

Quarterly System Entry Capacity (QSEC)

January 2024



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Note to Reader

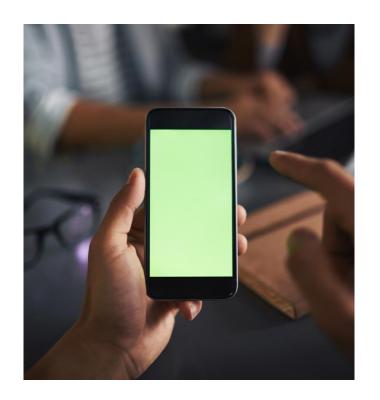
Given the long-term nature of the Quarterly System Entry Capacity (QSEC) auction, National Gas Transmission suggests, whether intending to bid or not, that Shippers take the appropriate steps to familiarise themselves with the auction and its processes before it opens in March 2024.

The information included in this pack is intended to assist potential bidders in this process. However, we strongly recommend that you do not rely solely on the information contained within this presentation.

Thank you.

Capacity Auctions Team

capacityauctions@nationalgas.com



Introduction 01





Focus on QSEC

- Firm Entry Capacity, sold in quarterly blocks
- For period Oct 2025 Sept 2040
- 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- Bids posted / modified / withdrawn 08:00 to 17:00 daily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 Gas Transmission publishes up to
 21 price steps per ASEP
- Shippers bid volume (min. qty ≥ 100,000 kWh)
- Bids at higher price must have lower or equal volume to those at lower prices

2024 QSEC Auction Calendar

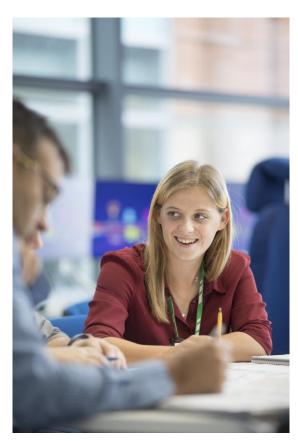


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QSEC Allocation *Allocation may commence from 13th March if the stability measure is met

Entry Capacity Auctions – National Gas Transmission's role

- Schedule auctions in accordance with UNC
- Issue Invitation Letters in accordance with UNC, Licence, Transportation Charges Statement and Entry Capacity Substitution Methodology Statement
- Allocate / reject bids in accordance with UNC, Licence, Incremental Entry Capacity Release Methodology
- Publish results via Gemini / National Gas Transmission website
- Help answer general auction (operational) related queries



What National Gas Transmission can & can't do...

What we **CAN** do:

- Try to answer operational queries
- May give pointers on issues to be considered

What we **CAN'T** do:

Give advice on bidding strategy

Planning and Reservation of Capacity Agreement (PARCA)

02





Introduction to PARCAs

- On 5 December 2014 Ofgem approved UNC Modification 0465V "Introduction of the Planning & Advanced Reservation of Capacity Agreement"
- On the same day, Ofgem also directed changes to National Gas Transmission's Licence to implement PARCAs

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Methodology Statements

Impact of PARCAs on QSEC

- The delivery of incremental capacity is now through PARCA contracts rather than capacity signals
- Capacity is reserved early in the PARCA process and then allocated once all planning activities have been completed
- The only incremental capacity which is available through QSEC is that which can be fully met through substitution
- Substitution has a lead time of 24 months
- Non-obligated capacity can still be released if the quantity of capacity requested exceeds the quantity available

QSEC Auction & Retainer Process03





Firm System Entry Capacity Definition

Entry Point Specific

Daily Access Right

No within-day profile

Specified Maximum Quantity

Overrun charge if flow more at the end of the gas day

Firm Product

- National Gas Transmission buys back capacity if necessary
- Shipper pays regardless of use

Minimum Quantity Offered

Licence Driven

Long Term Auctions (Capacity Year +2 to +16 inclusive)

