



Unidentified Gas

Executive Summary

xserve

Document Purpose

The executive summary has been created to provide a high level introduction to the subject of **Unidentified Gas** (UIG).

This document will provide information on: the changes applied through Project Nexus; the new treatment for reconciliation of energy and the impacts being experienced by customers.

Key Terms

The following key terms will support with understanding of this document.

Term	Definition
Allocation process	Gas allocation is the process where actual gas usage (i.e. gas that has physically passed through the pipes) is shared out, after the gas is used.
Annual Quantity (AQ)	The AQ means the estimate of the quantity offtaken from the National Transmission System (NTS) over a period of twelve months, by an end consumer.
Balancing figure	The balancing figure is the balancing amount of energy (kWh) that is not attributed to an individual supply meter point or shrinkage i.e. the unknown variable at the point of calculation for allocation.
Central Data Services Provider (CDSP)	Xoserve is the CDSP for Britain's gas market. In this role we provide a range of critically important services to gas Suppliers, Shippers and Transporters. The CDSP is responsible for providing information to gas transportation companies from a central register, combined with information about gas flows across the entire gas transportation network.
Class 2 product	A new regime was introduced to replace the current Daily Metered (DM) or Non-daily metered (NDM) arrangements. All supply meter points are now reconciled individually. Class 2 sites are read daily and have an AQ less than 58.6million kwh.
Daily Metered (DM)	Sites with meters which read on a daily basis. Readings provided via daily read equipment (DRE) and sent via telemetry.
Distribution Networks (DNs)	Distribution Network Operators licenced to transport gas offtaken from the NTS through LDZs.
D+5	D+5 is the close out of allocation process – representing the final calculation of allocation for a gas day (gas day is defined by 5am to 5am the following day). The D+5 window allows for better data values to be submitted for the allocation calculation.
End User Consumers (EUC)	End User Category: a reference used to group together a number of end consumers based on a number of parameters such as AQ, LDZ relating the end consumers to similar demand patterns.



Large Supply Point (LSP)	A Larger Supply Point is where the usage of the site is 73,201 kwh and above.
Local Distribution Zone (LDZ)	The UK is split into 18 LDZs – LDZs are the areas where consumers are supplied with gas – LDZs are connected to and off-take gas from the National Transmission System (NTS). An LDZ is the pipeline system (other than NTS) authorised by a relevant Gas Transporter's Licence to convey gas.
National Transmission System (NTS)	The United Kingdom's National Transmission System is the network of gas pipelines that supply gas around the UK. The NTS is owned by National Grid. Gas can be off-taken directly from the NTS or it can be transported to any of the 18 LDZs where it enters a distribution network from which consumers are supplied.
Nomination process	The process of calculating estimates of gas consumption ahead of and during the gas day, to inform the Shippers' gas purchasing decisions.
Non Daily Metered (NDM)	A term that can be associated to a site with a meter, where readings are procured on a monthly or longer intervals
Reconciliation process	Reconciliation refers to the process where more up to date data (i.e. meter reads) triggers recalculation of previously submitted data.
Shrinkage	Shrinkage gas is gas lost from the Network as a result of leakage, Own Use Gas (OUG) and theft of gas, and is procured by the relevant Network Operator each day.
Small Supply Point (SSP)	A Small Supply Point is where the usage of the site is 73,200 kwh or less.
Supply Meter Point (SMP)	Is the exit point at which gas is offtaken– i.e. the meter for the end consumer.
Weighting factors	A set of factors calculated by an independent expert for use in sharing out UIG. The factors are designed to target UIG to groups of sites based on their estimated contribution to UIG.
Winter Annual Ratio (WAR) bands	Additional End User Categories which are differentiated by the ratio of the Winter Consumption of a supply meter point to its annual quantity.
UKLink	The system through which services are provided including supply point administration, invoicing etc. to gas Shippers and Transporters.
Unidentified Gas (UIG)	The majority of gas consumed in Great Britain is metered and registered. However, some gas is lost from the system, or not registered, due to: theft, leakage from gas pipes; consumption by unregistered supply points and other reasons. The gas that is off taken from the Local Distribution Zone (LDZ) System, but not attributed to an individual Supply Meter Point or accounted for as Shrinkage, is referred to as Unidentified Gas or UIG.
Uniform Network Code (UNC)	The Uniform Network Code is the competitive gas industry legal and contractual framework for the transportation and supply of gas. It has a common set of rules which ensure that competition can take place on equal terms.



