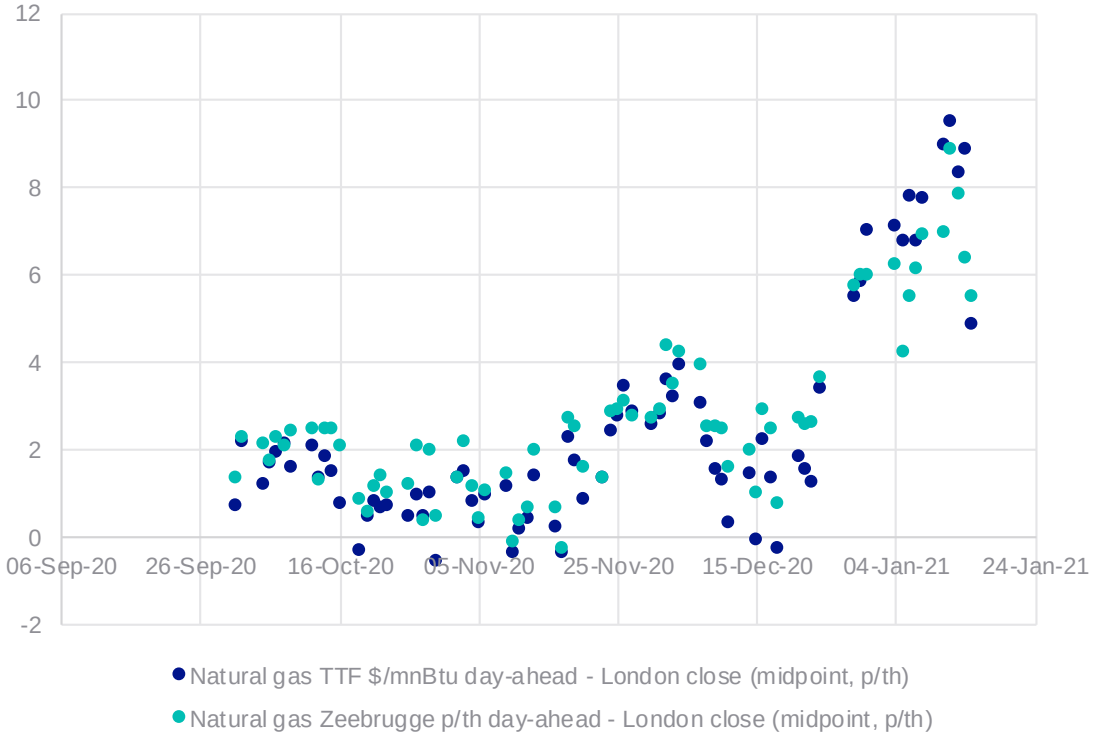
Noticeable drop in storage stocks over the last months, reflecting their higher supplies

Focus: Interconnectors v LNG



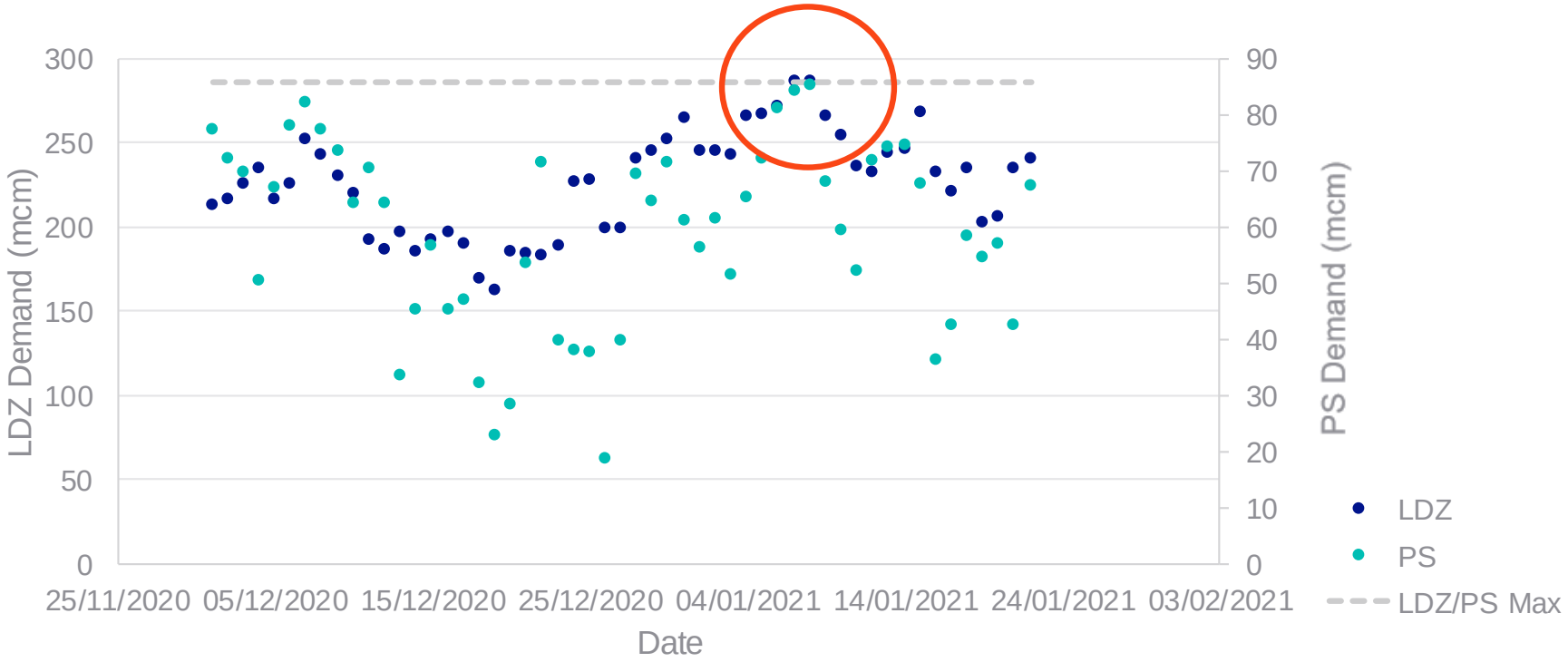
Reduction in LNG and higher network demands have increased the financial incentive to import via IUK and BBL

Price Spreads (TTF and Zeebrugge)



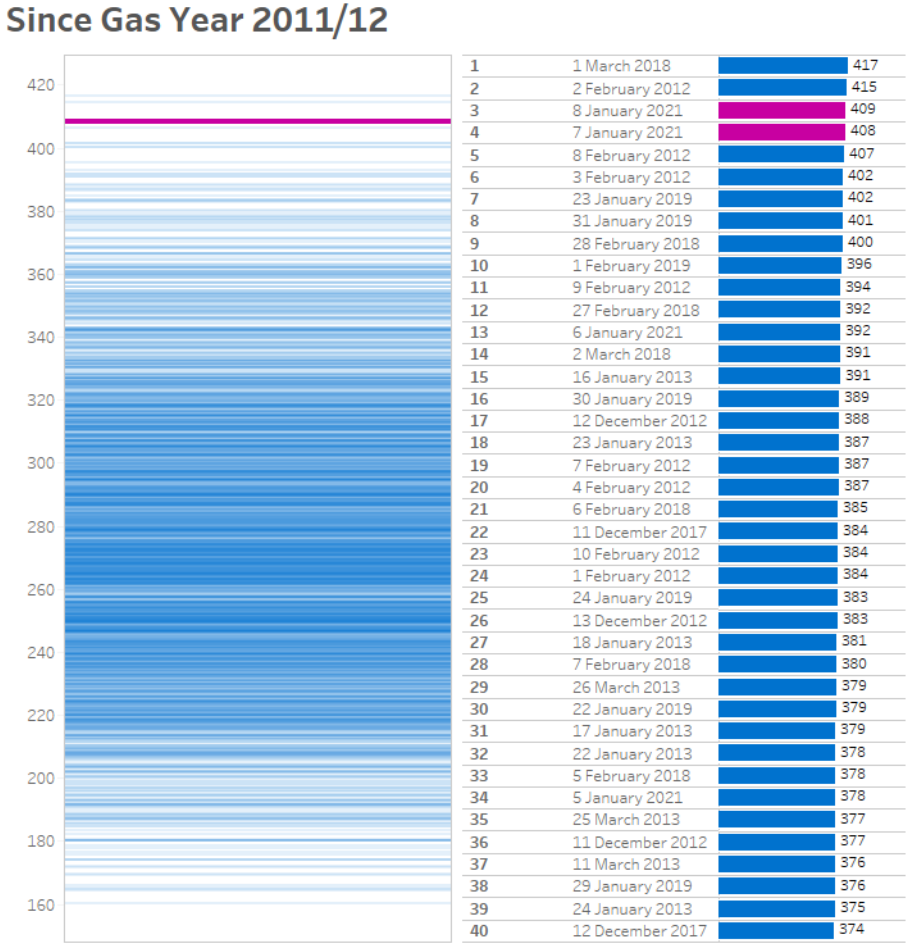
Price spread to European markets has picked up significantly in recent months

LDZ & PS Demand during December & January



Winter Demand

At 408 and 409mcm, the highest demand days this year are also two of the highest we have seen since 2011



Margin's Notice

The Margin's Notice (MN) number is composed of the following components:

1. Non Storage Supplies (NSS) Number (Interconnector + UKCS + Norway)
2. Expected Cold Weather Capability (CWC) – daily supply on to the NTS by each LNG Site
3. Storage – stock position

Changes for 2020/21

- NSS - an overall decrease of 7.
- Safety Monitors positions for Space and Deliverability set to zero.
- Margins Notice number has increased to between 500-523 for most days, mainly due to the LNG cold weather capability (CWC) increasing. The methodology looks at the actual flow for winter periods from the last three gas years (17/18 to 19/20) and uses the 95th percentile (pre-defined number in the methodology) of the LNG flows.