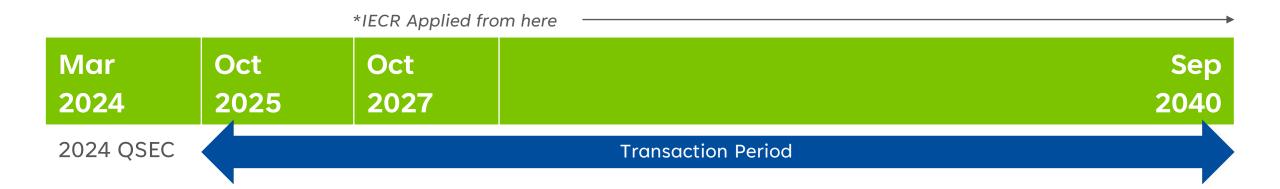
90% of NTS Baseline plus previously offered unsold Incremental Obligated

Short Term Auctions

 Unsold Obligated capacity, 10% withheld capacity (plus unsold previously offered Incremental Obligated)

Firm System Entry Capacity Definition

- Capacity offered for 1 Oct 2025 to 30 Sep 2040
- Offered in 3-month strips known as sub-transaction periods (or quarters)



Substitution Obligation

- National Gas Transmission may undertake substitution processes during the 2024 QSEC auction.
- Information regarding this can be found in the Entry Capacity Substitution Methodology Statement (ECS), which is available on the National Gas Transmission website.
- Substitution is the process of permanent substitution of unsold baseline capacity from one of more Aggregate System Entry Points (ASEPs) to allow release of incremental capacity at another ASEP.
- National Gas Transmission must consider substitution prior to investment as this is deemed an efficient process.

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Methodology Statements

Substitution Methodology – Retainers and Invitations

- Users will be able to exclude capacity at potential donor ASEPs from being treated as Substitutable Capacity without having to buy or be allocated the capacity. To do this users are able to take out a 'retainer'.
- Capacity retainers are described in chapter 2 of the Entry Capacity Substitution Methodology.

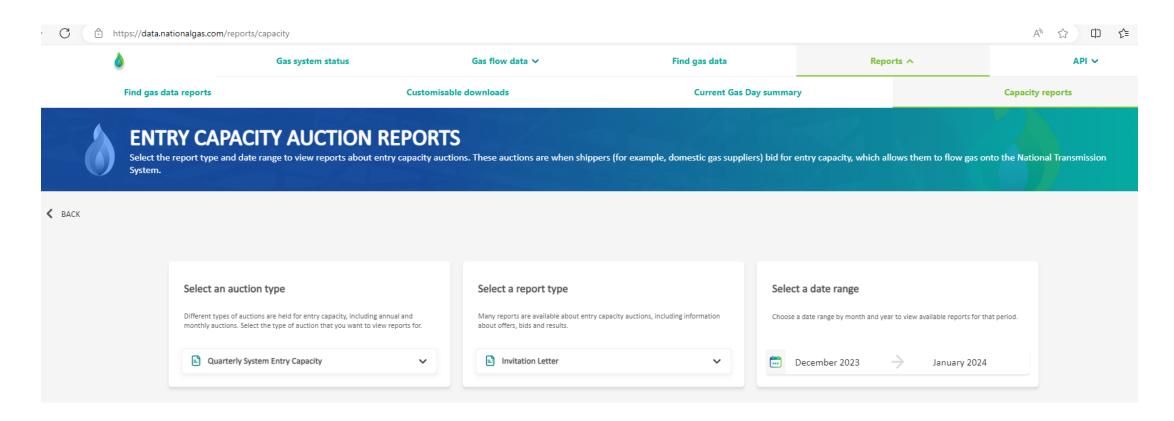
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Key Points:

- Substitutable Capacity (kWh/day) per ASEP is published in table 1
- T&C acceptance proforma is published in Appendix 1
- Retainer application form is published in Appendix 2
- Terms and Conditions are published in Appendix 3
- Capacity retainer windows will be open 08:00 to 17:00 on both 16th and 18th January 2024.
- Users will be able to submit retainer applications during these windows via email to: capacityauctions@nationalgas.com.