Introduction

What is Unidentified Gas (UIG)

The majority of gas consumed in Great Britain is metered and registered. However, some gas is lost from the system, or not registered, due to: theft, leakage from gas pipes; consumption by unregistered supply points and other reasons. The gas that is off taken from the Local Distribution Zone (LDZ) System, but not attributed to an individual Supply Meter Point or accounted for as Shrinkage, is referred to as Unidentified Gas (UIG).

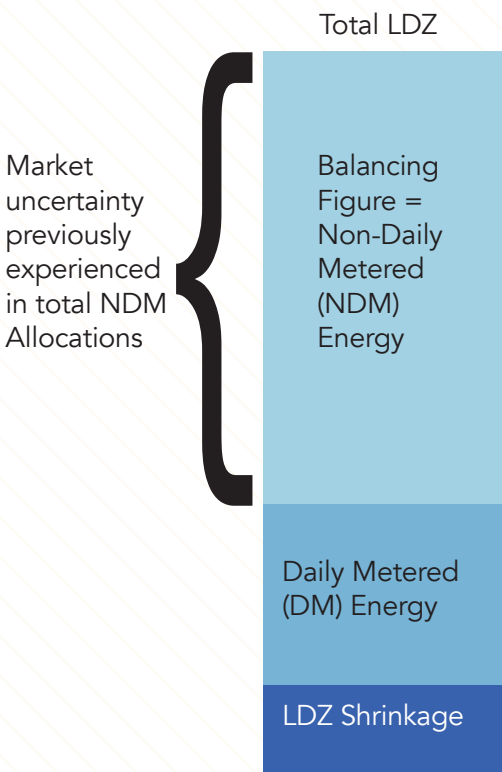
Arrangements before the implementation of the new UK Link System in 2017

Project Nexus defined the industry requirements to be included in the replacement of UKLink System. During industry wide consultation it was agreed that changes to the overhaul of gas settlement arrangements should be included.

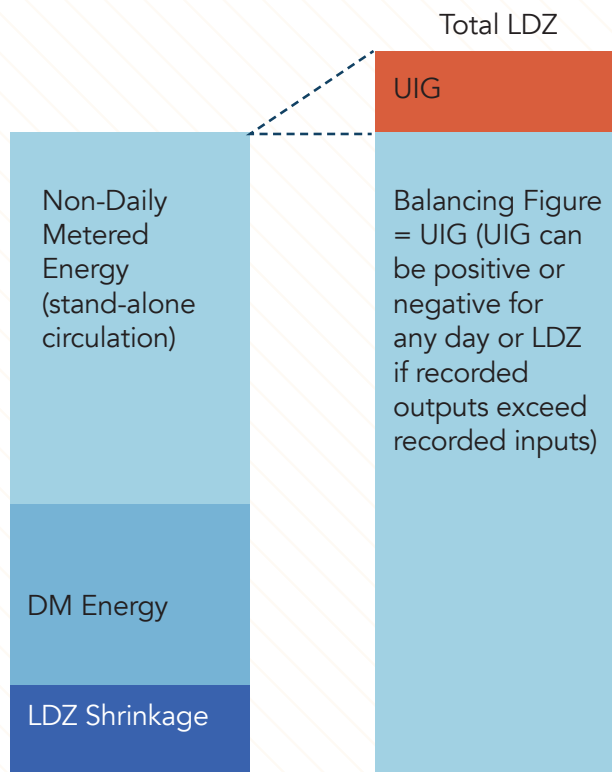
Prior to Nexus there was a fixed estimated quantity of UIG which was a monthly re-distribution of costs from Smaller Supply Points (SSP) to Larger Supply Points (LSP). As the amount was an annual estimate, and not subject to any later reconciliation - any remaining UIG costs were passed to the Smaller Supply Point market.

However the rules that were then introduced as a result of Project Nexus now see UIG to be attributed to all Shippers (at portfolio level) who have a portfolio within that LDZ.

Pre



Post



Background to UIG

The changes in the settlement arrangements introduced through Project Nexus have resulted in universal individual Meter Point Reconciliation. UIG is therefore now attributed to all Shippers (at portfolio level). The level of UIG can be volatile on a day to day basis, with calculated UIG values being unpredictable in nature. The lack of projected UIG values is causing significant financial impacts to many organisations within the industry.

