



# **Unidentified Gas (UIG) Education Pack**

**September 2018**

# Contents and Document Navigation

Document Navigation: You can go through the full pack by clicking through the slides. Alternatively, you can simply click to jump to a particular module or subject. Click the home icon to return to this contents page at any point.

## INTRODUCTION

Summary

Purpose of document

UIG Task Force

Background: Why did it change?

## CALCULATION

(includes inputs, contributions, causes and mitigations)

Introduction

Total LDZ Energy

DM Energy

NDM Energy

Shrinkage

UIG

## APPORTIONMENT

How UIG is shared out

Weighting Factors Table

Volatility

Worked Example

## INVOICING

Energy Balancing and Cashout

Reconciliation of UIG

AMS Invoice

ASP Supporting Information

## APPENDIX

Pre-Nexus Regime

Useful Links

Glossary

# Unidentified Gas (UIG) Education Pack

INTRODUCTION

Summary

Purpose of  
document

UIG Task  
Force

Background: Why  
did it change?

This section gives a general overview of unidentified gas, to give more context around the process.



# Summary

## What is Unidentified Gas (UIG)

- The majority of gas consumed in Great Britain can be accounted for as it 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 UIG.

## Why is UIG such a hot topic?

- 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 financially impacting organisations within the industry and customers are looking to Xoserve for further support and knowledge.



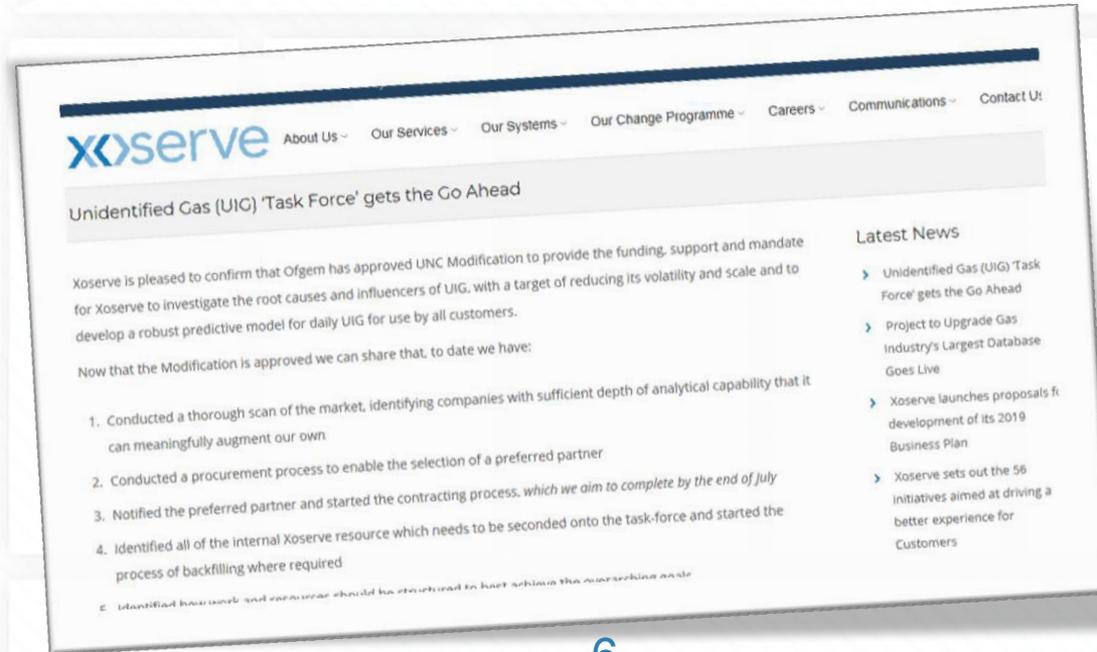
# Purpose of document

- The **UIG Education Pack** has been created to provide an overview and education into UIG. This includes; contributions and calculations, how UIG is shared out, invoicing, possible causes of UIG and reasons for it's volatility. Signposting to further details will be provided throughout the pack – with a summary of useful links in the appendix.
- It aims to deliver an easy to reference library of UIG related information which is broken down into easy to digest modules. We hope this will support our customers in gaining a more consistent level of knowledge of UIG across the industry, especially for new entrants to the market.
- This education pack aims to be seen as a reliable information source and will be updated on an ongoing basis. With our customers feeling more informed and requiring less support from Xoserve, it should allow our subject matter experts to spend more time to investigate, analyse and resolve UIG issues.



# UIG Task Force

Xoserve is pleased to confirm that Ofgem has approved modification 0658, to provide the funding, support and mandate for Xoserve to investigate the root causes and influencers of UIG, with a target of making recommendations for reducing its volatility and scale and to develop a robust predictive model for daily UIG for use by all customers.



