Unidentified Gas

Executive Summary

Document Purpose

The executive summary has been created to provide a high level introduction to the subject of **Unidentified Gas** (UIG), energy reconciliation and how customers can help reduce UIG volatility.

Key Terms

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

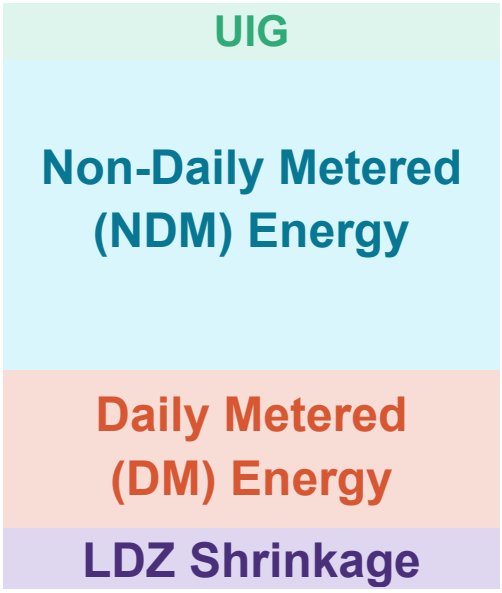
Term	Definition
Allocation Process	The process where actual gas usage (i.e. gas that has physically passed through the pipes) is shared out, after the gas is used.
Annual Quantity (AQ)	The estimate of the quantity of gas used at the site over a period of twelve months, under seasonal normal conditions.
Allocation of Unidentified Gas Expert (AUGE)	The AUGE is an independent gas industry expert whose role is to develop the Table of Weighting Factors which are used to share out Unidentified Gas (UIG) each day.
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 Service Provider (CDSP)	Xoserve is the CDSP for Britain's gas market, providing 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	Class 2 sites are read daily and have an AQ less than 58.6million kWh. An Automated Meter Reading (AMR) device is usually attached (but not mandatory) to Class 2 sites which allows reading to be collated remotely every day.
Daily Metered (DM)	Sites with meters which read daily. Readings provided via daily read equipment (DRE) and sent to the CDSP each day.
Distribution Networks (DNs)	Distribution Network Operators licenced to transport gas off-taken from the NTS through LDZs.
D+5	The D+5 window allows for better data values to be submitted for the allocation calculation and means "5 days after the end of the Gas Day".
End User Category (EUC)	End User Category: a reference used to group together end consumers based on parameters such as AQ, LDZ, Market Sector Code and (in some cases) payment method relating the end consumers to similar demand patterns.
Larger Supply Point (LSP)	A Larger Supply Point is where the annual usage of the site is 73,201 kWh and above.
Local Distribution Zone (LDZ)	The UK is split into 18 LDZs – 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)	Great Britian's National Transmission System is the network of gas pipelines that supply gas around Great Britain. The NTS is owned by National Gas. 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 because of leakage, Own Use Gas (OUG) and theft in conveyance and is determined and procured by the relevant Network Operator each day.
Smaller Supply Point (SSP)	A Smaller Supply Point is where the annual usage of the site is 73,200 kWh or less.
Supply Meter Point (SMP)	The exit point at which gas is off-taken – 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.
UK Link	The system through which services are provided including supply point administration, invoicing etc. to gas Shippers and Transporters.
Unidentified Gas (UIG)	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)?

Most of the 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).



Balancing Figure = UIG

UIG can be positive or negative for any day or LDZ depending on the relative size of recorded outputs and recorded inputs

UIG is calculated daily per LDZ and is then allocated based on Class and EUC category according to the UIG Weighting Factors

UIG is attributed to all Shippers (at portfolio level) and Shippers are required to purchase a portion of UIG when predicting gas usage

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

NDM Algorithms

Demand profiles are created using actual consumption data to manage 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.

Meter Point Reconciliation

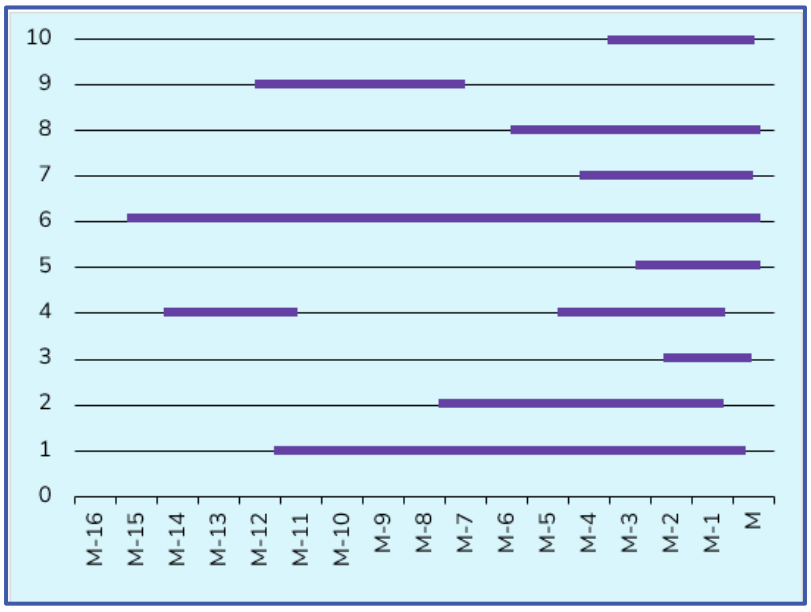
Reconciliation refers to the process where more up to date data (i.e. meter reads) triggers recalculation of previously submitted data.

The opposite 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 (UGR) is issued via the Amendment Invoice, as the equal and opposite of the meter point reconciliations processed, on the same invoice.