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Interesting Days

Craig James
Physical Operations Manager

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Interesting Days

7 & 8 January 2021

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7th/8th January 2021

What was unusual about this gas day?

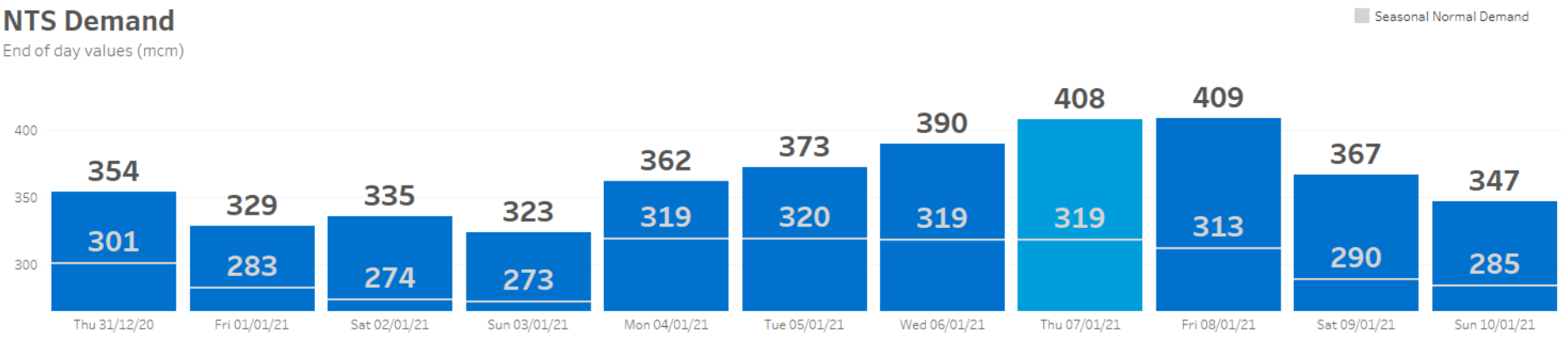
- At 408 and 409mcm, these were two of the highest demand days we have seen since 2011
- High proportion of NTS supply being provided at Bacton, with interconnectors both at high flow

Gas System Operations

NTS Demand recent trend

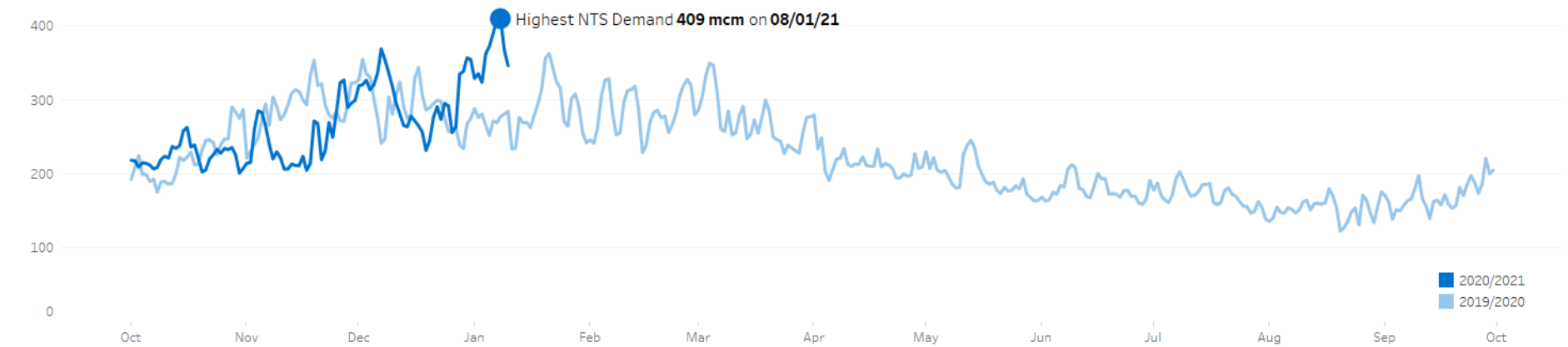
NTS Demand

End of day values (mcm)



NTS Demand vs previous year

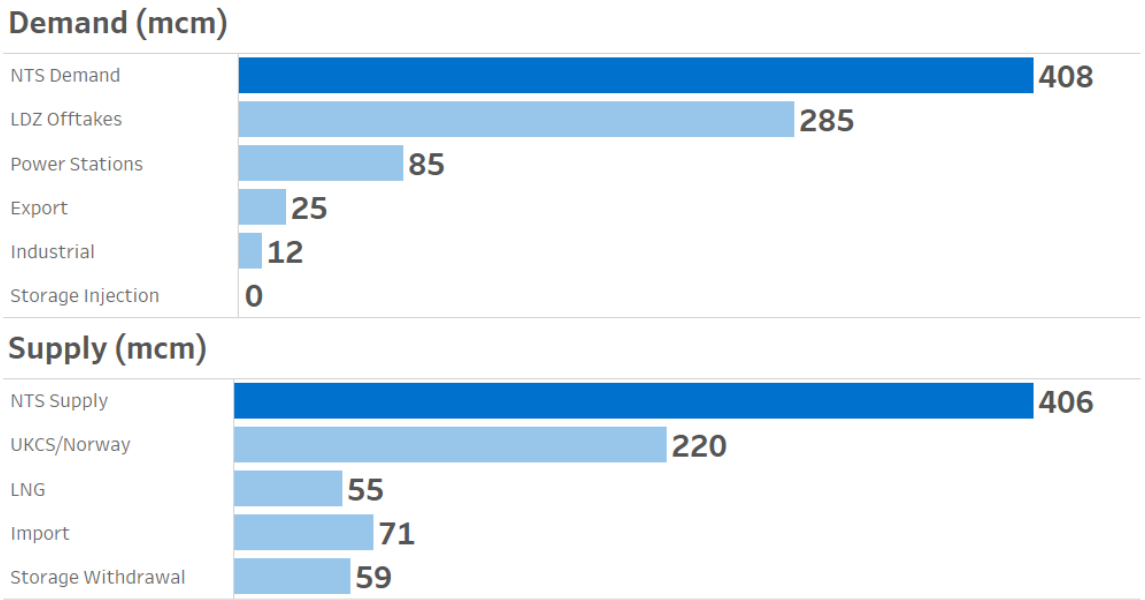
End of day values (mcm)



7 January Summary

NTS Demand

408 mcm



Linepack Change
-2.0 mcm
Closing Linepack 365.3 mcm

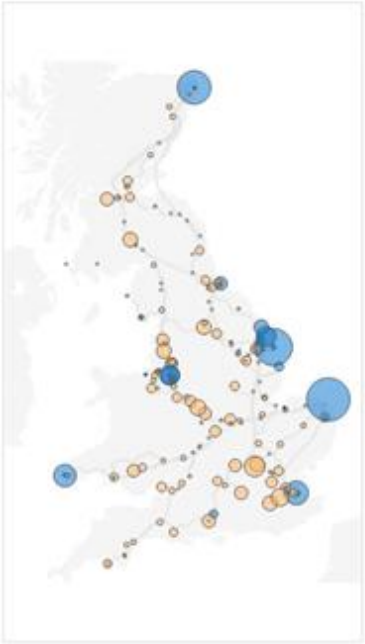
Linepack Swing
28.05 mcm

Bought
£335,328
Average price of 60 pence per therm

Supply + Demand Comparison to Beast from the East

1st March 2018
NTS Demand
418 mcm

Demand	LDZ Offtake	357.1 mcm	74%
	Power Station	38.1 mcm	8%
	Industrial	10.0 mcm	2%
	Storage Injection	0.0 mcm	0%
	Other Demand	1.0 mcm	0%
	Ireland Export	11.5 mcm	2%
	IUK/BBL Export	0.0 mcm	0%
Supply	UKCS/Norway	191.1 mcm	46%
	LNG	61.8 mcm	15%
	I/C Import	82.5 mcm	20%
	Storage Withdrawal	84.2 mcm	20%
	Other Supply	0.0 mcm	0%



