

# Exit Capacity Planning Guidance 2022 Final Outcomes Report

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# Executive Summary

In December 2020 Ofgem published their RIIO-2 Final Determinations for the transmission and gas distribution price controls. These set out the key elements of the price control from 1 April 2021 to 31 March 2026. This included a new licence obligation for the gas transporter licence holders to comply with an enhanced obligations framework in relation to the exit capacity booking process. Standard Special Licence Condition (“SSC”) A57 (Exit Capacity Planning) of the gas transporter licences requires the licence holder (“licensee”) to comply with the Exit Capacity Planning Guidance (“the Guidance”) which is available here: [Exit Capacity Planning Guidance](#)

The Guidance comprises a set of requirements relating to the following areas of capacity booking activity.

**Methodology:** GDNs must provide information on the structure of their networks known as Network Topology, and both GDNs and NGG must provide information on their forecasts of demand and the details of the processes in place to calculate these forecasts.

**Engagement:** The GDNs and NGG must collaboratively work with each other and with other stakeholders to maximise booking efficiency across the gas transportation network as a whole.

**Reporting:** licensees must report annually to the Authority on capacity booking methodology, stakeholder engagement, decision-making and data to demonstrate efficient booking outcomes.

The purpose of this document is to satisfy the requirement comprised within the Exit Capacity Planning Guidance (ECPG) document to report annually on capacity booking methodology, stakeholder engagement, decision-making and data to demonstrate efficient booking outcomes.

The report constitutes of three parts:

- Analysis – detailing the conclusions of the forecasting process, and the options identified to accommodate the scenario forecasts within each GDN’s network;
- Interaction with other networks – detailing the interaction between networks, and the consequences other networks have identified with the options each GDN has identified;
- Final outcomes – including the actual NTS exit capacity bookings derived, and a full explanation of the decisions made, with reference to the methodology statement.

If you have any queries or would like any further information, please contact our planning team:

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# Analysis

## Demand Forecast

To meet our license obligations, the National Transmission System (NTS) Exit Capacity that we book needs to be sufficient to ensure we are able to meet demand on a peak 1:20 winter day<sup>1</sup>. Every Gas Year (1st October to 30th September), we are required to book Exit Capacity from the NTS for each of our 23 offtakes.

Under the Gas Transporter Licence Standard Special Condition A9 Northern Gas Networks has an obligation to demonstrate its ability to meet our peak 1 in 20 Demand<sup>1</sup>, this approach pursues full compliance with regards to that obligation. Northern Gas Networks (NGN) will book capacity as efficiently as possible ensuring we remain compliant with the peak 1 in 20 licence obligation.

On an annual basis, National Grid ESO (NG-ESO) publish their Future Energy Scenarios (FES) which outline four different pathways for the future of energy between now and 2050. Each one considers how much energy we might need and where it could come from. The intention of FES is that they can be used to inform a range of energy system activities including network operation, investment decisions and energy policy.

The four Future Energy Scenarios are;

- Leading the Way
- System Transformation
- Consumer Transformation
- Steady Progression

Along with the Future Energy Scenarios, NG-ESO have provided a Central Forecast which depicts the most likely progress for each sector, given the known political, economic, social and technological situation and outlook. This forecast shows sustained growth consistent with the Steady Progression scenario mentioned above. NGN uses the NG-ESO FES Steady Progression and Central Forecast for reference against our internally produced peak day and annual demand forecasts.

NGN use the same simulation methodology as NG-ESO by using historical weather data back to 1st October 1960 to get a full and representative range of weather. This generates the statistical distribution of possible demands to derive the level of demand we would only expect to exceed once in every 20 years. It's important to note our forecasts aren't based on a set of scenarios. Instead, our forecasts use various inputs to arrive at a set of potential outcomes and from these outcomes we select the most appropriate one for the planning period.