The screenshot shows a news article on the Xoserve website. The header includes the Xoserve logo and navigation links: About Us, Our Services, Our Systems, Our Change Programme, Careers, Communications, and Contact Us. The article title is "Unidentified Gas (UIG) 'Task Force' gets the Go Ahead". The main text states that Xoserve is pleased to confirm that Ofgem has approved UNC Modification to provide the funding, support and mandate for Xoserve to investigate the root causes and influencers of UIG, with a target of reducing its volatility and scale and to develop a robust predictive model for daily UIG for use by all customers. It then lists five points of progress:

1. Conducted a thorough scan of the market, identifying companies with sufficient depth of analytical capability that it can meaningfully augment our own
2. Conducted a procurement process to enable the selection of a preferred partner
3. Notified the preferred partner and started the contracting process, which we aim to complete by the end of July
4. Identified all of the internal Xoserve resource which needs to be seconded onto the task-force and started the process of backfilling where required
5. Identified how work and resources should be structured to best achieve the overarching goals

On the right side of the article, there is a "Latest News" section with three items:

- > Unidentified Gas (UIG) Task Force gets the Go Ahead
- > Project to Upgrade Gas Industry's Largest Database Goes Live
- > Xoserve launches proposals for development of its 2019 Business Plan
- > Xoserve sets out the 56 initiatives aimed at driving a better experience for Customers

Further information  
is available on  
[Xoserve.com](https://www.xoserve.com)



# Background: Why did it all change?

## New Unidentified Gas process identified

As part of Project Nexus which would replace Xoserve's UK Link system, the industry agreed the legacy way of calculating UIG needed to change.

Historically, as less than 20% of annual usage and fewer than 1,000 sites submitted daily reads into the allocation process, the remainder of gas was allocated based on estimates and historic profiles based on sample data.

It was also deemed inappropriate, by the industry, to smear all reconciliation energy into just the Smaller Supply Points (SSP) market.

Consultation across the industry during 2008-09, discussed the Nexus requirements. This resulted in the agreement of introducing a universal individual meter point reconciliation.



UIG would be calculated daily and allocated across the entire industry using weighted profiles. It will no longer only be smeared across SSP where the AQ <73,200.

Project Nexus implemented the changes in June 2017 and they would be the driving force to enable the industry to more accurately capture how much gas was actually unidentified and allocated.

The new regime will show UIG as the balancing figure in each Local Distribution Zone (LDZ) each day. Reconciliation by Difference (RbD) would be no more.



# Unidentified Gas (UIG) Education Pack



This section outlines the different factors impacting Unidentified Gas and the calculations involved.



## What are the UIG Contributors & Calculations?



To calculate the Unidentified Gas there are several considerations

- Each LDZ is calculated independently of each other and is calculated on a daily basis.
- The input  to each LDZ is from the NTS. This is known as **Total LDZ Energy**.
- Outputs  are primarily what is consumed at supply points. These are broken down as Total DM Energy and Total NDM Energy.
- Gas can also be lost as part of the gas transportation activities, theft or leakage.

Some of this is accounted for as **Shrinkage** and is also an output .

- At a high level, the daily calculation for Unidentified Gas (UIG) for each LDZ is:

$$\text{UIG} = \text{Known inputs} \img alt="blue arrow pointing right" data-bbox="425 730 465 775"/> - \text{Known outputs} \img alt="green arrow pointing up" data-bbox="635 730 675 775"/>$$



To calculate the figures which go into the UIG calculation is more complex. The following slides provide further details.



# What is Total LDZ Energy?

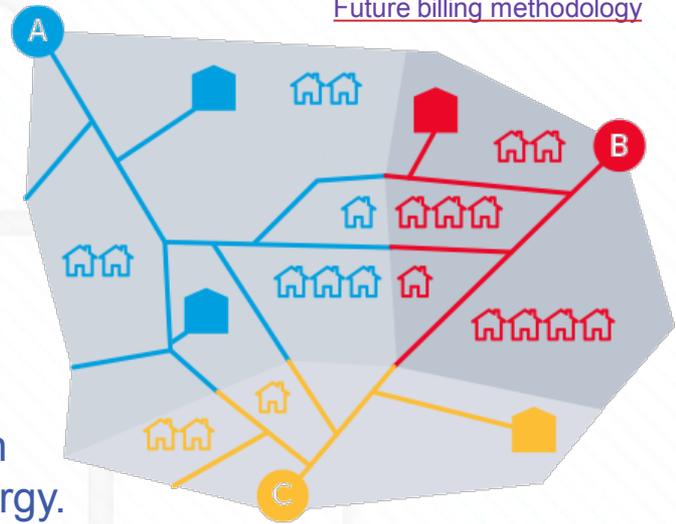
Input 

Diagram adapted from [Future billing methodology](#)

Total LDZ energy is all of the energy entering an LDZ from the NTS. LDZs usually have multiple gas input points, as shown in the diagram opposite (with ABC representing multiple input points into an LDZ).

To provide the daily LDZ energy and display it in Gemini, National Grid collect readings from the measurement device at each input point. Using an aggregator tool they convert this to a total LDZ before publishing.

Net gas moved to/from storage and any net stock change within the LDZ also contribute to the Inputs to make up Total LDZ Energy.