7th January 2021
NTS Demand
408 mcm

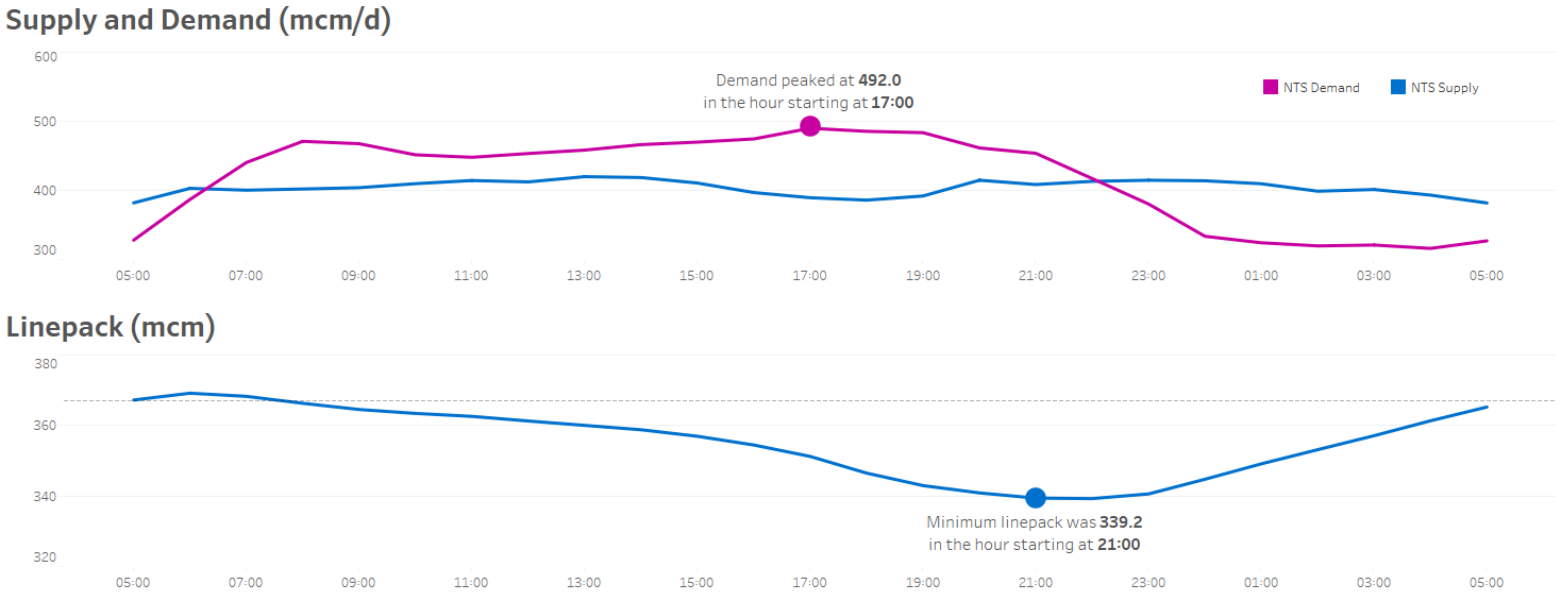
Demand	LDZ Offtake	285.4 mcm	62%
	Power Station	85.0 mcm	18%
	Industrial	12.1 mcm	3%
	Storage Injection	0.0 mcm	0%
	Other Demand	0.7 mcm	0%
	Ireland Export	24.9 mcm	5%
	IUK/BBL Export	0.0 mcm	0%
Supply	UKCS/Norway	219.7 mcm	54%
	LNG	55.3 mcm	14%
	I/C Import	71.2 mcm	18%
	Storage Withdrawal	59.4 mcm	15%
	Other Supply	0.0 mcm	0%

7 January Intra Day Linepack

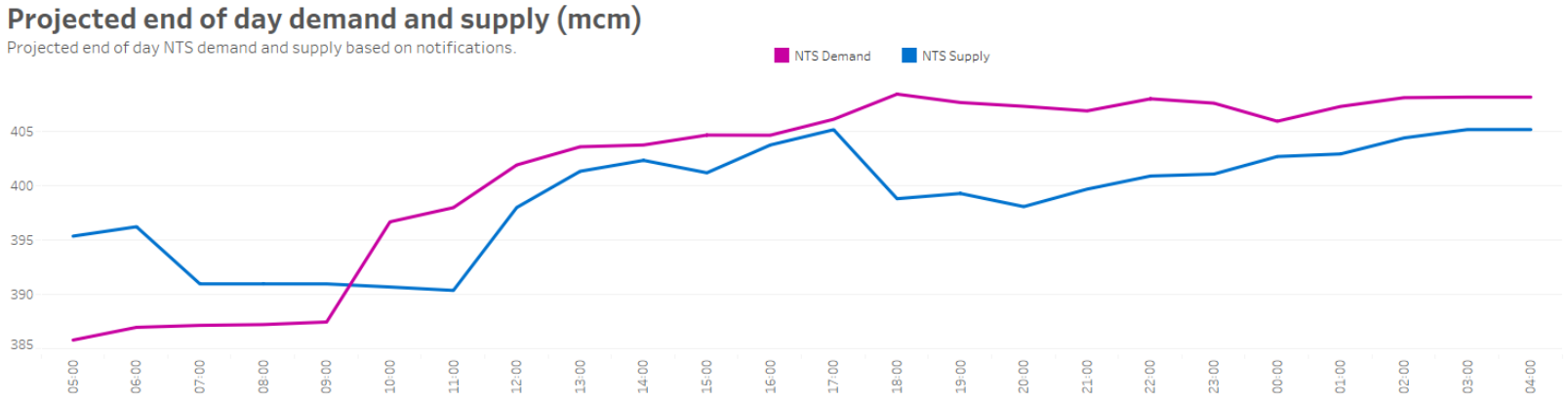
Opening Linepack
367.2 mcm

Linepack Change
-2.0 mcm

Linepack Swing
28.0 mcm

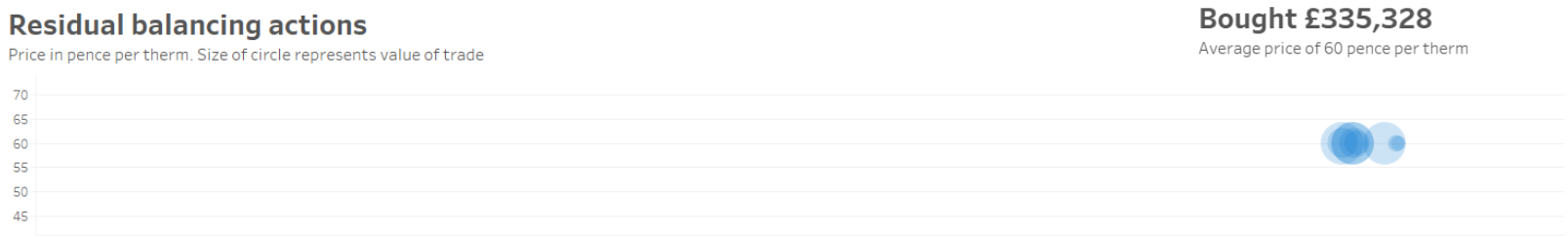


7 January End of Day Balance (Projected)



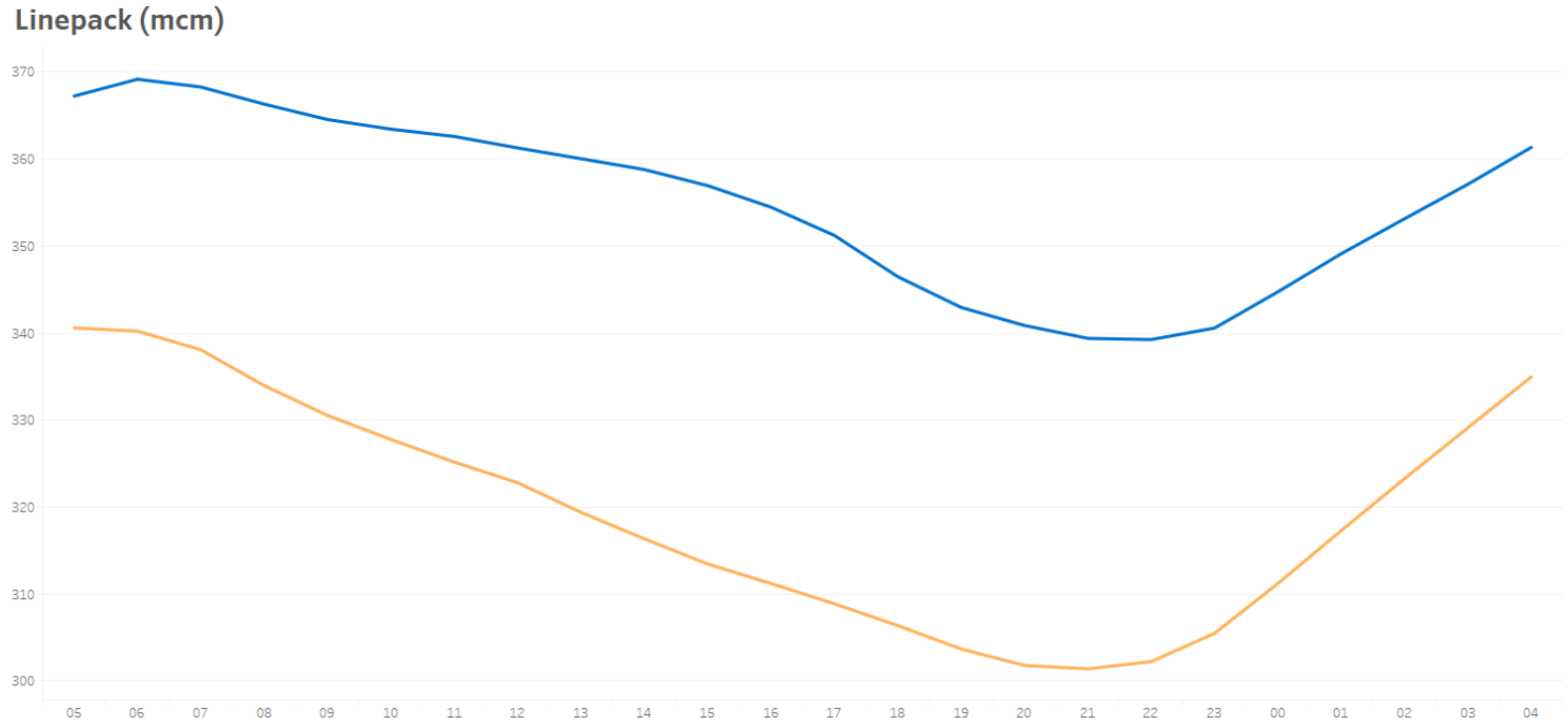
Projected balance (mcm)