As part of the changes introduced through Project Nexus, UIG is now being derived at the point of allocation and not just allocated into a sub-set of the market and then moved post-reconciliation. This means that Shippers are now required to purchase a portion of UIG when predicting gas usage. UIG is now the balancing figure in each Local Distribution Zone (LDZ) each day.

LDZ Gas Allocation Process

Gas allocation is the process where actual gas usage (i.e. gas that has physically passed through the pipes) is shared out, after the gas is used.

Xoserve now calculates UIG using the balancing figure and UIG is shared out using a set of weighting factors.

This has impacted the reconciliation of meter points and UIG to cover all supply points too.

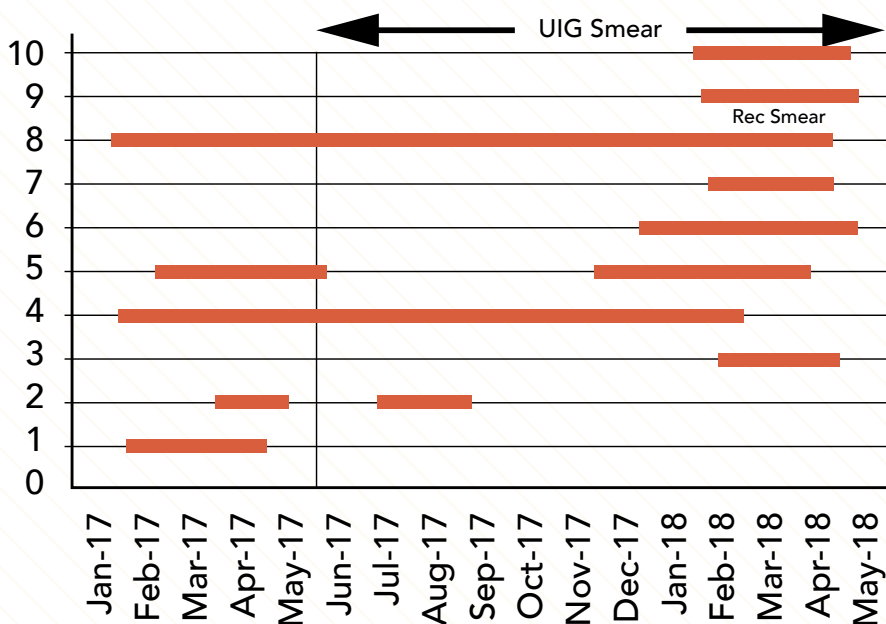
Meter Point Reconciliation

Reconciliation refers to the process where more up to date data (i.e. meter reads) triggers recalculation of previously submitted data.

The opposite entry of all primary DM and NDM reconciliations is an adjustment to UIG in the LDZ. UIG is shared out in proportion to latest measurements/ estimates (i.e. post-reconciliation), using the same UIG weighting factors as at D+5.

Unidentified Gas reconciliation is issued via the Amendment Invoice, as the equal and opposite of the meter point reconciliations processed, are on the same invoice.

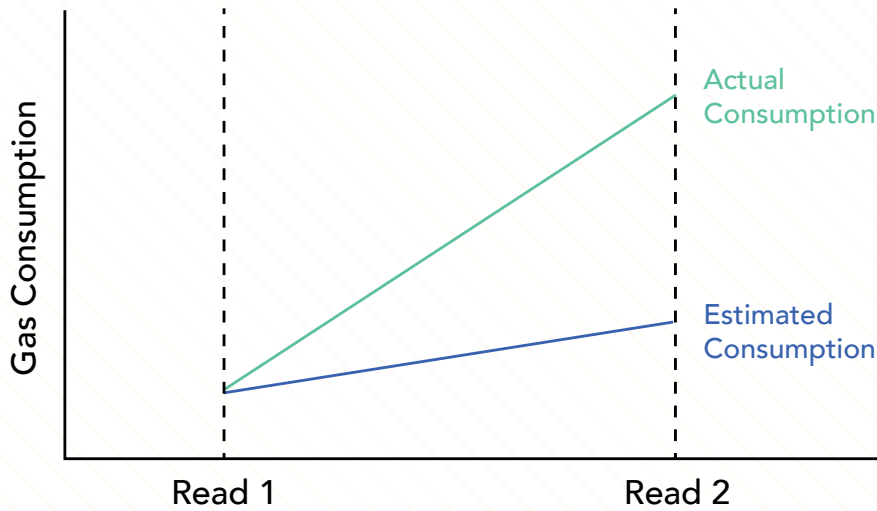
UIG is shared out over a fixed period of the last 12 months of updated allocations, regardless of the duration or age of the primary reconciliation.