## How to ensure more accuracy

Gas Transporters continue to review accuracy of LDZ offtake equipment to minimize errors

For more information on offtake equipment see <https://www.gasgovernance.co.uk/index.php/MER>



# What makes up Total DM Energy?

Output 

DM Energy is the total energy for Class 1 & 2 sites. Reads received from Shippers and Daily Metered Service Provider's (DMSP class 1 only) are used to calculate energy in Gemini and are simply added up to provide a Total DM Energy.



+



+



= Total DM Energy

The accuracy of the DM figure relies on timely receipt of accurate data. With only a very small number of sites making up nearly 20% of the allocation, any inaccurate reads received could have a large impact on UIG. The entire industry can mitigate these impacts by working together to...

## Ensure more accuracy to the UIG calculations

- Supply accurate DM Nominations as early as possible each day
- Timely notification of meter asset exchanges/updates
- Support site set-up investigations, including timely site visits
- 





# How to mitigate impact of NDM Energy?

NDM energy relies on accurate and up to date information. This not only assists in the accurate allocation of energy for this sector, but also having the most up to date information helps to reduce a greater impact at reconciliation. The entire industry can mitigate these impacts by working together to...

## Ensure more accuracy to the UIG calculations

- Review accuracy of AQs and complete adjustments whererequired
- Promptly registering Shipperless/unregistered sites
- Supplying regular accurate reads, in line with read frequency, for NDM meterpoints
- Timely notification of meter asset exchanges/updates
- Using the Class 2 product for larger NDM LSP sites where appropriate and submit daily reads as per UNC obligations
- Support NDM Demand Estimation modelling by enhancing sample data, especially for smaller LSP market
- Continuing to be diligent in managing consumer theft of gas
- Correct Domestic or Industrial & Commercial flag used
- Ensure timely resolution of requests to Xoserve
- Managing changes and defects to support activities feeding into UIG.



What is Total NDM Energy?

# More information about NDM Energy Calculation

The calculation below takes into account a number of factors and this slide highlights those.

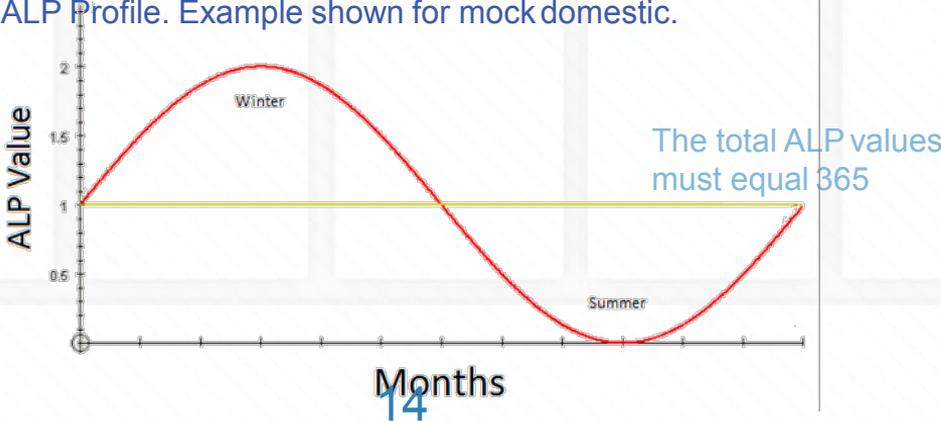
$$\text{Supply Meter Point Demand} = (\text{Rolling AQ}/365) \times \text{ALP} \times (1 + (\text{WCF}) \times \text{DAF})$$

### (Rolling AQ/365)

AQ (Annual Quantity) represents an estimate of annual demand in kWh for a supply meter point. Each supply meter point is assigned to an End User Category. The Rolling AQ is used as this is recalculated for every site whenever a read is submitted, following Rolling AQ review process.

### ALP

ALP (Annual Load Profile) is the daily seasonal normal as a proportion of the average daily seasonal normal demand for the End User Category. If sites used the same energy every day then this figure would always be 1, but as supply is seasonal and profile dependent each EUC has its own ALP profile. Example shown for mock domestic.



# More information about NDM Energy Calculation

The calculation below takes into account a number of factors and this slide highlights those

Supply Meter Point Demand = **Rolling (AQ/365)** X **ALP** X (1+ (**WCF**) X **DAF**))

## **WCF**

The Weather Correction Factor is calculated for each LDZ using the Composite Weather Variable (CWV) minus the Seasonal Normal Composite Weather Variable (SNCWV).

Ahead of and during the day, both CWV and WCF are based on forecast weather data for the LDZ. After the day, both CWV and WCF are based on actual weather observations.

## **DAF**

DAF is the Daily Adjustment Factor, which on the day is the weather sensitivity of demand in the End User Category as a proportion of the seasonal normal demand of the End User Category. The DAF will always be equal to or less than zero, and represents the proportion of seasonal normal demand lost for an increase in CWV of 1°, expressed as a decimal. For example, if the End User Category were to lose 10% of its demand with an increase of 1° in CWV, the DAF would be -0.1.



# What is Shrinkage?

Within each LDZ there is some expected losses of gas from the network. This is known as Shrinkage.