+10	+10	+4	+4	+5	-5	-6	-2	+0	+0	-2	+1	+0	-8	-7	-8	-6	-6	-5	-2	-2	-2	-2	-2



Linepack Comparison to Beast from the East

07/01/2021 compared to 01/03/2018



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Interesting Days

28 December 2020

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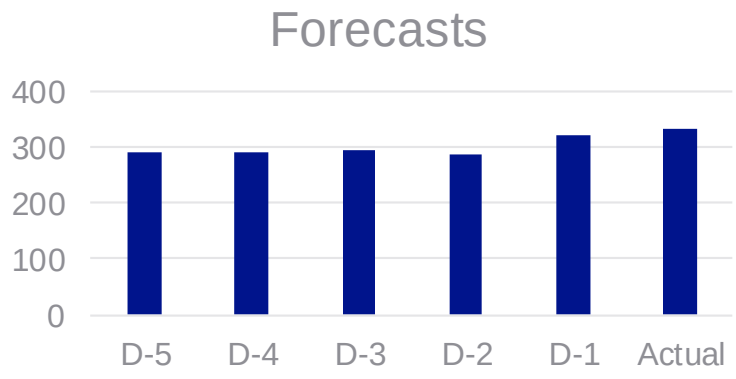
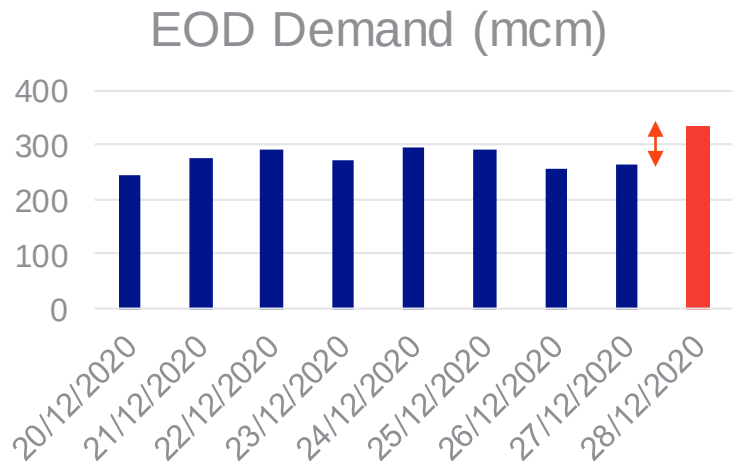
28th December 2020

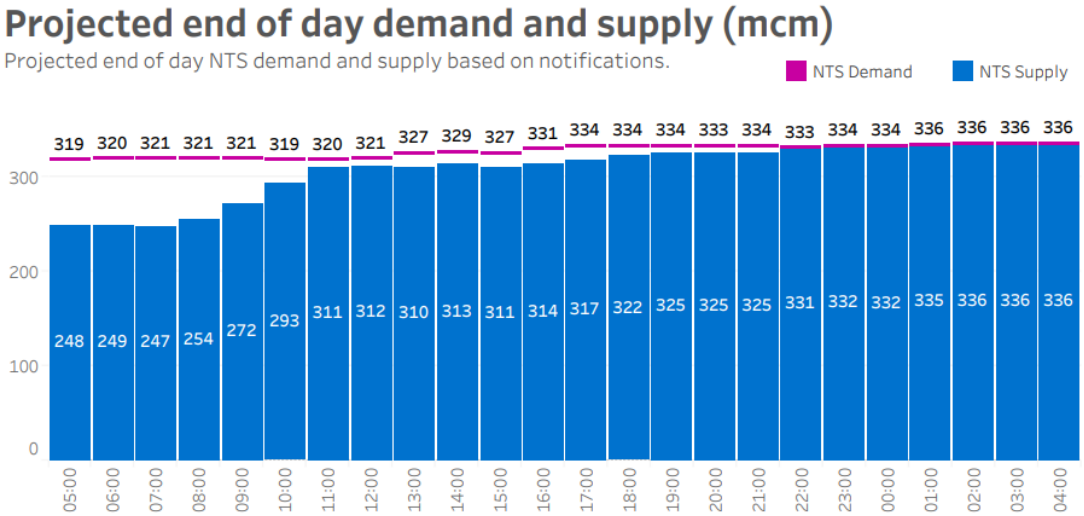
What was unusual about this gas day?

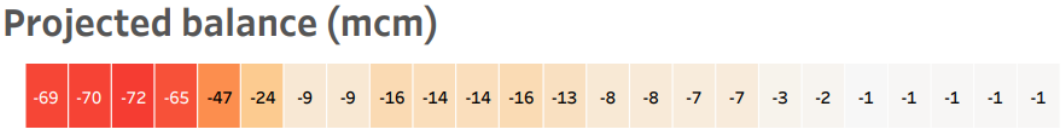
- **Very large supply/demand imbalance at the start of the gas day**
- **Residual Balancing actions taken by National Grid early in the morning**

There was a large increase in demand compared to the previous of around 60mcm, although this was forecast.









Opening Linepack = 372mcm

Opening PCLP = -69mcm

Once SMBP was set, the market reacted with an increase of 46mcm in storage withdrawal, and increases to LNG, Beach and BBL imports

System balance improved from midday, with further CCGT increases countered by more storage increases

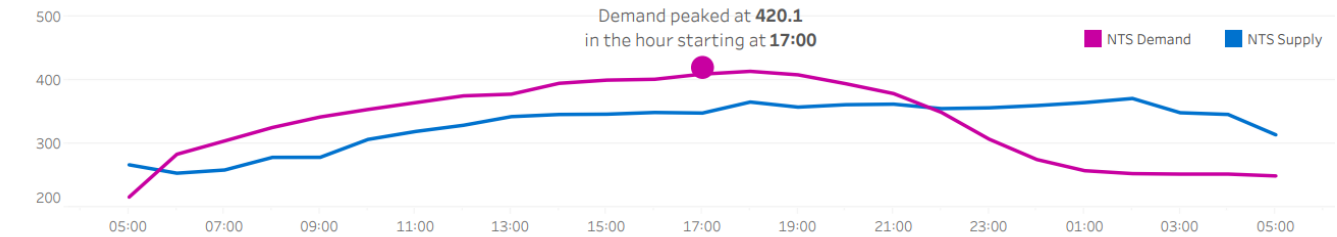
Within Day View

Opening Linepack
372.0 mcm

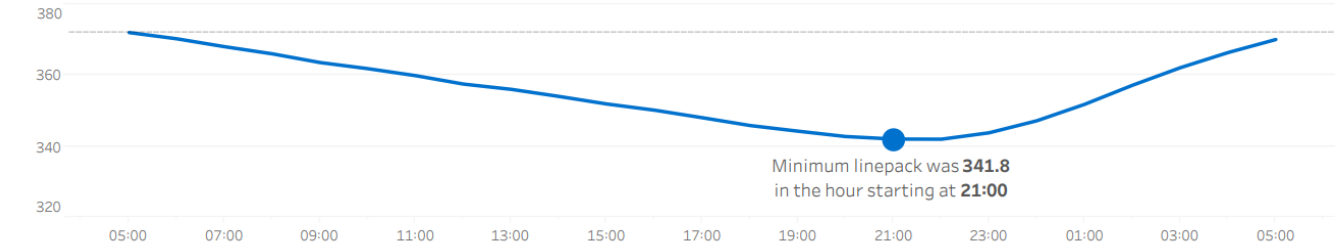
Linepack Change
-2.0 mcm

Linepack Swing
30.2 mcm

Supply and Demand (mcm/d)



Linepack (mcm)



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Interruptible Entry Capacity

An explanation of what we release and why

Alison Tann
NTS Capacity Manager

nationalgrid

Context and content

A number of queries were received end-Oct / Nov around the declining availability of Interruptible capacity – all were answered individually.