NGN take an additional step of adjusting peaks for day of the week and holiday periods as peaks are most likely to fall on working weekdays when demand will typically be 2-5% higher than the level generated by the statistical distribution. This approach results in slightly higher peak forecasts than NG-ESO produce. Our approach to make peak adjustments on this basis were tested and validated during

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<sup>1</sup> Peak 1 in 20 demand is the level of daily demand that, in a long series of winters, with connected load held at the levels appropriate to the winter in question, would be exceeded in one out of 20 winters, with each winter counted only once. This is the UNC definition of the peak 1 in 20 day. It can be found in section W2.6.4(c). [Uniform network Code – General terms Section C](#)

the 'Beast from the East' on 1st March 2018, as our forecast accuracy was calculated to be 97% for Northern Local Distribution Zone (LDZ) and 100% for North East LDZ.

The forecast for the peak 1 in 20 day must be derived for each year of the 10-year forecast period. To forecast 10 years ahead a 3-year moving average was used in 2022. The adjusted peak estimates for the years 2019/20, 2020/21 & 2021/22 were used to form the averages. This approach ensures that weather is the sole driver of peak demand.

Please note that the Peak Demand Forecasts are forecasted at an LDZ level, and then used in the OCS process to breakdown the forecast down by Offtake. Please see appendix 1.

As a result, the overall trend on each network is as follows:

- **Northern LDZ**

Peak forecasts are above the highest recent observed peak demand of the 1st March 2018, 4.0% above for Gas Year 2022/23. The reason for the increase in year 1 is predominantly down to the additional step of adjusting peaks for day of the week and holiday periods, as detailed above in the demand forecast methodology.

- **North East LDZ**

Peak forecasts are above the highest recent observed peak demand of the 1st March 2018, 3.1% above for Gas Year 2022/23. As with the Northern LDZ. The reason for the increase in year 1 is predominantly down to the additional step of adjusting peaks for day of the week and holiday periods, as detailed above in the demand forecast methodology..

The below tables outline our peak day forecast, the expected consumption down the demand curve and future years.

LDZ	2021/22 Peak Day Forecast (mcm/d)	2022/23 Peak Day Forecast (mcm/d)	% Difference from 2021/22 Peak day Forecast
<b>North</b>	19.85	19.68	-0.8%
<b>North East</b>	23.80	23.52	-1.2%
<b>Total</b>	<b>43.65</b>	<b>43.21</b>	<b>-1.0%</b>

Table 1 - This year -v- last year

This table denotes the supply and demand profiles from five demand days across the annual forecast NGN demand curve (Peak, D13, D46, D150 and D300).

Yr 1	North	North East
<b>Pk</b>	20.50	24.09
<b>D13</b>	17.68	20.55
<b>D46</b>	13.49	15.23
<b>D150</b>	9.97	10.94
<b>D300</b>	5.46	5.38

Table 2 – This year down the Demand Curve

Yr 2	North	North East	Yr 4	North	North East
Pk	20.61	24.24	Pk	20.57	24.19
D13	17.83	20.71	D13	17.71	20.64
D46	13.49	15.24	D46	13.48	15.24
D150	9.97	10.95	D150	9.96	10.96
D300	5.46	5.38	D300	5.47	5.40

  

Yr 3	North	North East	Yr 5	North	North East
Pk	20.60	24.23	Pk	20.60	24.22
D13	17.74	20.72	D13	17.73	20.63
D46	13.49	15.24	D46	13.47	15.24
D150	9.96	10.94	D150	9.96	10.96
D300	5.47	5.39	D300	5.47	5.40

  

Yr 6	North	North East
Pk	20.59	24.21
D13	17.74	20.64
D46	13.47	15.25
D150	9.97	10.97
D300	5.47	5.41

Table 3 - Future years

### Storage Simulation Model Outputs

Consus is a storage simulation tool supplied by DNV, that is used to determine the amount of storage required at a given demand level.

The following inputs are required to run the tool. Two data files are needed for each LDZ from the control room SCADA system. These are Hourly Demands and FE Data (Forecast Error). The remaining data comes from the demand forecast supplied by National Grid, (LDEM & Peak Day Forecast), and a file downloaded from the National Grid Data Item Explorer on their website (historic CWV) or via Xoserve's data files.

The results produced are used to determine the storage level required for the coming winter.

The storage requirement outputs for each LDZ are as follows:

#### Northern LDZ

An LDZ storage requirement of 14.89% was identified, this gives a peak day storage requirement of 2.92 Mscm/day.