It is made up of three factors and is calculated by the Network Operators supported by the Industry Shrinkage Forum, these are:

- Leakage, with individual quantities being calculated at LDZ level
- Own Use Gas (used by the Transporters for transportation activities). This is a single factor applied across all LDZs
- Theft of Gas, which is gas stolen upstream of the meter with a single factor being applied across all LDZs.



For more information on Shrinkage please refer to the following documents;  
[LDZ Shrinkage Adjustment Methodology](#)  
[2018-19 Shrinkage Final Proposals](#)

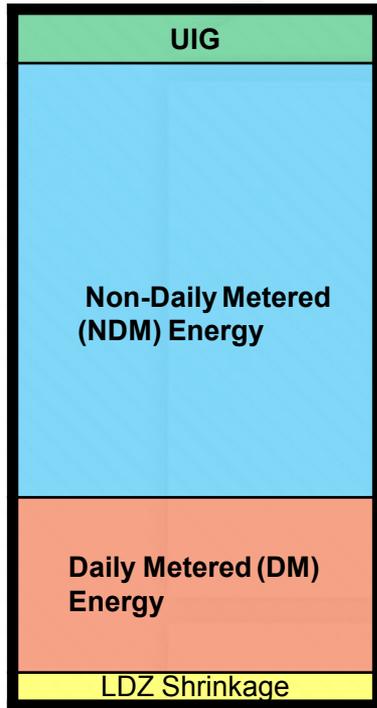




# How is UIG then calculated?

Now we are able to identify the majority of the energy passing through the LDZs we are left with a small % that is unidentified. The final calculation is:

$$\text{UIG} = \text{Total LDZ Energy} - \text{DM Energy} - \text{NDM Energy} - \text{Shrinkage}$$



Total LDZ Energy

This is calculated on a daily basis and is reported against a UIG meter in Gemini.

UIG is calculated per LDZ and then this allocated based on Class and EUC category.

Further details on this is covered in the next section.



# Unidentified Gas (UIG) Education Pack



This section shows once the total amount of unidentified gas is calculated, how it is shared out.



# How UIG is shared out?

- Due to the changes in gas settlement Project Nexus brought about, the industry agreed there was a requirement to fairly apportion the total UIG between classes and End User Category (EUC).
- To help with this, an **independent expert (AUG Expert)** helped the industry develop a methodology and provide a **table of weighting factors** that assigns the correct amount of UIG to different classes of meter points.
- The table of weighting factors is used in the daily gas nomination and allocation processes.
- Daily measured or estimated gas throughput in each LDZ is weighted using the AUG table factors to assign daily UIG to Shippers based on their throughput by meter point class and EUC.

For more information on the AUG please refer to the following document  
[AUG Statement 2018/19](#)



# What is the Weighting Factors Table?

- There are 36 Unidentified Gas Weighting Factors, which are made up of nine EUC bands by four Classes\*.
- The same factors apply to all Local Distribution Zones (LDZs)
- The Weighting Factors are published on the Joint Office of Gas Transporters website for each year.
- The total UIG for each LDZ, Class and EUC profile are weighted using a ratio calculation rather than a % calculation.

Supply Meter Point Classification	Class 1	Class 2	Class 3	Class 4
EUC Band 1	0.17	43.06	46.41	94.64
EUC Band 2	0.17	43.06	46.41	109.77
EUC Band 3	0.17	43.06	44.06	107.52
EUC Band 4	0.17	43.06	43.60	43.76
EUC Band 5	0.17	43.06	46.06	43.20
EUC Band 6	0.17	44.54	46.06	42.65
EUC Band 7	0.17	32.41	46.06	42.33
EUC Band 8	0.17	4.38	33.40	42.24
EUC Band 9	0.17	0.17	0.17	0.17

Table for 12 month period from 1<sup>st</sup> October 2018. (Gas year 18/19)

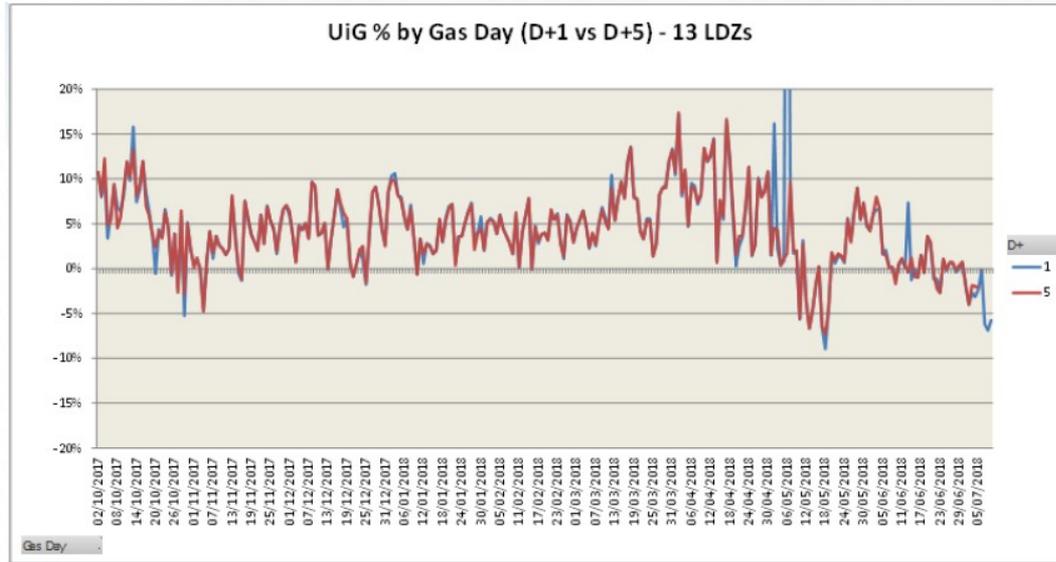
For information Weightings for each year please refer to the following document <https://www.gasgovernance.co.uk/augenex>