We committed to providing additional context at a future Operational Forum

- Introduction to short-term capacity products
- Focus on Interruptible Entry Capacity
  - Context to reduced availability of Interruptible since 1st October
  - Key principles / methodology that determine Interruptible volumes released
- Looking ahead / contact information

Introduction to Short-term Entry Capacity Products

NTS Entry capacity is made available at all entry points to the NTS and can be booked as either 'firm' or 'interruptible' entry capacity

Firm

- Firm entry capacity is financially and contractually guaranteed to be available.
- Although guaranteed, events like plant or equipment failure may lead to an entry capacity "constraint", where entry flows exceed capability.
- In a constraint situation, we may need to withhold release or buy back the firm rights at a market-driven price (called capacity "surrender" or "buy back").

Baseline NTS Entry capacity (obligated)	Minimum amount of capacity that we must make available.
Incremental NTS Entry capacity (obligated)	Firm capacity made available above the baseline amount. Increase is permanent.
Incremental NTS Entry capacity (non-obligated)	Additional firm capacity, temporarily made available at our discretion.

Interruptible

- Interruptible entry capacity is discounted as it carries a higher degree of risk and may be withheld in the event of an emerging constraint risk.
- If necessary, interruptible capacity rights may be reduced in part or full via Shipper notifications (this is called "scaleback").
- When the constraint has been alleviated the restrictions will be lifted as far as possible.

Use it Or Lose It (UIOLI)	Based on a rolling utilisation of firm capacity over the preceding 30 days. Automatically calculated in Gemini.
Discretionary	Additional Interruptible capacity, temporarily made available at our discretion.

Auctions terminology:

DISEC = *Daily Interruptible System Entry Capacity*

IPDISEC = *Interconnector Point Daily Interruptible System Entry Capacity*

Focus on Interruptible Entry Capacity

- Increased focus on short-term capacity products since Charging Review implementation on 1st October 2020.
- Increased demand for Interruptible entry capacity due to the 10% reserve price discount applied.
- Declining availability of Interruptible through October leading to a number of queries from customers.

Key points

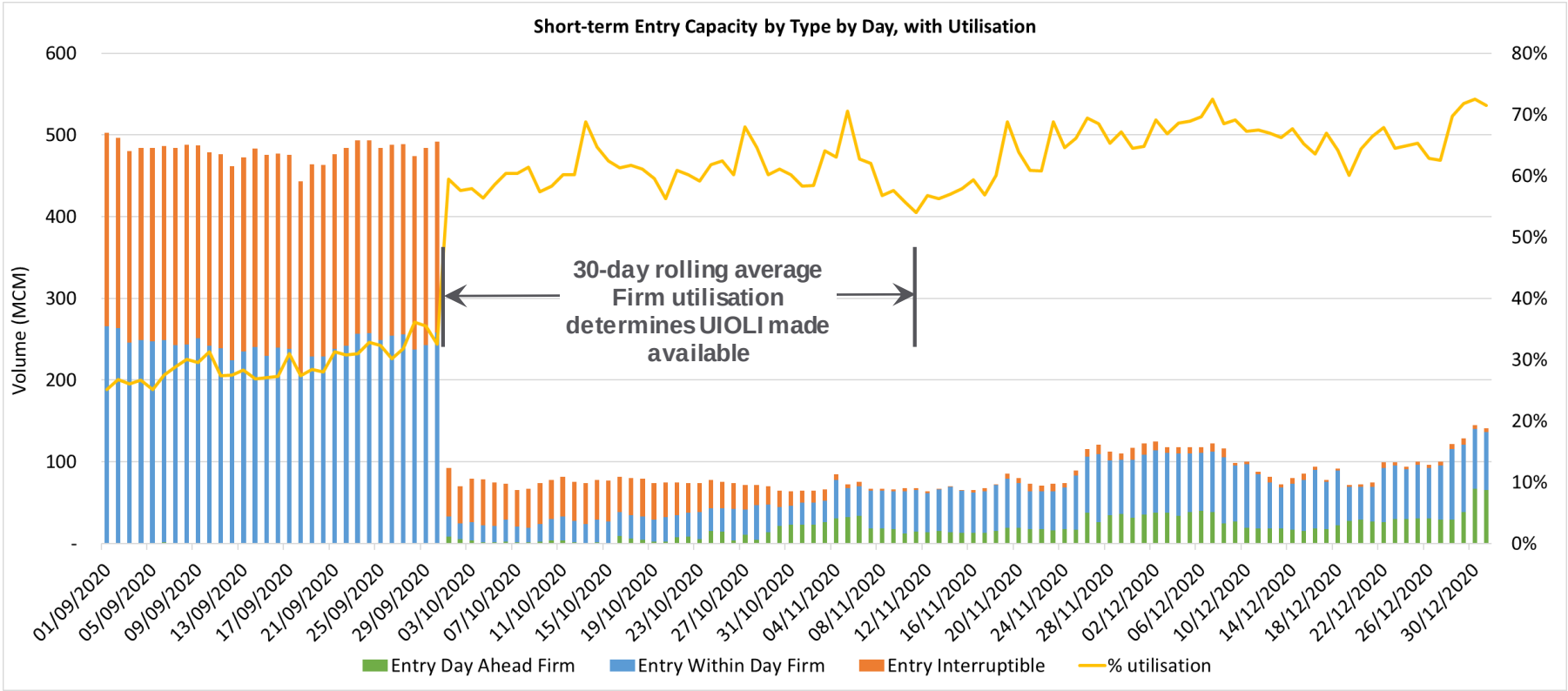
1. There has not been any change made (or proposed to be made) by us to the calculation of UIOLI – declining availability was due to increased Firm utilisation post-1st October.
2. The discretionary element is a combination of evidenced market need and prevailing view considerations, and is actively monitored and managed by our control room (GNCC) on a daily basis.
3. GNCC determine where and when to release additional discretionary capacity using a mechanistic approach which:
   - evaluates the deemed market need by analysing: i) sales of Firm capacity over the previous 7 days and ii) utilisation data from the DISEC/IPDISEC auctions.
   - ensures that the Firm product is not undermined

NB GNCC can apply further discretion if, for instance, they consider the prevailing operational view to be unfavourable to support release of the discretionary volume recommended by the mechanistic calculation.

"The ASEPs where Discretionary NTS Entry Capacity is to be made available, and the quantity, will be determined on a case by case basis at the sole discretion of National Grid" *Entry Capacity Release Methodology Statement*

Declining availability of UIOLI since 1st October

The calculated UIOLI element of DISEC made available since 1st October has decreased



Looking ahead and who to contact

- We have no plans currently to change the current methodology around UIOLI or Discretionary release, though open to discussion around this
- GNCC will continue to monitor the situation on a daily basis and release Discretionary where and when we are able to
- Should you wish to discuss this further on an individual basis or want more information, please contact us or use the links below…

Further information

Capacity Auctions Team	Capacity Frequently Asked Questions	Capacity Guidelines
capacityauctions@nationalgrid.com T: +44 (0)1926 654 057	https://www.nationalgridgas.com/document/128696/download	https://www.nationalgrid.com/uk/gas-transmission/uk/gas-transmission/document/134041/download

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Bacton IP Entry Capacity

Alison Tann
NTS Capacity Manager

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Bacton IP Entry Capacity

Recent queries around the volume and type of Bacton IP Entry capacity being offered:

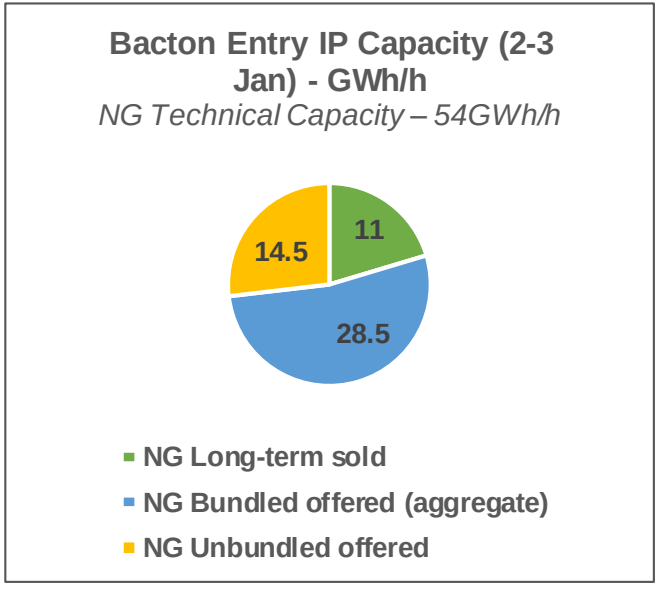
- Why is there a reduced offering of capacity during the day?
- Why does the unbundled capacity volume vary from day to day?
- Why isn't more unbundled capacity being made available by NG?

