



NTS Shrinkage Incentive

Ex-Ante Baseline Values Statement
For 2020/21

September 2019

nationalgrid

About This Document

This document sets out baseline value targets that National Grid Gas plc (“National Grid”) in its role as holder of the Gas Transporter Licence in respect of the NTS (“the Licence”) is required to publish in accordance with the NTS Shrinkage Incentive Methodology Statement for Formula Year 2020/21.

Website

The most recent document can be found here:

<https://www.nationalgridgas.com/about-us/system-operator-incentives/nts-shrinkage>

This document will be updated and published five times for 2020/21:

- June 2019 (Initial Publication)
 - UAG & CVS baseline volumes for Q2 2020
 - CFU baseline volumes for all quarters in Formula Year 2020/21
- September 2019 (Update)
 - UAG & CVS baseline volumes for Q3 2020
- December 2019 (Update)
 - UAG & CVS baseline volumes for Q4 2020
- March 2020 (Update)
 - UAG & CVS baseline volumes for Q1 2021
- July 2021 (Update)
 - Energy Efficiency Variance CFU
 - Energy Efficiency Variance for CVS

A separate document will exist for each incentive year.

For further information please contact:

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NTS Shrinkage Incentive Ex-Ante Baseline Values Statement for Incentive Year 2020/21

Methodology

For more information on the methodology used to calculate the baselines please refer to the accompanying Methodology Statement found on the national grid website.

Baseline Volumes – Compressor Fuel Usage (CFU)

Step 1

The relationship between flow at the St Fergus ASEP and total CFU, using data from 2009/10 to 2018/19 inclusive, is:

$$\text{Total CFU (GWh)} = 418.645676 \cdot x \exp^{0.002222 \cdot \text{Daily Average St Fergus Flow}}$$



Step 2

The forecast flow at the St Fergus ASEP for 2020/21 is:

768 GWh/day

Inserting the forecast flow at St Fergus ASEP into the equation in Step 1 gives a total CFU baseline volume of:

2,308 GWh

Step 3

2018/19 Quarterly CFU Volumes

	Q2	Q3	Q4	Q1	Total
	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	
GWh (Gas Equivalent)	323	416	516	425	1,679
%	19%	25%	31%	25%	100%

Applying the above quarterly percentages to the total CFU baseline volume in Step 2 gives the following.

2020/21 Quarterly CFU Volumes

	Q2	Q3	Q4	Q1	Total
	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	
GWh (Gas Equivalent)	443	571	710	584	2,308

Step 4

Applying the prevailing view of electric compressor replacement, along with historical information of the split between gas and electric compressor usage, gives the following.

2020/21 Quarterly CFU Baseline Volumes Split Between Gas & Electricity

	Q2	Q3	Q4	Q1	Total
	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	
Gas GWh	273	370	448	351	1,442
Elec GWh	57	67	87	78	289

Note: Electricity energy usage values in this table are one third of the electricity (gas equivalent) energy values

Baseline Volumes – Unaccounted for Gas (UAG) & Calorific Value Shrinkage (CVS)

2020/21 Quarterly UAG & CVS Volumes

	Q2 Apr-Jun	Q3 Jul-Sep	Q4 Oct-Dec	Q1 Jan-Mar	Total
GWh (Gas Equivalent)	675	596	*Dec 2019	*Mar 2020	*Mar 2020

Note: *Indicates when the UAG & CVS Baseline Volume targets will be published

Energy Efficiency Volumes – CFU & CVS

The annual CFU and CVS energy efficiency adjustment volumes for 2020/21 will be published in July 2021, following calculation and audit.

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