# Volatility

- UIG fluctuates due to various factors – some known and some unknown
- The **Latest UIG Volatility** is shared with the industry weekly in the [UIG Resolution – Weekly Update](#) on Xoserve.com

Within the weekly update, spikes are highlighted and explained where possible.



## Examples of factors that could impact UIG fluctuations

- Erroneous AQs (low)
- Delayed Reads in UK link
- Faulty metering equipment



# UIG Calculation & Allocation example

Worked example

At a high level we will look at how this all fits together. For this example we will assume 3 Shippers in one LDZ. All the values are representative of **energy**

Step 1 - Calculate total LDZ Energy

Step 2 - Calculate throughput for each Shipper Step 3 -

Calculate throughput for Total LDZ Energy

Step 4 - Apply weighting factors\* to all Shipper throughput

Step 5 - Apply weighting factors\* to Total LDZ Energy and total all weightings Step 6 –

Calculate weighted shipper throughput as a percentage

Step 7 - Apportion UIG

\* Weighting table used is example only and not reflective of any true data



# UIG Calculation & Allocation example

Worked example

$$\text{UIG} = \text{Total LDZ Energy} - \text{DM Energy} - \text{NDM Energy} - \text{Shrinkage}$$

Total LDZ Energy	130,000
Total DM Energy	39,440
Total NDM Energy	70,220
Shrinkage	13,800
UIG	6,540

**Step 1** - The UIG for the LDZ is calculated using the above calculation. Which in the example equates to 6540 or 5.03% of the total.

**Step 2** Calculate the throughput of a shipper (in the example we have titled Shipper A). The throughput is calculated by EUC and class.

Shipper A has a large domestic Portfolio with few Large Supply points & DM sites.

Shipper A

Throughput	Class 1	Class 2	Class 3	Class 4
EUC Band 1	0	0	2048	24384
EUC Band 2	0	0	2015	12441
EUC Band 3	0	0	1035	2541
EUC Band 4	0	0	1456	375
EUC Band 5	0	0	987	154
EUC Band 6	801	0	423	982
EUC Band 7	0	0	0	0
EUC Band 8	2758	0	125	0
EUC Band 9	2879	0	184	0



# UIG Calculation & Allocation example

Worked example

**Step 3** We calculate the Total LDZ throughput in the same way .

**Step 4** Apply the weighting Factor table to the throughputs. The weighted throughput is calculated for each shipper.

Each Shipper is calculated independently of each other.

The weighting Table used in this example is the one displayed on slide 20.

Total LDZ

Throughput	Class 1	Class 2	Class 3	Class 4
EUC Band 1	0	0	3072	36194
EUC Band 2	0	0	2869	14531
EUC Band 3	0	0	1174	5581
EUC Band 4	0	28	1504	580
EUC Band 5	578	154	987	1358
EUC Band 6	2811	985	423	1405
EUC Band 7	6035	452	50	36
EUC Band 8	14773	895	190	0
EUC Band 9	11304	1425	206	60

Shipper A

Weighted	Class 1	Class 2	Class 3	Class 4
EUC Band 1	0	0	95047.68	2307702
EUC Band 2	0	0	93516.15	1365649
EUC Band 3	0	0	45602.1	273208.3
EUC Band 4	0	0	63481.6	16410
EUC Band 5	0	0	45461.22	6498.8
EUC Band 6	136.17	0	19483.38	41882.3
EUC Band 7	0	0	0	0
EUC Band 8	468.86	0	4175	0
EUC Band 9	489.43	0	31.28	0



# UIG Calculation & Allocation example

Worked example

Total LDZ

Throughput	Class 1	Class 2	Class 3	Class 4	
EUC Band 1	0	0	142571.5	3425400	
EUC Band 2	0	0	133150.3	1595068	
EUC Band 3	0	0	51726.44	600069.1	
EUC Band 4	0	1205.68	65574.4	25380.8	
EUC Band 5	98.26	6631.24	45461.22	57307.6	
EUC Band 6	477.87	43871.9	19483.38	59923.25	
EUC Band 7	1025.95	14649.32	2303	1523.88	
EUC Band 8	2511.41	3920.1	6346	0	
EUC Band 9	1921.68	242.25	35.02	10.2	
	6035.17	70520.49	466651.3	5764683	6307890

Step 5 Apply weighting factors to Total LDZ Energy. Once the weighting throughput for Total LDZ has been calculated this is totalled to provide a **Total LDZ Weighted Value**.