Key principles:

- Bacton Entry IP is shared between BBL Company and IUK interconnectors. We agree with each TSO via an annual "harmonisation" process how much bundled capacity will be made available. This informs the amount of capacity available throughout the Gas Year.
- We are obligated by the Capacity Allocation Mechanism rules (CAM) to make the maximum technical capacity available and to maximise the offer of bundled capacity.
- The daily technical capacity is made available on PRISMA in 24 equal hourly 'blocks', in kWh/h. The later capacity is booked, the less there is therefore available as the Gas Day progresses - unsold capacity does not "rollover" to later hour-bars.
- Firm bundled capacity is sold via PRISMA annually, quarterly, monthly, and day ahead – the within day bundled/unbundled capacity offering therefore varies from day to day.
- The technical capacity we offer is linked to our Licence obligations – capacity offered in excess of this is "non-obligated" and therefore is considered for release on a discretionary basis. When offered on PRISMA, both "obligated" (technical capacity) and "non-obligated" appear simply as firm capacity.
- Capability assessments are undertaken daily across all entry points where there is an evidenced market need, to determine whether additional capacity can be made available.

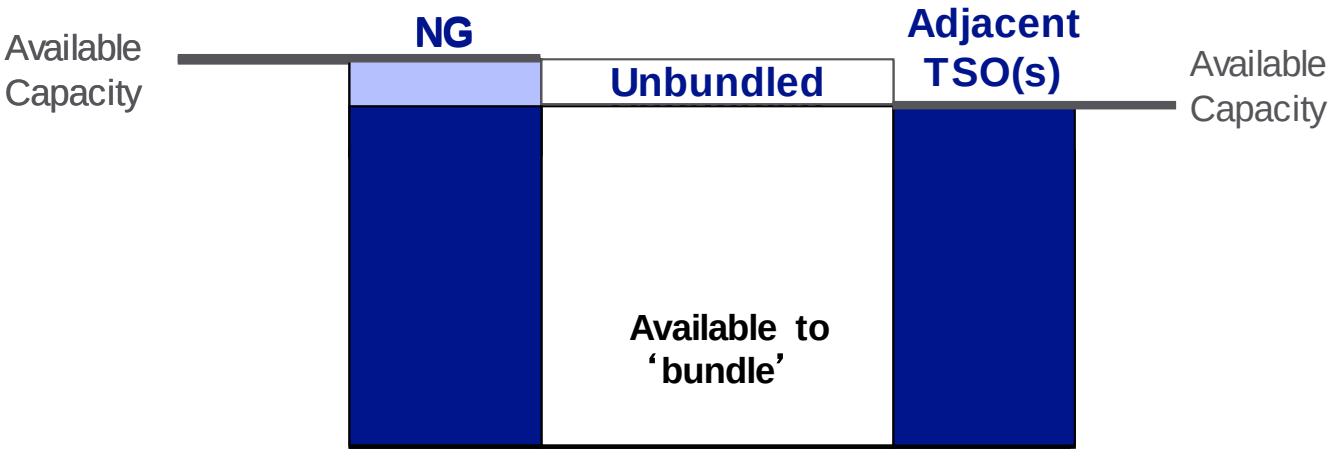
Bacton IP Entry capacity:

- **Bundled** capacity is Bacton (NG) Entry and corresponding Exit capacity **for IUK / BBL Co.**
- **Unbundled capacity is Entry only**



The bundled and unbundled capacity determination

The amount of unbundled capacity offered is determined by the amount of bundled capacity matched with any adjacent TSO.

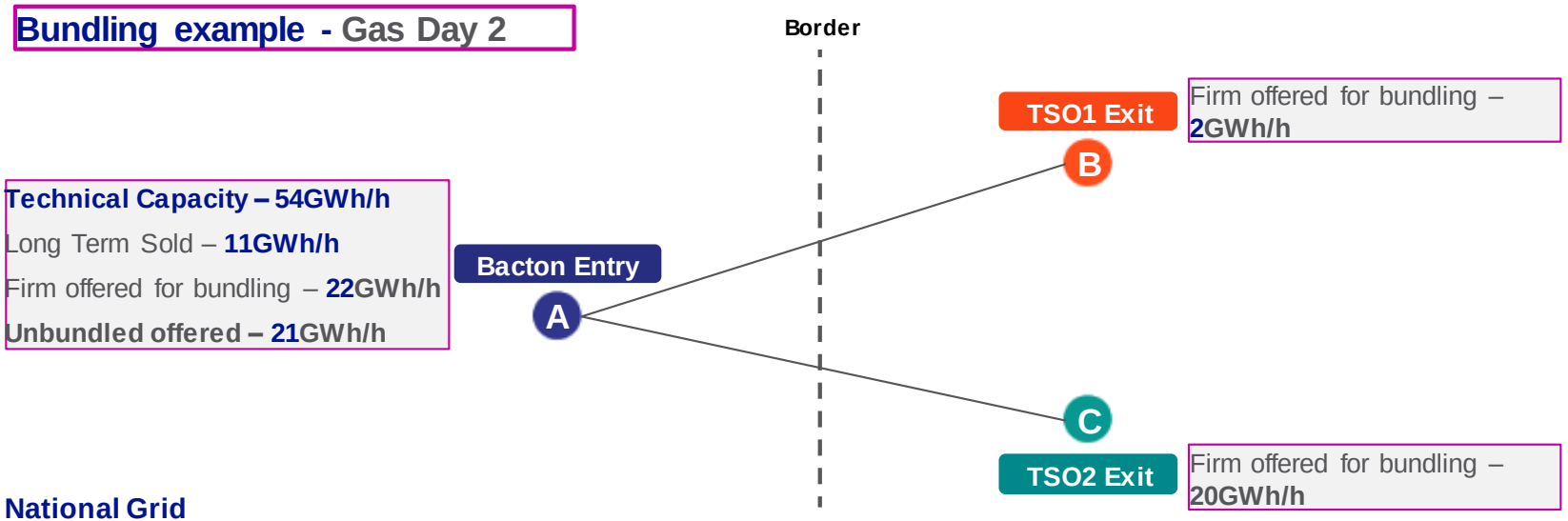


Bacton Entry IP bundling examples

Bacton Entry IP has two adjacent TSOs, each with a differing amount of available capacity that is offered to bundle (harmonisation).

Available capacity at Bacton Entry IP is bundled with the available capacity from these TSOs.

The bundling process is automated, matching capacity values sent via interface files from respective TSOs to PRISMA.



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Incorrect capacity bid submission – system changes:

- Reserve price population
- Mandatory bid parameters

Mark Baker
Principle Capacity Strategy & Development Analyst
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Incorrect capacity bid submission – system changes:

Associated risks

Potential for User's to incorrectly enter data in the Gemini capacity auctions bidding process.

Incorrect bid submissions (price/volume) can impact -

- Amount of capacity allocated across multiple auction participants;
- Revenue generated and fed into neutrality calculations;
- Calculation of Overrun charges for other auction participants.

Please note it is not National Grid's role or responsibility to monitor User bids placed on Gemini.

Steps taken to resolve

Issues raised initially by NG at September 2020 Ops Forum and subsequently.

Reminder that Shipper/User preferences can be set up in Gemini/Gemini Exit to help mitigate the risk of erroneous bids being placed.

NG-proposed system changes that could help reduce the risk of errors further -

- Pre-population of minimum reserve price at bid capture stage;
- Mandatory Shipper/User preferences to be in place ahead of bid submission
    - UNC modification proposal raised (UNC0745)

UNC 0745 summary

Mandatory setting of bid parameters

- A UNC modification proposal that will make it mandatory for Users to set bid parameters prior to participating in auctions for daily products (short-term auctions).
  - Firm day ahead entry capacity
  - Firm within day entry capacity
  - Interruptible day ahead entry capacity
  - Firm day ahead exit capacity
  - Firm within day exit capacity
  - Off-peak day ahead exit capacity
- Relevant bid parameters would be Bid Price and Bid Volume
- Proposal to add to UNC auction rules a pre-condition ahead of being able to place a bid in short-term auctions.

Bid Validation (User Preferences) Example

Bid Price Limit set

- In this example the reserve price for entry capacity is 0.005p/kWh/d.
- A User sets a bid validation limit of 0.01p/kWh/d in User Preferences prior to the auction commencing. This allows for a premium to be added if required.
- Once set up, a User operative intends to enter a bid price of 0.006p/kWh/d. However, the operative misplaces the decimal point and enters 0.06p/kWh/d instead.
- The bid falls outside of the bid validation parameters (0.01p/kWh/d) and Gemini prevents the bid from being placed.
- As a bid validation limit (User Preferences) is in place, the system will inform the User by notice that the bid is outside of the validation range.

Proposed Gemini system changes - summary

Minimum reserve price

Short-term auction minimum reserve prices to be pre-populated in the Gemini and Gemini Exit Bid Capture forms.

Change does not apply to long-term or to Interconnector Point auctions.

Bid prices can be modified and submitted above the reserve price as required.