Substitution Methodology – Retainer Invitation

Retainer Invitation Notice published on the National Gas Transmission website via: https://data.nationalgas.com/reports/capacity



Substitution Methodology – Retention Charges

- An NTS Entry Capacity Retention Charge shall apply to any retainer agreement.
- The Gas Transmission Transportation Charging Statement is published via https://www.nationalgridgas.com/charging/transmission-system-charges
- In accordance with the Gas Transmission Transportation Charging Statement, a charge rate of 0.2922 p/kWh applies to all granted retainers at all ASEPs.
- The retention charge will be payable via an ad-hoc invoice raised within two months of the QSEC auction allocations being confirmed; i.e. in July for a March auction.

Substitution Methodology – Retention Charge Refunds

- A retainer is intended to retain capacity at an ASEP for Users to obtain at a later date.
- If retained capacity is subsequently booked at the ASEP where the retainer was taken out, the charge may be refunded.
- Conversely, in the event that the retained capacity is not obtained later, the charge would not be refunded.

QSEC – Uniform Network Code Obligations

Prior to the auction date:

- Publish the reserve and incremental prices 60 days before the first day of the auction.
 - Published by National Gas Transmission's Charging & Revenue team. See the 'Notice of Gas Transmission Transportation Charges', effective from 1st October 2023.
- Invitation issued 12th February 2024 (28 days before the first day of the auction), which specifies information in line with UNC TPD Section B 2.2.

QSEC Auction Invitation Letter – Content

The QSEC auction invitation letter includes:

- The dates of the interim bid windows
- The available NTS Entry Capacity for each ASEP (kWh/Day)
- The reserve price for each ASEP (p/kWh/Day)
 (Appendix A)
- The incremental step prices for each ASEP (p/kWh/Day) (Appendix A)
- Useful resources relating to the Entry Capacity Regime & QSEC Auction

QSEC Bid Capture Rules

- Shipper set-up validation (shipper preferences).
- Minimum bid quantity of 100,000 kWh.
- Bids at a higher price must have lower or equal volume to those made at a lower price.

QSEC Interim Bid Window Processes

- Information published after 17:00 each day.
- Aggregate bid quantities at each price step for each quarter and ASEP.
- The prevailing Stability Group for each ASEP/quarter.

QSEC Stability Measure

- The QSEC auction can close early if Stability Groups remain unchanged between interim bid windows.
- If the Stability Group changes 4 times or less between two bid windows at any quarter/ASEP combination, then the auction has reached stability and will close. Users will be notified in this event. (UNC TPD B2.2.17).

Price Steps & Quantities

- Baseline capacity is defined in Licence
- Price Step (P₀) Unsold 90% Baseline + any unsold obligated incremental
 - From Transportation Model
- Price Steps $(P_1 \text{ to } P_{20})$ Incremental capacity available
 - From Transportation Model
 - Up to 150% of baseline capacity
- Incremental prices for each $(P_1 \text{ to } P_{20})$ are based on the long run incremental cost of providing additional capacity above obligated level

Allocation Rules

- Where demand is less than or equal to supply at price step P0, all bids will be allocated in full.
- In respect of any ASEP where a quantity of incremental capacity is demanded, National Gas Transmission will determine the Net Present Value (NPV) of the revenue from bids for the incremental capacity, based on relevant cleared price for each quarter.
- If aggregate bids exceed supply volume at a supply level price step, Gemini moves up the demand curve to find first price step where demand is < = to the supply level. This is the cleared price.
- Pro-ration occurs at P20 if aggregate bids at P20 level exceed supply level.

Allocation Exceptions

- If the total bid quantity allocated is less than the minimum bid quantity demanded, the bid will be rejected.
- If all bids at a price level are rejected due to the above, move down a price level and apply allocation rules again.
- The difference between the allocations at the allocation price level and the available capacity at the available supply price level is identified as Unsold Capacity for each ASEP and Sub Transaction Period.