# UIG Calculation & Allocation example

Worked example

Shipper A

% LDZ Total	Class 1	Class 2	Class 3	Class 4
EUC Band 1	0	0	0.015068	0.365844
EUC Band 2	0	0	0.014825	0.216498
EUC Band 3	0	0	0.007229	0.043312
EUC Band 4	0	0	0.010064	0.002602
EUC Band 5	0	0	0.007207	0.00103
EUC Band 6	2.16E-05	0	0.003089	0.00664
EUC Band 7	0	0	0	0
EUC Band 8	7.43E-05	0	0.000662	0
EUC Band 9	7.76E-05	0	4.96E-06	0

**Step 6** The weighted value in each 'cell' (Step 4), is divided by the **Total LDZ Weighted Value** (Step 5) to provide what % share of the total **UIG** will be applied.

Shipper A

UIG Share	Class 1	Class 2	Class 3	Class 4
EUC Band 1	0	0	98.54513	2392.618
EUC Band 2	0	0	96.95725	1415.9
EUC Band 3	0	0	47.28011	283.2615
EUC Band 4	0	0	65.81752	17.01384
EUC Band 5	0	0	47.13405	6.737935
EUC Band 6	0.141181	0	20.20031	43.42343
EUC Band 7	0	0	0	0
EUC Band 8	0.486113	0	4.328627	0
EUC Band 9	0.507439	0	0.032431	0
	1.134733	0	380.2954	4158.955
				4540.385

**Step 7** The % share (Step 6) is multiplied to the total **UIG** to provide the amount of **UIG** apportioned to each EUC Band and Class. This can be totalled to give the total **UIG** for the Shipper which is shown in Gemini.



# UIG Calculation & Allocation example

Worked example

The other shippers in the LDZ (B & C in this example) will follow the same steps.

Each table in the process is shown opposite.

The Excel Spreadsheet to calculate these is embedded below.



Microsoft Excel  
Worksheet

Shippers  
B & C  
Weighted  
throughput

Shipper B					
Weighted	Class 1	Class 2	Class 3	Class 4	
EUC Band 1	0	0	0	449066.8	
EUC Band 2	0	0	0	135675.7	
EUC Band 3	0	0	0	263531.5	
EUC Band 4	0	1205.68	0	3500.8	
EUC Band 5	98.26	6631.24	0	31734.4	
EUC Band 6	341.7	43871.9	0	18040.95	
EUC Band 7	1025.95	14649.32	0	1523.88	
EUC Band 8	2042.55	3920.1	0	0	
EUC Band 9	1432.25	242.25	0	0	

Shipper C					
Weighted	Class 1	Class 2	Class 3	Class 4	
EUC Band 1	0	0	47523.84	668631.6	
EUC Band 2	0	0	39634.14	93743.58	
EUC Band 3	0	0	6124.34	63329.28	
EUC Band 4	0	0	2092.8	5470	
EUC Band 5	0	0	0	19074.4	
EUC Band 6	0	0	0	0	
EUC Band 7	0	0	2303	0	
EUC Band 8	0	0	2171	0	
EUC Band 9	0	0	3.74	10.2	

Shippers  
B & C

Shipper B					
% LDZTotal	Class 1	Class 2	Class 3	Class 4	
EUC Band 1	0	0	0	0.071191	
EUC Band 2	0	0	0	0.021509	
EUC Band 3	0	0	0	0.041778	
EUC Band 4	0	0.000191	0	0.000555	
EUC Band 5	1.56E-05	0.001051	0	0.005031	
EUC Band 6	5.42E-05	0.006955	0	0.00286	
EUC Band 7	0.000163	0.002322	0	0.000242	
EUC Band 8	0.000324	0.000621	0	0	
EUC Band 9	0.000227	3.84E-05	0	0	

Shipper C					
% LDZTotal	Class 1	Class 2	Class 3	Class 4	
EUC Band 1	0	0	0.007534	0.105999	
EUC Band 2	0	0	0.006283	0.014861	
EUC Band 3	0	0	0.000971	0.01004	
EUC Band 4	0	0	0.000332	0.000867	
EUC Band 5	0	0	0	0.003024	
EUC Band 6	0	0	0	0	
EUC Band 7	0	0	0.000365	0	
EUC Band 8	0	0	0.000344	0	
EUC Band 9	0	0	5.93E-07	1.62E-06	