#### North East LDZ

An LDZ storage requirement of 15.29% was identified, this gives a peak day storage requirement of 3.60 Mscm/day.

The inputs to our Storage Simulation Model cover all load bands from domestic to large industrial users. NGN only use linepack (storage created within the pipeline by cycling the pressures) for storage, and all High Pressure Bullets and Low Pressure Gas Holders have been decommissioned.

## Exit Capacity – Flat

To meet our Peak 1 in 20 obligation we use a combination of Enduring and Annual capacity products for years 1, 2 and 3 to ensure we have sufficient capacity allocated to meet the forecast demand outlined in the previous section of this report. NGN do not utilise Daily capacity products due to the risk that they may not be available in the event of an NTS constraint. The level of Enduring capacity plus our Annual capacity bookings enable us to meet the peak pay requirement in both of our LDZs.

Demand at an offtake fluctuates year on year and an assessment is made about where, and if any changes can be made to our bookings. The assessment considers.

- The reason for an increase or decrease – for example: year on year growth, changes to the offtake or network
- The balance of capacity across the offtakes within the LDZ
- Availability of Unsold Capacity up to Baseline
- The highest demand seen through the offtake in recent years
- User commitment

Each offtake is looked at on an individual basis, with consideration given to the implications of booking at both the Annual and Enduring level. This approach is to ensure NGN books capacity with the upmost efficiency, where possible.

### Options identified

#### **Northern LDZ**

As forecasts of peak day have not significantly changed since last year the overall capacity change requirement for our Northern LDZ is minimal. The largest change was the requirement for additional capacity at Melkinthorpe offtake following system reinforcement for our Penrith region, and increase at Corbridge offtake to prevent capacity breaches, these are a repeat of 2021/22 annual increases. Overall, there has been a reduction of 160,000 kWh, with the enduring reduction at Tow Law offtake, making overall Northern LDZ capacity lower than last year's bookings.

We are unable to reduce our Flat Capacity bookings at 5 Offtakes in the Northern LDZ, due to existing user commitment periods (4 Years). Only user commitment triggered in 2021/22 process are subject to the reduced 2 year user commitment period, following changes to National Grid's Exit Capacity Release Methodology (ExCS).

#### **North East LDZ**

As forecasts of peak day have not significantly changed since last year the overall capacity change requirement for our North East LDZ is minimal.

We are constrained on the North East LDZ as there is no Baseline Capacity available at our offtakes as National Grid have previously substituted unsold capacity to other Exit Points. We are unable to reduce Flat Capacity bookings at 1 offtake in the North East LDZ, and due to the same reasons outlined in the Northern LDZ above.

In 2021 an alternative booking proposal was put forward; we submitted an additional scenario for sensitivity analysis to National Grid as part of the Exit Capacity Planning Guidance Section 3.5. This scenario sought to reduce capacity at Paull and Towton offtakes with a request that the substitution process is used to increase capacity at offtakes where the booking is below the peak 1 in 20 forecast, subsequently rebalancing the capacity across the North East LDZ in line with the individual offtake forecasts.

The current rules based on the Exit Capacity Substitution Methodology Statement (ExCS), would not allow this, and as such the alternative booking scenario is not possible.

## Exit Capacity – Flex

‘Flex’ relates to the amount of storage (linepack) we expect to use on a peak 1 in 20 day. Our storage simulation model, CONSUS, determines the storage requirement at an LDZ level and then our planning models determine the volume of flex required at each of our offtakes. In addition to the modelling, NGN carry out analysis of actual SCADA data to ensure our bookings and Control Room operating strategy are aligned.

In 2022 Flex Capacity applications were made to allow us to match forecast storage requirements at each offtake.

Where changes have been made from the previous year, this is due to small year on year changes to the flex modelling outputs. Further analysis is undertaken at each offtake to calculate whether Flex capacity breaches would have occurred at the new modelled output level. If a significant number of breaches would have occurred, then the booking level will be adjusted upwards to match the output. Whilst breaches aren’t financially punitive, we still aim to align our bookings, models, and operating strategy as closely as possible.