QSEC Example 1: Overall demand less than baseline

Price Level	Supply (kWh)	Aggregate Demand (kWh)	Bid (kWh) Shipper A	Bid (kWh) Shipper B	Bid (kWh) Shipper C
P ₅	947,752,500				
P ₄	884,569,000				
P ₃	821,385,500				
P ₂	758,202,000				
P ₁	695,018,500				
P ₀	631,835,000	460,000,000	350,000,000	50,000,000	60,000,000

Baseline supply is greater than aggregate demand so each shipper's bid can be satisfied and allocated in full at P_0 . Price paid = P_0

QSEC Example 2: aggregate bids exceed supply until P2

Price Level	Supply (kWh)	Aggregate Demand (kWh)	Bid (kWh) Shipper A	Bid (kWh) Shipper B	Bid (kWh) Shipper C
P ₅	126,000,000				
P ₄	117,000,000				
P ₃	108,000,000				
P ₂	99,000,000	75,000,000	60,000,000	15,000,000	1,000
P ₁	90,000,000	94,000,000	60,000,000	25,000,000	9,000,000
P ₀	81,000,000	100,000,000	60,000,000	30,000,000	10,000,000

Aggregate demand does not drop below supply until price step P_2 at which point shippers A & B can be allocated in full. Price paid = P_2 Shipper C's bid is rejected at input stage because it does not meet minimum quantity criteria

QSEC Example 3: aggregate demand exceeds supply at all price steps

Price Level	Supply (kWh)	Aggregate Demand (kWh)	Bid (kWh) Shipper A	Bid (kWh) Shipper B	Bid (kWh) Shipper C
P ₅	102,900,000	140,000,000	44,100,000 60,000,000	36,750,000 50,000,000	22,050,000 30,000,000
P ₄	95,550,000	140,000,000	60,000,000	50,000,000	30,000,000
P ₃	88,200,000	140,000,000	60,000,000	50,000,000	30,000,000
P ₂	80,850,000	140,000,000	60,000,000	50,000,000	30,000,000
P ₁	73,500,000	140,000,000	60,000,000	50,000,000	30,000,000
P ₀	66,150,000	140,000,000	60,000,000	50,000,000	30,000,000

Top price step is P_5 - aggregate demand exceeds supply at all price steps therefore bids at P_5 are allocated pro-rata e.g. ((bid/140,000) x 102,900). Price paid P_5 Note: pro-rata will only occur if demand exceeds supply at the highest price step. Pro-rata allocation does not occur at price steps other than the highest.

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QSEC Example 4: aggregate bids exceed supply at P0 - no further bids

Price Level	Supply (kWh)	Aggregate Demand (kWh)	Bid (kWh) Shipper A	Bid (kWh) Shipper B	Bid (kWh) Shipper C
P ₅	202,900,000				
P ₄	195,550,000				
P ₃	188,200,000				
P ₂	180,850,000				
P ₁	173,500,000				
P ₀	166,150,000	180,000,000	100,000,000	60,000,000	20,000,000

Aggregate demand is higher than supply at P₀. Shippers place no bids at higher price steps. There is no allocation. Unless the top price step is reached allocations are not pro-rata, bids will be rejected. Under this scenario shippers can review their bids and take the opportunity to bid at higher price steps in the next bid window should they wish to do so.

Post Allocation Reporting

National Gas Transmission allocate QSEC bids no later than two months following the date of auction closure, after which we will notify Users (within Gemini) of:

- Accepted quarterly capacity bids
- Amount of Quarterly NTS Entry Capacity which the User is registered as holding

Post Allocation Reporting

National Gas Transmission will publish to all by Entry Point and Sub Transaction period the following information:

- Volume of entry capacity allocated (baseline and incremental)
- The relevant clearing price
- Total amount of revenue to be derived
- Highest price accepted
- Lowest price accepted
- Weighted average price accepted
- The number of users that submitted successful bids
- The amount of obligated capacity which remains unsold