Total UIG - Shipper B 1014.542

Shipper C 985.073



# Unidentified Gas (UIG) Education Pack



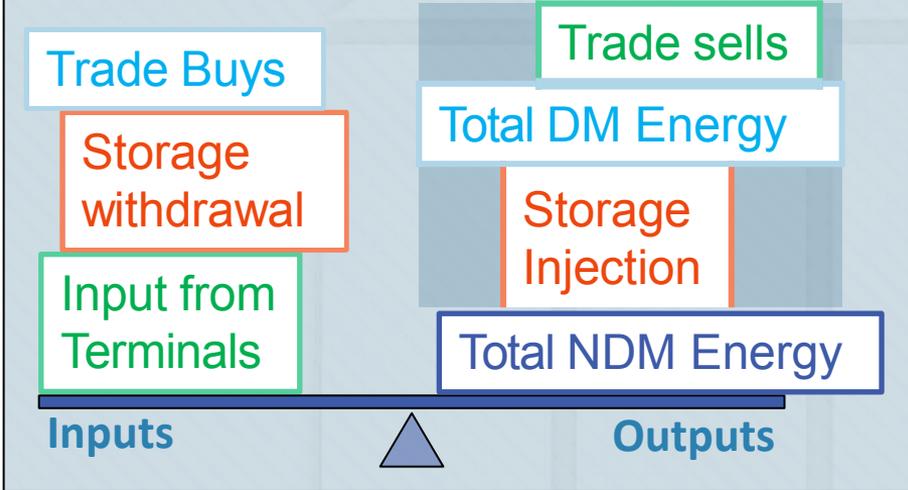
This section summarises once the unidentified gas is shared out, how it is viewed and charged. As a summary, the initial UIG is accounted for in the Energy Balancing and cash out process, whilst Reconciliation on the Amendments Invoice provides an improved position.



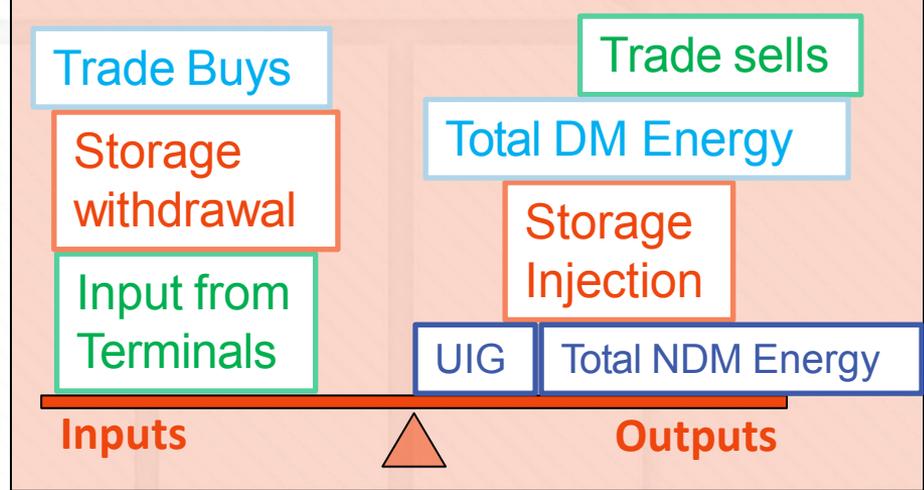
# Energy Balancing & Cashout for UIG

Energy Balancing is performed daily to ensure all inputs and outputs from the network are equal and accounted for.

At a high level **Pre Nexus** energy was balanced using the following factors.



At a high level **Post Nexus** energy is balanced using the following factors.



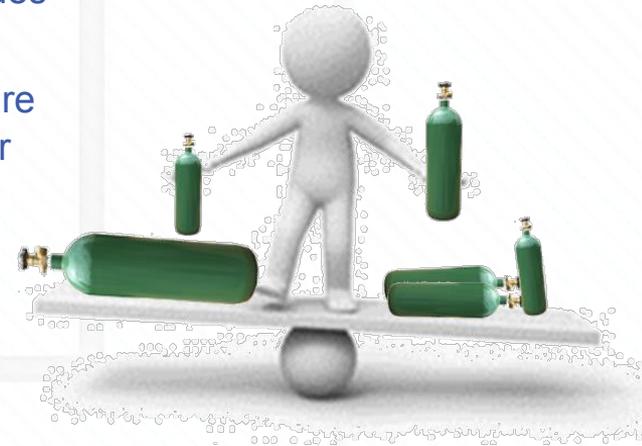
As you can see the main difference is that UIG now appears on the outputs side although the UIG and Total NDM Energy post nexus equates to the Total NDM Energy pre nexus.



# Energy Balancing & Cashout for UIG

## Considerations for UIG as Part of Energy Balancing & Cashout

- As UIG now forms part of a Shipper's overall daily cash out, it is part of the Daily Cashout charges on a Shipper's Energy Balancing Invoice.
- The UIG meter does not appear on the EBI invoice with its own charge type.
- The Shipper's overall daily imbalance is worked out using all input and trades acquired minus all outputs (DM sites, NDM sites, **UIG**) and trades sold which gives the overall imbalance for the gas day and Shipper.
- If the value is positive then the Shipper has over delivered and they are cashed out at SMP sell price. If the value is negative, they have under delivered and this is cashed out at SMP buy price.
- Final allocations are used for final imbalance and cashout.
- UIG is on the output side hence effectively closed out at D+5