North	Topology	Flex Capacity 2021/22 (mcm/d )	Flex Capacity 2022/23 (mcm/d )	% Difference
	Bishop Auckland	<b>This information has been redacted due to its sensitivity in line with BEIS and the CPNI general principles of security around its wider disclosure</b>		
	Coldstream			
	Corbridge			
	Cowpen Bewley			
	Elton			
	Guyzance			
	Humbleton			
	Keld			
	Little Burdon			
	Melkinton			
	Saltwick			
	Thrintoft			
	Tow Law			
	Wetheral			
<b>OFFTAKE TOTAL</b>				

Table 4 – Flex - This year -v- last year (Northern LDZ)



North East	Topology	Flex Capacity 2021/22 (mcm/d )	Flex Capacity 2022/23 (mcm/d )	% Difference
	Asselby	<p style="text-align: center;"><b>This information has been redacted due to its sensitivity in line with BEIS and the CPNI general principles of security around its wider disclosure</b></p>		
	Baldersby			
	Burley Bank			
	Ganstead			
	Pannal			
	Paull			
	Pickering			
	Rawcliffe			
	Towton			
<b>OFFTAKE TOTAL</b>				

Table 5 - Flex - This year -v- last year (North East LDZ)

## Assured Pressures

In accordance with section J2.5 of the Uniform Network Code, National Grid Gas (NGG) has an opportunity to ask for a permanent reduction in Assured Offtake Pressures (AOP) at Distribution Network Offtakes with effect from October of the following Gas Year. In 2022, NGG requested permanent Start of Day pressure reductions at Pannal and Cowpen Bewley offtakes. Off-peak reductions were also requested at Cowpen Bewley.

Following detailed network analysis NGN accepted the request for a reduction in Off-Peak Pressure at Cowpen Bewley offtake on a temporary basis for the period 1st October 2022 to 30th September 2023.

Permanent reductions in Assured Pressures at Pannal and Cowpen Bewley offtakes were declined due to the concern with the offtakes operating close to capacity when a lower AOP is experienced, thus risking the security of supply to the downstream systems. It is worth noting this analysis request is solely based on peak 1 in 20 demand conditions, however NGN welcome an opportunity to discuss what could be achievable at these offtakes with Off-Peak Pressures requests. Due to the fluctuation in demand growth rates, there is concern over accepting permanent AOP reductions outside of the current planning year.

## Interaction with other networks

There is one inter-LDZ transfer to the SGN network from our Northern LDZ. There is no control over the transfer and the flow is not treated as an inter-LDZ transfer on our Control Room SCADA system as the volume is small. There is no impact on Exit Capacity planning.

## Final Outcomes

### Exit Capacity – Flat Capacity changes in 2022

#### Northern LDZ

During the Exit Capacity application window, we made an application for one Enduring decrease at Tow Law offtake. The Tow Law Flat capacity reduction was to reduce excess capacity above the peak 1 in 20 forecast level.

We have made one Annual increase at Melkintorpe offtake in order to reinforce supplies to the Penrith area. We will revalidate the model in 2022 with actual flow data to inform an Enduring booking.

We also made an Annual increase at Corbridge offtake. The minimum quantity of 100,000 kwh/day was booked to cover an increase in local demand of 85,147 kwh/day.

All 3 Northern LDZ capacity changes were accepted and subsequently allocated by NGG.

North	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6
Forecast	19.68	19.80	19.78	19.75	19.77	19.77
Booking	21.30	21.30	21.30	21.30	21.30	21.30

Table 6 - Peak Day Forecast -v- Booking (Northern LDZ)

## North East LDZ

No changes to the previous 2021 flat capacity bookings were made in the 2022 Exit Capacity application window.

North East	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6
Forecast	23.56	23.72	23.70	23.66	23.69	23.68
Booking	24.76	24.76	24.76	24.76	24.76	24.76

Table 7 - Peak Day Forecast -v- Booking (North East LDZ)

For both LDZs we are compliant with Standard Special Licence Condition (“SSC”) A57 (Exit Capacity Planning) of the gas transporter licence and Standard Special Condition A9, and as outlined above 1 have mitigated the associated risk of insufficient capacity for a peak day.