Reconciliation – Simplified Example

We perform reconciliation on all Supply Points (e.g.1-10) where we have received read(s) in that billing month. The diagram shows a simplified example of Individual Reconciliations for Billing Month 'M'. The energy for each NDM site is apportioned across the Reconciliation Period (read date - read date) in line with the NDM algorithm (i.e. apportioned by day according to a typical usage pattern for the EUC, LDZ and actual weather conditions).



Reconciliation Periods can be:

longer than 12 months (as in Supply Point 6)

Re-reconciliations for past periods (as in Supply Point 9)

Multiple periods for one Supply Point (as in Supply Point 4)

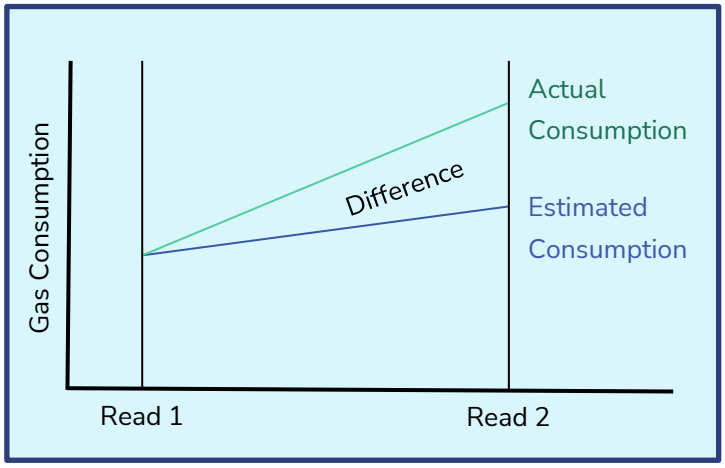
UIG can change with every meter read reconciliation

Reconciliation Principles

The following reconciliation principles 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

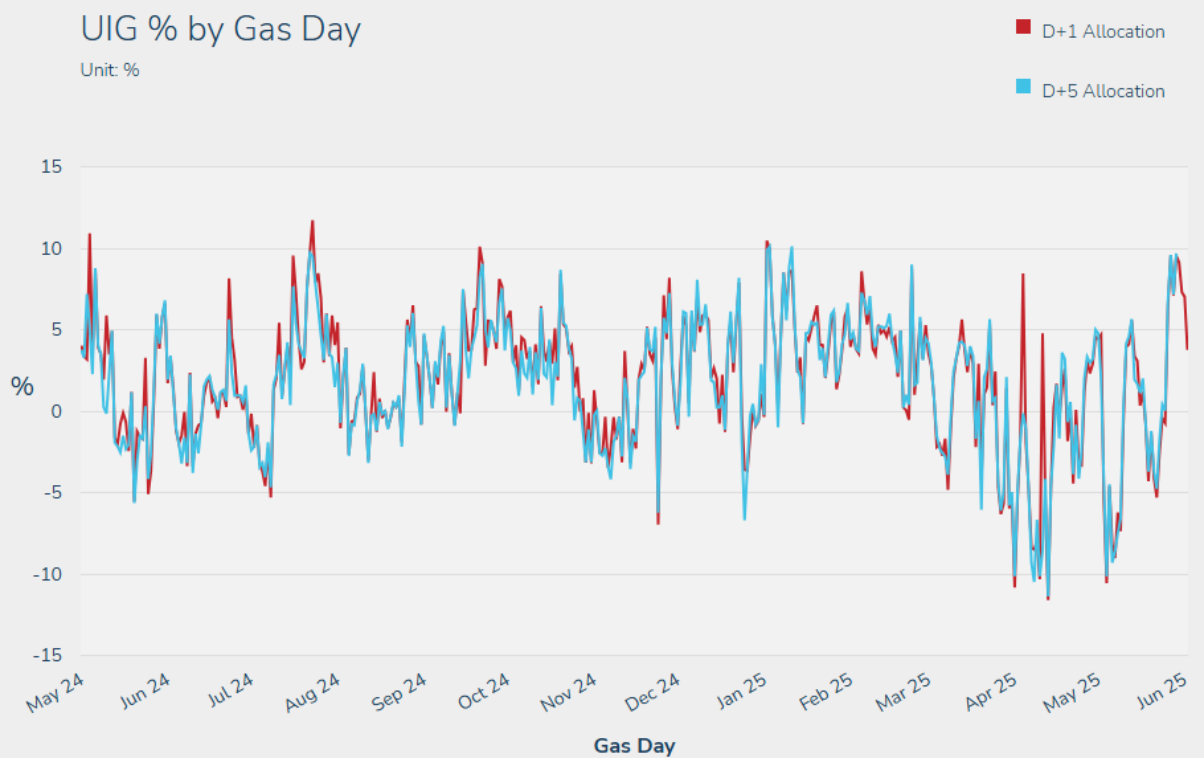


Reconciliation triggers a review of the energy value, which could mean you are debited or credited based on monthly reconciliations

Volatility

The level of UIG cannot be predicted and can vary significantly on a day to day basis. There is volatility between nominations and allocations and there are differing levels of impacts across different LDZs and EUCs.

The chart below shows how UIG values vary day on day over a 2 year period, and is available on the Xoserve website here.



What you can do as a Shipper, Gas Transporter or Daily Metered Service Provider

There are 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 Larger Supply Point sites (where appropriate) and submitting reads as per UNC obligations
- Support NDM Demand Estimation modelling by providing sample data to Xoserve
- Continuing to be diligent in managing consumer theft of gas
- Ensure correct Domestic or Industrial & Commercial 'Market Sector Code' flag is used
- Manage changes and defects to support activities feeding into UIG
- Ensure Vacant Sites Process is followed where appropriate

Gas Transporters

- Reviewing accuracy of LDZ offtake equipment to minimise errors

Daily Metered Service Provider

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