Gemini & Website Overview 04





Gemini Overview of Bid Capture – Bidding Rules

Quarterly Firm NTS Entry Capacity

- Applied/registered by a User for each Day in a particular calendar quarter.
 - UNC TPD B2.1.4(a)

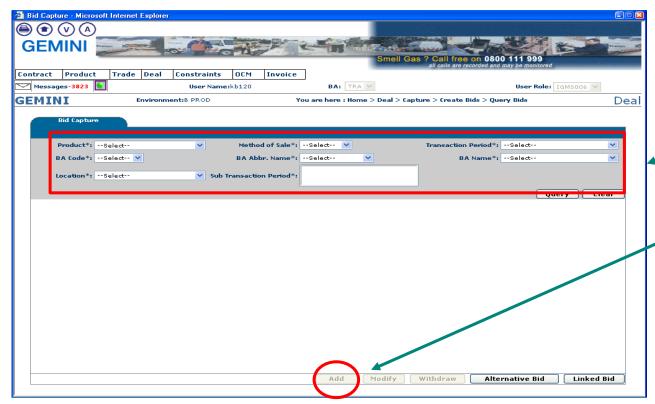
User bid must specify:

- User ID / BA Code
- ASEP
- Calendar year & quarter
- Amount¹ (kWh/Day)
- Minimum amount¹
- Price level² (Step price i.e. P1) UNC TPD B2.2.6 (a-f)

Gemini Overview of Bid Capture – Making a Bid

Home > Deal > Capture > Create Bids

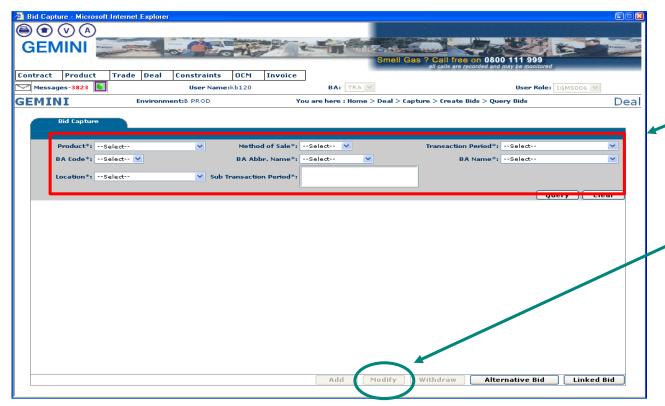
Please ensure that the appropriate product, location and subtransaction has been selected before entering a bid.



When these fields have been entered Gemini will allow the user to click on this button to add a bid.

Gemini Overview of Bid Capture – Modifying a Bid

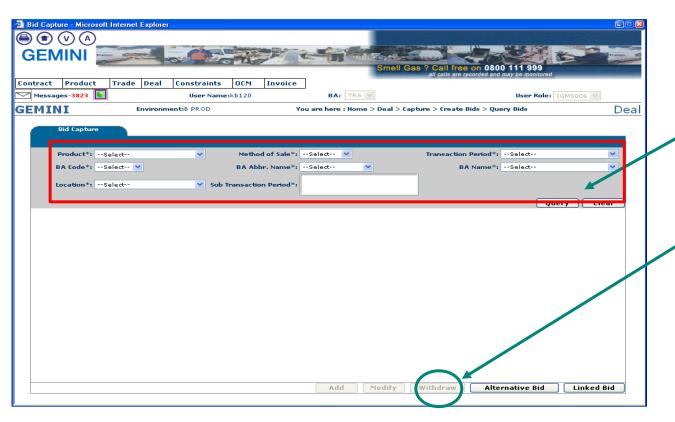
Home > Deal > Capture > Create Bids



When these fields have been entered Gemini will allow the user to click on this button to modify a bid.