For all years our peak 1 in 20 bookings are in line with our Peak Day forecast and therefore we have met the requirements of the ECPG. Where there are differences noted between the forecast peak and booked capacity, these are due to either modelling factors applied when calculating the peak, the restriction on the minimum change that is possible in Gemini of 100,000kWh to existing bookings, or due to user commitment at offtakes.

### Exit Capacity - Flex Capacity changes in 2022

Changes to our Flex Capacity bookings were minimal in 2022, due to small year on year changes to the flex modelling outputs.

### Assured Pressure bookings in 2022

In the 2022 process there has been a request for a pressure increase at Asselby offtake. The increase will help alleviate constraints, facilitate new connections, maintain customer supplies and network pressures. The request was accepted as part of the assured pressure process.

NGG requests for permanent pressure reductions have been denied by NGN, but an off-peak pressure reduction request at Cowpen Bewley offtake has been accepted by NGN on a one-year basis.

# Appendix 1 – Year 1 Flat & Flex

North - 2022/23	Topology	1:20 peak day			Day 13			Day 46			Day 150			Day 300		
		Flat Booking mcm/d	Flex Booking mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)
	Bishop Auckland	<b>This information has been redacted due to its sensitivity in line with BEIS and the CPNI general principles of security around its wider disclosure</b>														
	Coldstream															
	Corbridge															
	Cowpen Bewley															
	Elton															
	Guyzance															
	Humbleton															
	Keld															
	Little Burdon															
	Melkinthorpe															
	Saltwick															
	Thrintoft															
	Tow Law															
	Wetheral															
<b>OFFTAKE TOTAL</b>																

Table 4 - Year 1 Flat, Flex & Peak Flow (Northern LDZ)

North East - 2022/23	Topology	1:20 peak day			Day 13			Day 46			Day 150			Day 300		
		Flat Booking mcm/d	Flex Booking mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)
	Asselby	<b>This information has been redacted due to its sensitivity in line with BEIS and the CPNI general principles of security around its wider disclosure</b>														
	Baldersby															
	Burley Bank															
	Ganstead															
	Pannal															
	Paul															
	Pickering															
	Rawcliffe															
	Towton															
<b>OFFTAKE TOTAL</b>																

Table 9 - Year 1 Flat, Flex & Peak Flow (North East LDZ)

## Appendix 2 – North LDZ - Forecast Information Flat, Flex 7 Peak Day for Years 2 – 6 (Section H)

North - 1 in 20 Peak	Topology	1:20 peak day			Day 13			Day 46			Day 150			Day 300		
		Flat Booking mcm/d	Flex Booking mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)
2023/24	Bishop Auckland	This information has been redacted due to its sensitivity in line with BEIS and the CPNI general principles of security around its wider disclosure														
	Coldstream															
	Corbridge															
	Cowpen Bewley															
	Elton															
	Guyzance															
	Humbleton															
	Keld															
	Little Burdon															
	Melkinthorpe															
	Saltwick															
	Thrintoft															
	Tow Law															
	Wetheral															
<b>OFFTAKE TOTAL</b>																

North - 1 in 20 Peak	Topology	1:20 peak day			Day 13			Day 46			Day 150			Day 300		
		Flat Booking mcm/d	Flex Booking mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)
2024/25	Bishop Auckland	This information has been redacted due to its sensitivity in line with BEIS and the CPNI general principles of security around its wider disclosure														
	Coldstream															
	Corbridge															
	Cowpen Bewley															
	Elton															
	Guyzance															
	Humbleton															
	Keld															
	Little Burdon															
	Melkinthorpe															
	Saltwick															
	Thrintoft															
	Tow Law															
	Wetheral															
<b>OFFTAKE TOTAL</b>																

North - 1 in 20 Peak	Topology	1:20 peak day			Day 13			Day 46			Day 150			Day 300		
		Flat Booking mcm/d	Flex Booking mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)
2025/26	Bishop Auckland	This information has been redacted due to its sensitivity in line with BEIS and the CPNI general principles of security around its wider disclosure														
	Coldstream															
	Corbridge															
	Cowpen Bewley															
	Elton															
	Guyzance															
	Humbleton															
	Keld															
	Little Burdon															
	Melkinthorpe															
	Saltwick															
	Thrintoft															
	Tow Law															
	Wetheral															
<b>OFFTAKE TOTAL</b>																