The UIG position could fluctuate with every meter read reconciliation, which will be reflected on the monthly amendment invoice for the UIG charge.

The following reconciliation principles now apply:

- Reconciliation charges for the difference between initial daily energy measurements and actual measurements at individual supply meter points are based on a meter reading.
- Reconciliation charges can be a positive or a negative value
- Each individual reconciliation consists of individual reconciliations of both energy and transportation.



Reconciliation triggers re-review of the energy value (up to 12 months), which could mean you're debited/credited based on monthly reconciliations

Comparison of NDM Algorithms

Demand profiles are created using consumer research; this enables methodology to be developed to enable the estimation of the NDM market usage. i.e. the formula for allocating gas usage for the NDM end consumers. The Demand Estimation Sub Committee (DESC) have responsibility for creating and approving the parameters for the NDM algorithms each year.

Further details on the DESC can be found [here](#).

Changes to the NDM algorithm as a result of Nexus are shown below:

Pre-Nexus	Component	Post-Nexus
Compared Actual and Seasonal Normal NDM Demand – positive = colder	Weather Correction Factor – <i>calculated at LDZ level (did not use actual weather)</i>	Compares Actual to (Seasonal Normal Weather)
Scaled NDM allocation to equal total NDM energy	Scaling Factor – <i>calculated at LDZ level</i>	Previously required to make the NDM Energy the balancing figure, therefore this is no longer required

So what does this mean?

- UIG is now the balancing figure each day
- Errors in reads/estimates now impact UIG, not NDM energy
- New NDM Algorithm uses actual weather
- All meter points are now subject to meter point reconciliation

UIG is shared on the basis of daily throughput and weighting factors. This means that through Daily Allocation, UIG is shared across the market using UIG factors. Post D+5 reconciliation takes place and the equal and opposite of all individual reconciliations is applied to UIG and shared in line with latest measurements and Weighting Factors.

This therefore means, UIG charging is now more transparent and fixed quantities have been removed. Shippers now need to procure UIG as part of their daily total system allocation.

Volatility

The level of UIG is highly volatile on a day by day basis. There is volatility between nominations and allocations and there are differing levels of impacts across different LDZs and EUCs.

The calculated UIG values are not predictable. Based on the analysis to date, there is no obvious recurring pattern or trend.

The lack of projection for UIG is impacting organisations financially.

What you can do as a Shipper, GT or DMSP

The UIG task force set up by Xoserve is working towards developing a detailed plan for the initial advanced analytics and activities that will better quantify the impact of potential drivers of UIG; this will be guided by existing understandings of UIG root causes. The known variables and associated action plans can be found on the [UIG task force page](#).

As these are developed, there are also a number of activities that the industry can undertake to help reduce the impact of UIG, including:

Shippers

- Reviewing accuracy of AQs and adjusting where required
- Promptly registering Shipperless/unregistered sites
- Supplying regular accurate monthly reads, in line with read frequency, for NDM meter points
- Notifying of meter asset exchanges/updates promptly
- Supplying accurate DM Nominations, as early as possible each day
- Using the Class 2 product for larger NDM LSP sites where appropriate and submitting reads as per UNC obligations
- Support NDM Demand Estimation modelling by providing additional sample data to Xoserve, especially for small LSP market
- Continuing to be diligent in managing consumer theft of gas

Gas Transporters

- Reviewing accuracy of LDZ offtake equipment to minimise errors

DMSPs

- Supporting site set-up investigations, including timely site visits



Summary

There are a number of factors impacting UIG, for which a detailed delivery plan has been established and control mechanisms are in place to manage the workload and deliver timely insights. There is overall movement on known issues and more detailed work on underlying causes is being undertaken.

Xoserve has set up a Task Force to investigate the root causes and influencers of UIG, with a target of making recommendations to reduce its volatility and scale and to develop a robust predictive model for daily UIG for use by all customers.

Further information and updates on UIG can be found via the [Xoserve website](#).