Gemini Overview of Bid Capture – Withdrawing a Bid

Home > Deal > Capture > Create Bids

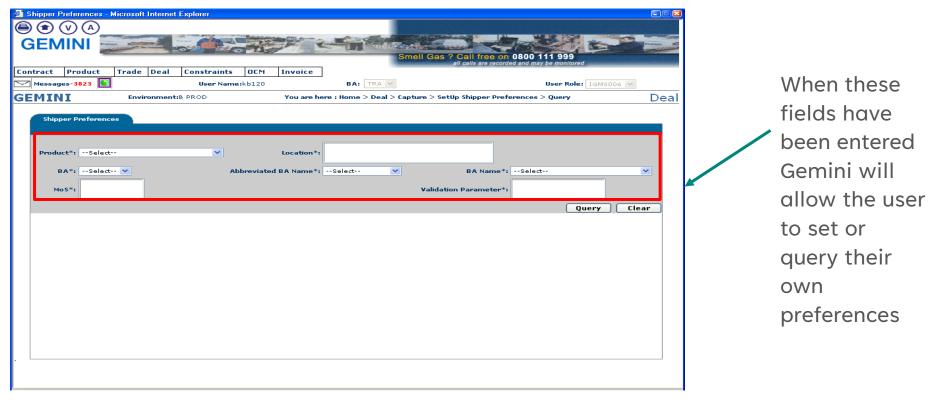


When these fields have been entered Gemini will allow the user to click on this button to withdraw a bid.

Gemini Overview of Bid Capture – Making a Bid

Home > Deal > Capture > Set Up Shipper Preferences

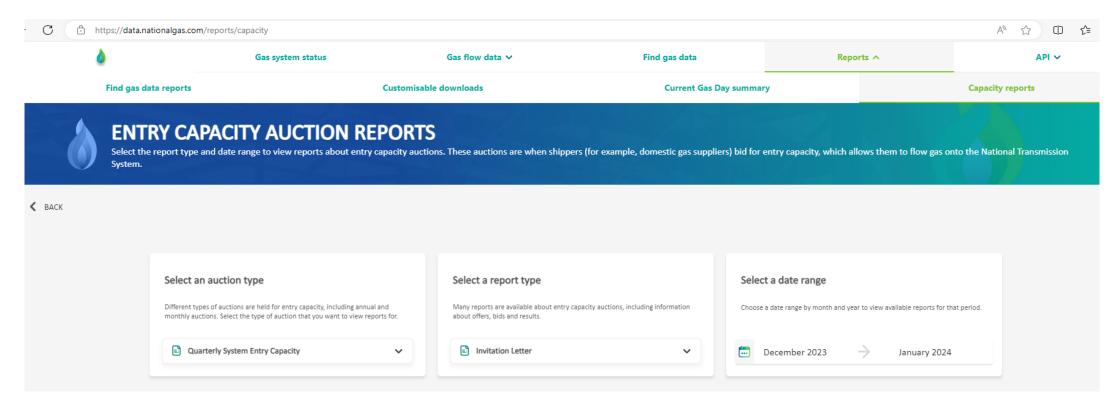
This allows the user to specify their own validation limits (both upper and lower) for capacity, price and value of a bid. Users should also be able to specify their limits for a combination of methods of sale (i.e. QSEC) and locations (ASEPs).



QSEC Invitation Letter

The QSEC invitation letter is issued via:

- Email from the Energy Network Association
- National Gas Transmission's ANS process; fax, email and text
- National Gas Transmission's website; https://data.nationalgas.com/reports/capacity