North - 1 in 20 Peak	Topology	1:20 peak day			Day 13			Day 46			Day 150			Day 300		
		Flat Booking mcm/d	Flex Booking mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)
2026/27	Bishop Auckland	This information has been redacted due to its sensitivity in line with BEIS and the CPNI general principles of security around its wider disclosure														
	Coldstream															
	Corbridge															
	Cowpen Bewley															
	Elton															
	Guyzance															
	Humbleton															
	Keld															
	Little Burdon															
	Melkinthorpe															
	Saltwick															
	Thrintoft															
	Tow Law															
	Wetheral															
<b>OFFTAKE TOTAL</b>																

North - 1 in 20 Peak	Topology	1:20 peak day			Day 13			Day 46			Day 150			Day 300		
		Flat Booking mcm/d	Flex Booking mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)
2027/28	Bishop Auckland	<b>This information has been redacted due to its sensitivity in line with BEIS and the CPNI general principles of security around its wider disclosure</b>														
	Coldstream															
	Corbridge															
	Cowpen Bewley															
	Elton															
	Guyzance															
	Humbleton															
	Keld															
	Little Burdon															
	Melkinton															
	Saltwick															
	Thrintoft															
	Tow Law															
	Wetheral															
<b>OFFTAKE TOTAL</b>																

Table 10 – Flat, Flex & Peak Flow for Years 2-6 (Northern LDZ)

## Appendix 3 – North East LDZ - Forecast Information Flat, Flex & Peak Day for Years 2 – 6 (Section H)

North East - 1 in 20 Peak	Topology	1:20 peak day			Day 13			Day 46			Day 150			Day 300		
		Flat Booking mcm/d	Flex Booking mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)
2023/24	Asselby	This information has been redacted due to its sensitivity in line with BEIS and the CPNI general principles of security around its wider disclosure														
	Baldersby															
	Burley Bank															
	Ganstead															
	Pannal															
	Paull															
	Pickering															
	Rawcliffe															
	Towton															
<b>OFFTAKE TOTAL</b>																

North East - 1 in 20 Peak	Topology	1:20 peak day			Day 13			Day 46			Day 150			Day 300		
		Flat Booking mcm/d	Flex Booking mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)
2024/25	Asselby	This information has been redacted due to its sensitivity in line with BEIS and the CPNI general principles of security around its wider disclosure														
	Baldersby															
	Burley Bank															
	Ganstead															
	Pannal															
	Paull															
	Pickering															
	Rawcliffe															
	Towton															
<b>OFFTAKE TOTAL</b>																

North East - 1 in 20 Peak	Topology	1:20 peak day			Day 13			Day 46			Day 150			Day 300		
		Flat Booking mcm/d	Flex Booking mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)
2025/26	Asselby	This information has been redacted due to its sensitivity in line with BEIS and the CPNI general principles of security around its wider disclosure														
	Baldersby															
	Burley Bank															
	Ganstead															
	Pannal															
	Paull															
	Pickering															
	Rawcliffe															
	Towton															
<b>OFFTAKE TOTAL</b>																



North East - 1 in 20 Peak	Topology	1:20 peak day			Day 13			Day 46			Day 150			Day 300		
		Flat Booking mcm/d	Flex Booking mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)
2026/27	Asselby	<b>This information has been redacted due to its sensitivity in line with BEIS and the CPNI general principles of security around its wider disclosure</b>														
	Baldersby															
	Burley Bank															
	Ganstead															
	Pannal															
	Paull															
	Pickering															
	Rawcliffe															
	Towton															
<b>OFFTAKE TOTAL</b>																