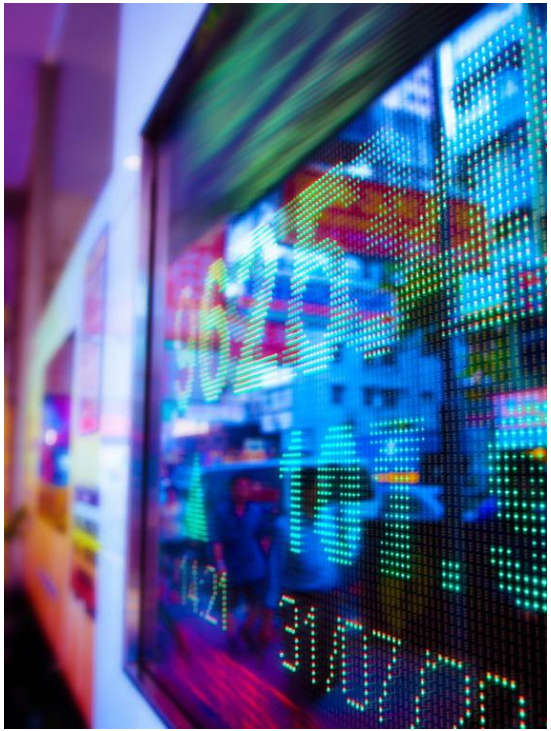
Planned implementation date – April 2021 (STC)

Mandatory bid parameters

Requirement for User/Shipper preferences to be in place for all Gemini and Gemini Exit short term auctions prior to bid capture and submission (subject to approval).

Users would be unable to place bids in short-term auctions unless they have set up User/Shipper preferences for both Bid Price and Bid Volume. Validation checks to also apply to API's.

Implementation depends on the outcome of UNC0745 and associated timescales.



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Gemini Change Programme

Sarah Carrington
Comms and Engagement Lead - Gemini

nationalgrid

What is the GSE Project?

Engaging external and internal users to deliver improvements to the Gemini application

4

Themes

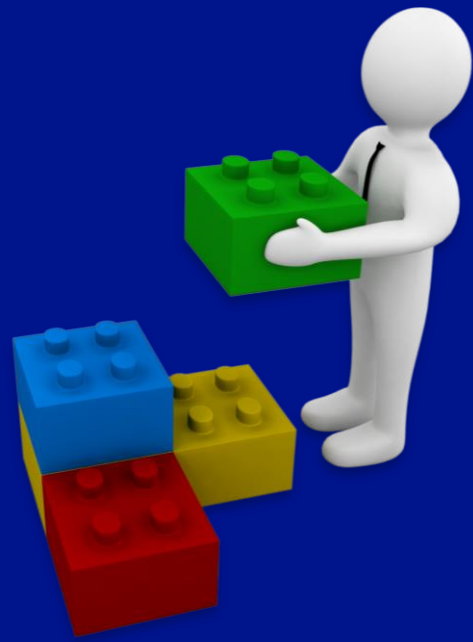
APIs
Security
Balancing & Capacity
Performance

70

Requirements

25th July 2021

Go Live



GSE – Scope highlights

- ❑New Breach Indicator icons on Gemini Home Screen
- ❑New Dashboards showing graphical data for Balancing and Capacity
- ❑Improvements to the Entitlements Screen
- ❑13 New APIs
- ❑56 APIs available to use over the web – easier integration
- ❑New Shipper Imbalance Report
- ❑Improvements to several existing screens and reports through provision of ‘sort’ feature

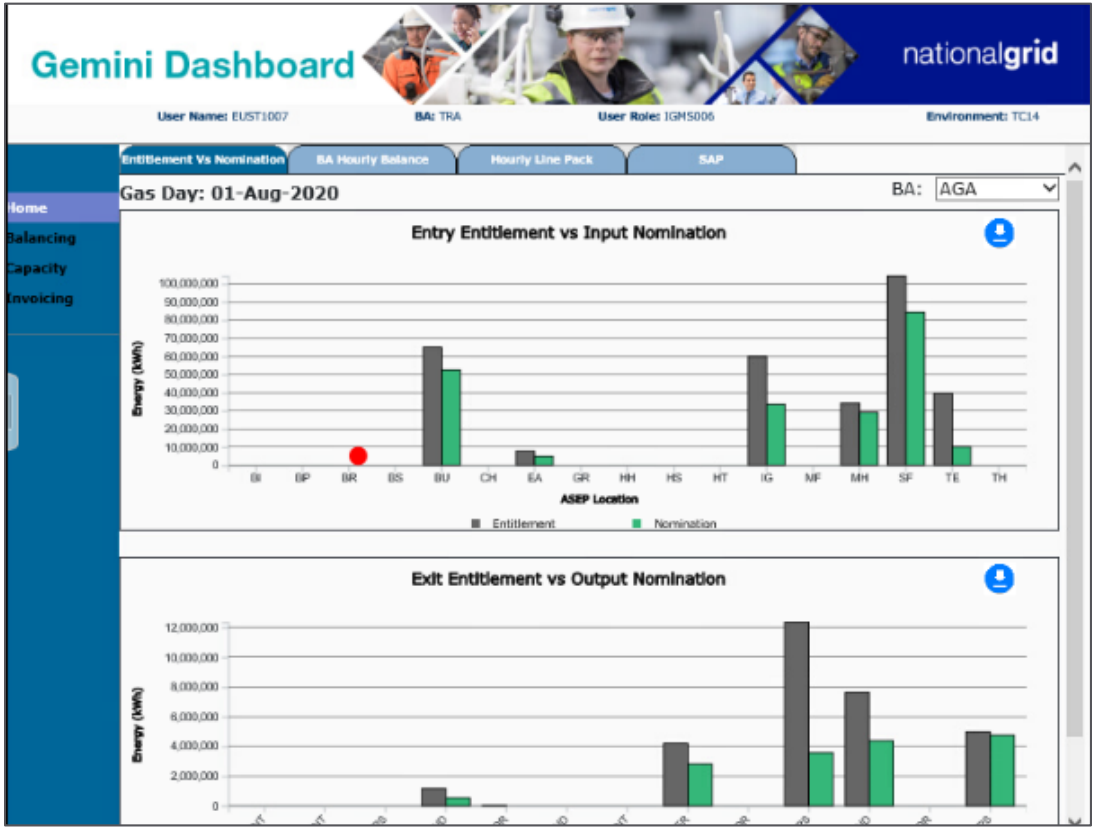
GSE – Early Improvements Delivered 17th January 2021

1)Removal of Message Pop Up on Login

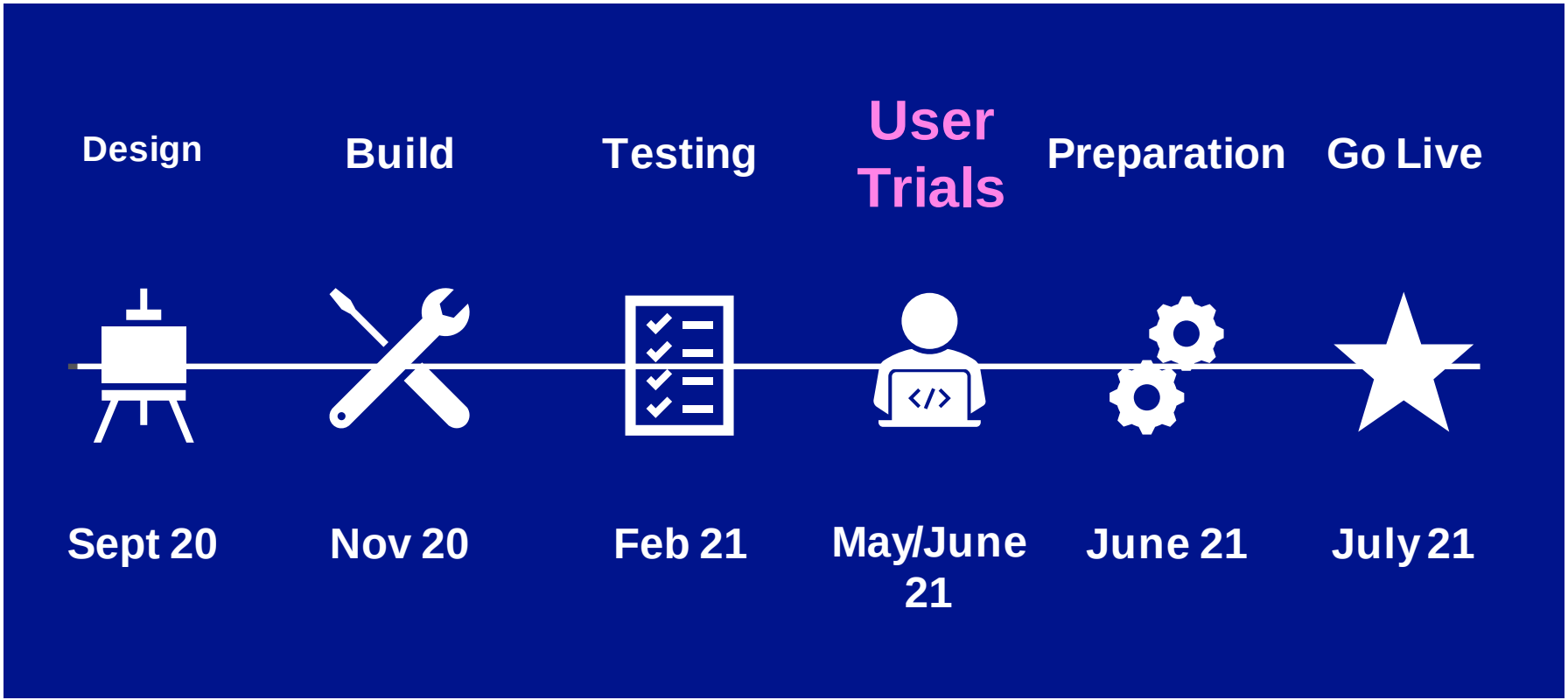
2)Refreshed Gemini Banners

Gemini & Gemini Exit Home Screens

Gemini Dashboard Views



GSE Timeline



GSE Benefits

Improved automation

Improved APIs

Improved usability

GSE Customer Survey – 29th January

GSE Customer Survey being released on 29th January

Purpose – to help measure potential benefits and customer satisfaction

Six questions on the 29th January; same 6 questions released 6 weeks after go live