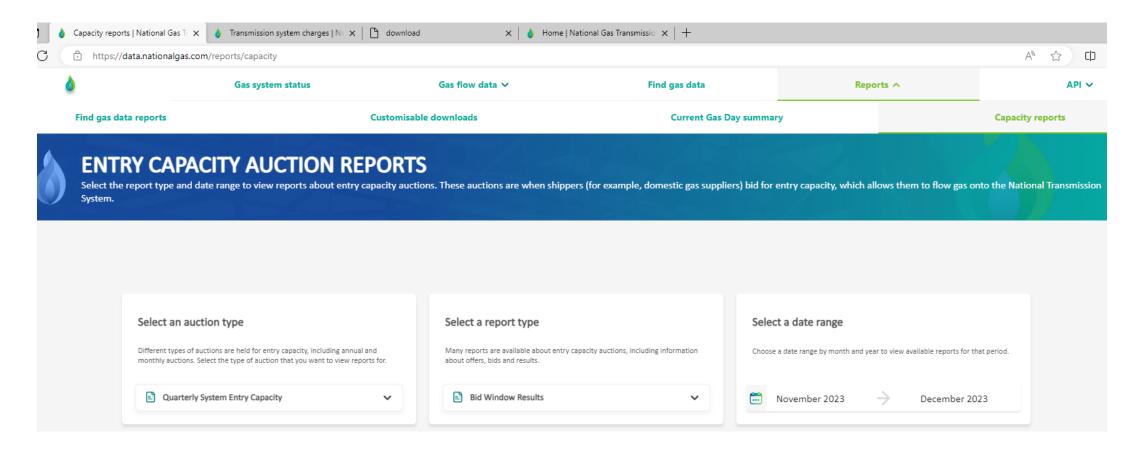
Interim Bid Window (IBW) Results - Gemini

After each IBW, National Gas Transmission will notify Gemini Users of the cumulative amounts of Quarterly NTS Entry Capacity, no later than 20:00 hrs. The information will include;

- A User's submitted Quarterly capacity bids (in aggregate)
- Information for each price step for each relevant Capacity Year.

Interim Bid Window Results - Website

IBW Reports available in CSV & PDF format via the website at https://data.nationalgas.com/reports/capacity



Allocation Results - Gemini

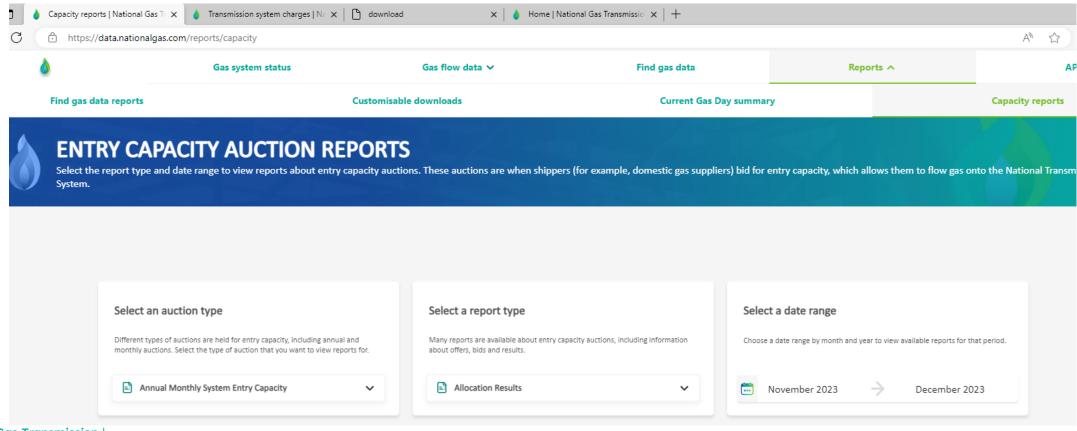
After allocation, National Gas Transmission will notify Gemini Users of the following information by Entry Point and by quarter:

- Volume of entry capacity allocated (baseline and incremental)
- The relevant step price group
- Total amount of revenue to be derived
- Highest price accepted
- Lowest price accepted
- Weighted average price accepted
- The number of users that submitted successful bids
- The amount of obligated capacity which remains unsold