North East - 1 in 20 Peak	Topology	1:20 peak day			Day 13			Day 46			Day 150			Day 300		
		Flat Booking mcm/d	Flex Booking mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)	Flat mcm/d	Flex mcm/d	Peak Flow (mcm/h)
2027/28	Asselby	<b>This information has been redacted due to its sensitivity in line with BEIS and the CPNI general principles of security around its wider disclosure</b>														
	Baldersby															
	Burley Bank															
	Ganstead															
	Pannal															
	Paull															
	Pickering															
	Rawcliffe															
	Towton															
<b>OFFTAKE TOTAL</b>																

Table 11 - Flat, Flex & Peak Flow for Years 2-6 (North East LDZ)

## Appendix 4 – Assured Pressures

North - 2022/23	Topology	1:20 peak day		Day 13		Day 46		Day 150		Day 300	
		Start of Day Pressures (barg)	End Of Day Pressures (barg)	SOD Pressures	EOD Pressures	SOD Pressures	EOD Pressures	SOD Pressures	EOD Pressures	SOD Pressures	EOD Pressures
	Bishop Auckland	<b>This information has been redacted due to its sensitivity in line with BEIS and the CPNI general principles of security around its wider disclosure</b>									
	Coldstream										
	Corbridge										
	Cowpen Bewley										
	Elton										
	Guyzance										
	Humbleton										
	Keld										
	Little Burdon										
	Melkinthorpe										
	Saltwick										
	Thrintoft										
	Tow Law										
	Wetheral										

Table 12 - Start Of Day and End Of Day Pressures (Northern LDZ)

North East - 2022/23	Topology	1:20 peak day		Day 13		Day 46		Day 150		Day 300	
		Start of Day Pressures (barg)	End Of Day Pressures (barg)	SOD Pressures	EOD Pressures	SOD Pressures	EOD Pressures	SOD Pressures	EOD Pressures	SOD Pressures	EOD Pressures
	Asselby	<b>This information has been redacted due to its sensitivity in line with BEIS and the CPNI general principles of security around its wider disclosure</b>									
	Baldersby										
	Burley Bank										
	Ganstead										
	Pannal										
	Paull										
	Pickering										
	Rawcliffe										
	Towton										

Table 13 - Start Of Day and End Of Day Pressures (North East LDZ)

# Glossary of Terms

## **Calorific Value (CV)**

The ratio of energy to volume measured in mega Joules per cubic meter (MJ/m<sup>3</sup>), which for a gas is measured and expressed under standard conditions of temperature and pressure.

## **Distribution Network (DN)**

An administrative unit responsible for the operation and maintenance of the local transmission system (LTS) and <7barg distribution networks within a defined geographical boundary.

## **Diurnal Storage**

Gas stored for the purpose of meeting, among other things, within day variations in demand. Gas can be stored in special installations, such as gasholders, or in the form of linepack within transmission, i.e. >7barg, pipeline systems.

## **Gas Transporter (GT)**

Formerly Public Gas Transporter (PGT), GTs, such as Northern Gas Networks, are licensed by the Gas and Electricity Markets Authority to transport gas to consumers.

## **Linepack**

The volume of compressed gas within the National or Local Transmission System at any time.

## **Local Distribution Zone (LDZ)**

A geographic area supplied by one or more offtakes. Consists of LTS and distribution system pipelines.

## **Local Transmission System (LTS)**

A pipeline system operating at >7barg that transports gas from one or more offtakes to distribution systems. Some large users may take their gas direct from the LTS.

## **National Transmission System (NTS)**

A high-pressure system consisting of terminals, compressor stations and pipeline systems. Designed to operate at pressures up to 85 bar. NTS pipelines transport gas from terminals to LTS offtakes.

## **Offtake Capacity Statement (OCS)**

The Offtake Capacity Statements are received by NGN in September of each year from National Grid specifying assured pressures and the amount of capacity available at each offtake.

## **Peak day Demand (1 in 20 Peak Demand)**

The 1 in 20 peak day demand is the level of demand that, in a long series of winters, with connected load held at the levels appropriate to the winter in question, would be exceeded in one out of 20 winters, with each winter counted only once.

**Uniform Network Code (UNC)**

The document that defines the contractual relationship between System Users. The Uniform Network Code has replaced the Network Code and, as well as existing arrangements, covers the arrangements between all gas transporters.



Northern  
Gas Networks

we are  
the **network**