Completion of the survey by the shipper community would be very much appreciated

GSE Next Steps & Contact Details

Useful sources of information:

- Xoserve Change Pack issued 16th November
- Gemini External Screen Pack
- Gemini & Gemini Exit API Specification

The shipper community will be kept informed of GSE progress through the Gas Ops Forum, Email and bespoke communications

Project Mailbox : box.Xoserve.GeminiSystemEnhancements@Xoserve.com

National Grid	Xoserve
Ian Bennett Project and Change Delivery Manager Ian.Bennett1@nationalgrid.com	Nicola Patmore Project Manager Nicola.Patmore@xoserve.com

If you require further information please contact the team or the project mailbox

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Guest Presentation: BEIS

Myra Fazal
Policy Advisor in Gas Security, Networks and Markets team, BEIS

nationalgrid

EU-UK Trade and Cooperation Agreement

Energy Chapter: Stakeholder Overview

Key Points

Trading: Gas trading will remain unchanged. Access to PRISMA continues.

Markets: Provisions to ensure markets in the UK and EU are suitably compatible for open and fair trade.

Cooperation: Agreements to cooperate on renewable energy, technical cooperation between regulators & transmission system operators – including on gas markets, access to networks, security of supply, infrastructure planning, gas decarbonisation.

Energy Goods: First ever zero-tariff, zero-quota EU trade deal. No unnecessary barriers to trade of energy goods and raw materials.

Climate: The fight against climate change an 'essential element' of the deal, elevating both Parties' commitment.

Governance: A new institutional architecture to the treaty, with no jurisdiction for the CJEU.

More info: www.gov.uk/transition; on demand videos for businesses on new rules regarding trading with Europe.

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Updates

Joshua Bates
Operational Liaison & Business Delivery Manager

nationalgrid

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Transmission

Operating Margins Review

Joshua Bates
Operational Liaison & Business Delivery Manager

nationalgrid

What is Operating Margins (OM)?

- National Grid is required to procure its Operating Margins (OM) requirements on an annual basis in accordance with TPD Section K of the Network Code, the obligations set out in National Grid's gas transporter licence, and the obligations detailed in the National Grid's Safety case.
- The OM service is utilised at times of severe system stress to maintain NTS pressures in the period before other system management services become effective (e.g. national or locational balancing actions. Primarily, OM could be used in the immediate period following the occurrence of any of the following:
  - Supply Loss : Terminal, Sub-Terminal, Interconnector, LNG Importation Terminal
  - Pipe Break (including loss of infrastructure that renders pipe unusable);
  - Compressor Failure; and
  - Demand Forecast Error

Why are we reviewing?

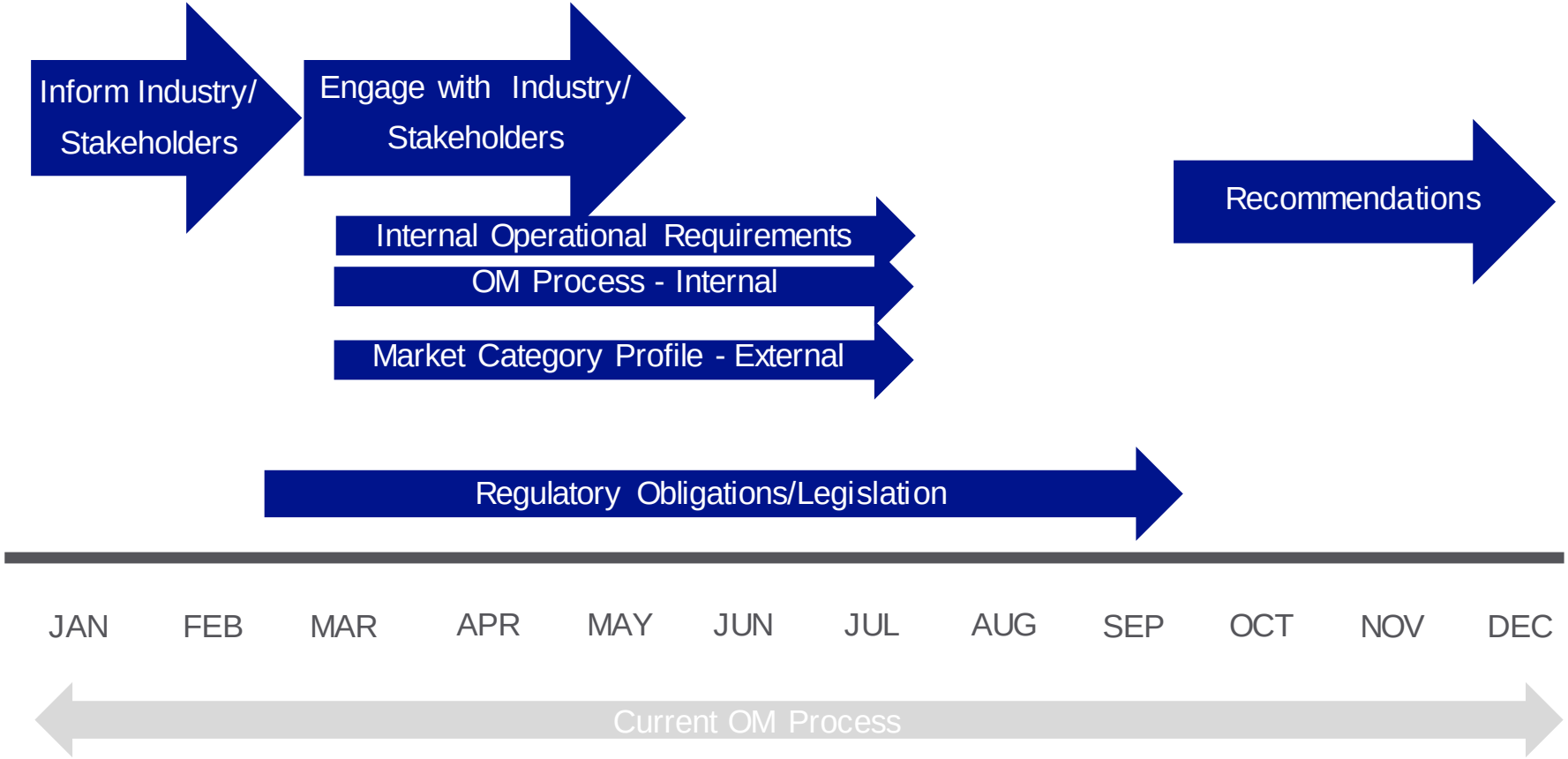
1. The current methodology was developed when NTS gas flow patterns had greater consistency and UKCS made up a greater proportion of the supply mix.

2. We want to increase visibility of the tender process and commercial options under the UNC.

3. We are compliant, but we would like to engage with the industry in terms of the methodology that we employ and the procurement arrangements to make sure it is the most appropriate and efficient process for NGG, our customers and consumers.

4. We regard this as an evolution of our prudent management of operational risk.

Timeline


Inform Industry/ Stakeholders
Engage with Industry/ Stakeholders
Internal Operational Requirements
OM Process - Internal
Market Category Profile - External
Recommendations
Regulatory Obligations/Legislation
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Current OM Process

OM Review Contacts

Glenn Townsend – Project Lead

Andrea Godden – Process Owner

Joshua Bates – Stakeholder Lead

Phil Hobbins – Codes Change Lead

Mohammed Rahman – Internal Requirements Lead

John Cummins – Market Category Profile & Internal OM Process Review Lead

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Data Webinar

Joshua Bates
Operational Liaison & Business Delivery Manager

nationalgrid

Data – Back to Basics Webinar

As part of the feedback from the GT webinar series was that you would value

- an additional webinar regarding the data we have available,
- the transparency on decision making process for the future of data and
- a run through of the data community site.

Slido Poll (#GasOps21) – would you find value in a back to basics webinar?

- Yes - Separate webinar
- Yes - Built into ops forum or another event
- No thank you

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Emergency Planning Update

Tom Wilcock
Safety, Response and Assurance Manager

nationalgrid

Introductory Webinar: Review of the Impact of a Gas Supply Shortage on the Electricity Network (RIGSSE)

Tue 9th Feb 10:00 – 11:30

Join the project team to understand:

- the project objectives
- timelines and plan for this year
- how to get involved in this important work and share your thoughts

Register at:
RIGSSE.eventbrite.com

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Close

Joshua Bates
Operational Liaison & Business Delivery Manager

nationalgrid

Next Forum

The Next Operational Forum will take place on the 25 February via WebEx or Teams

Please send any topic requests to:

Box.OperationalLiaison@nationalgrid.com

Register now at:

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