Allocation Results - Website

Report available in CSV & PDF format

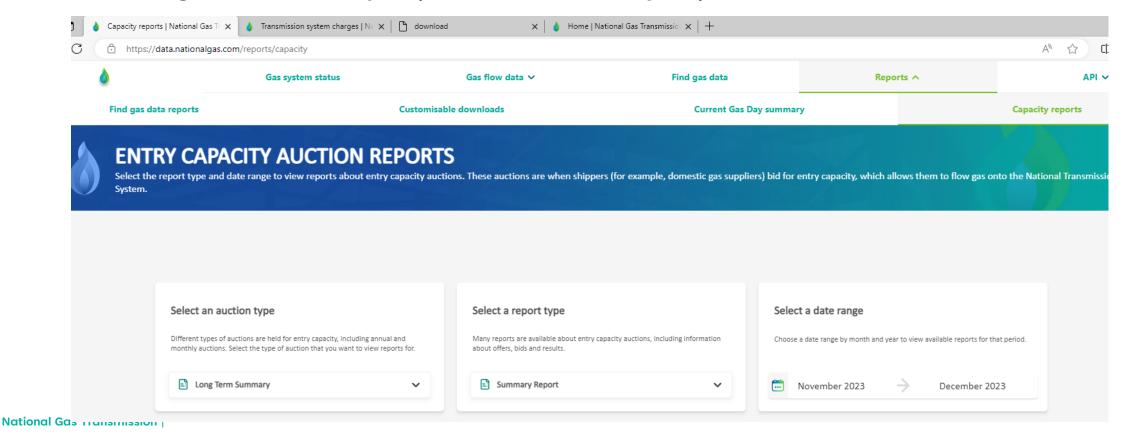
- Available by following this link: https://data.nationalgas.com/reports/capacity
- Select 'Quarterly System Entry Capacity' and 'Allocation Results'



Long Term Summary Report

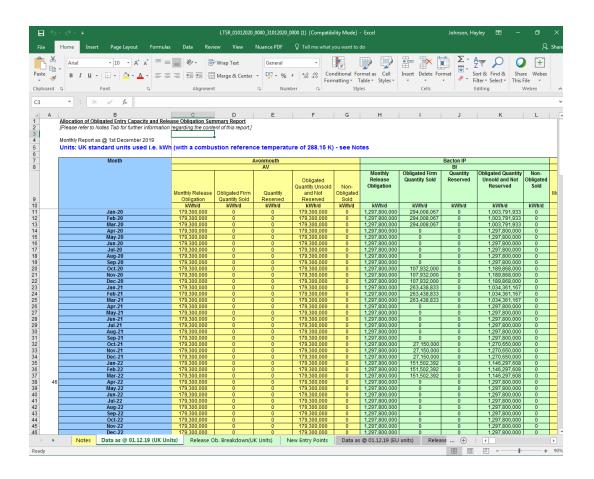
The Long Term Summary Report is available in Excel format and is updated after final allocations have been completed.

- Available by following this link: https://data.nationalgas.com/reports/capacity
- Select 'Long Term Summary Report' and 'Summary Report'



Long Term Summary Report

This report is updated on the first working day of each month and shows the quarterly and monthly NTS Entry Capacity sold and available in the QSEC, AMSEC and RMTNTSEC auctions.



Useful Capacity Related Documents



 Capacity Frequently Asked Questions

 A document put together based on the most frequently asked capacity questions.



Gas Transmission
 Capacity Guidelines

 This guide outlines the gas transmission network's access capacity purchasing processes that apply from November 2015.



 Capacity Methodology Statements

 NTS capacity methodology statements required under the Gas Transporter Licence, as well as associated consultations, documents, planned industry workshops and additional supporting details.

Useful Contact Information 05





National Gas Transmission

NTS Capacity Team

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- Email: capacityauctions@nationalgas.com

Corella

For Gemini E-Training

Customer Lifecycle Team

- Website: www.xoserve.com (for training specifically: https://www.xoserve.com/systems/gemini/gemini-training-and-understanding/)
- Email: customerlifecycle.spa@xoserve.com

Joint Office

To publish industry information

Customer Lifecycle Team

- UNC mod proposals affecting QSEC auctions
- QSEC Invitation Letter
 - Website: www.gasgovernance.co.uk
 - **Tel:** +44(0)121 623 2115

Thank you