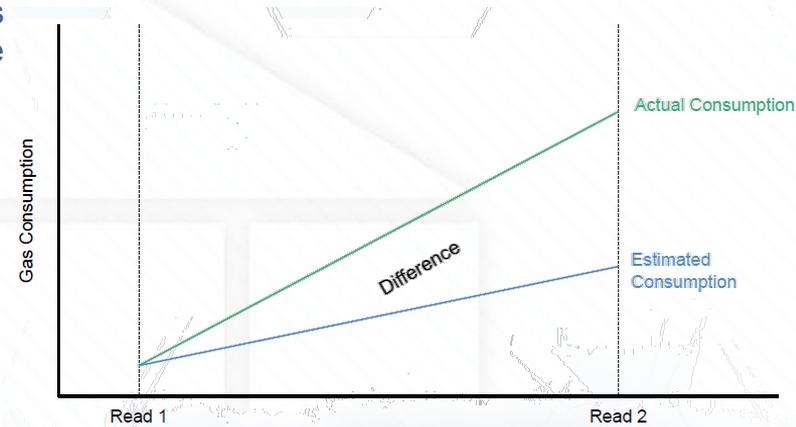


# How does reconciliation affect UIG?

Reconciliation relies on actual meter reads being submitted. These reads could either account for (identify) more or less gas than was used in the original UIG calculation, based on the previous actual read.

Readings can be received for a variety of reasons including:

- Class 1 & 2 - actual read received following a period of estimates
- Class 3 batch of actual reads received on a monthly basis
- Class 4 actual reads received dependent on read frequency
- RGMA Activity
- Annual check reads at site
- Estimated shipper transfer & class change readings



Therefore each actual read on each site impacts UIG in some way. All these reconciliation values are aggregated by Class, EUC and LDZ. The kWh is also apportioned but is not used to recalculate the financial amount and is a notional value.

For more information on the Amendments Invoice please refer to <https://www.xoserve.com/wp-content/uploads/AmendmentsInvoice.pdf>



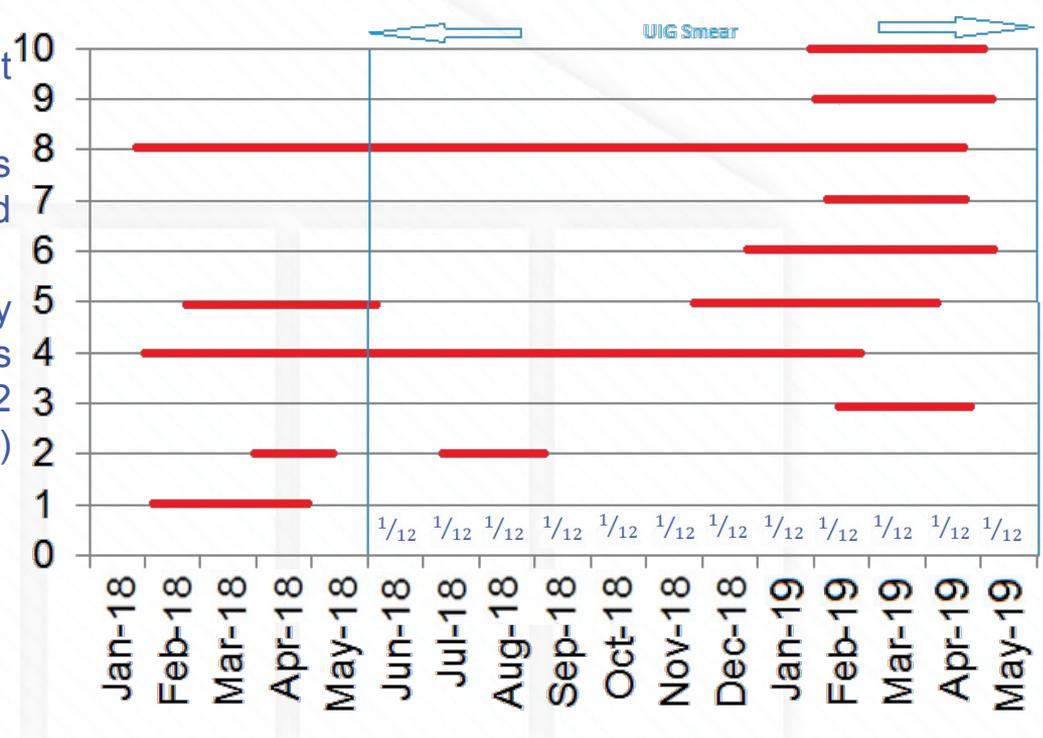
# How does reconciliation affect UIG?

We perform reconciliation on all sites (e.g. 1-10) where we have received read(s) in that billing month.

The energy for each site is smeared across the reconciliation period (read date - read date) *individual Reconciliations shown in red.*

The opposite value amends UIG\* energy (aggregated at LDZ, Class, EUC level) and is then smeared equally across the previous 12 months (Equally divided into  $\frac{1}{12}$  per month) *Impact of UIG smear shown in blue.*

\*If the total reconciliation figure (all the red lines) total 12million kwh, then this is effectively identified; thus it comes off the unidentified total. However same process could cause more gas to be unidentified if reconciliation figure is a negative value. If the total rec value was 12Mkwh then the UIG smear would be -12Mkwh and split to -1Mkwh per month.

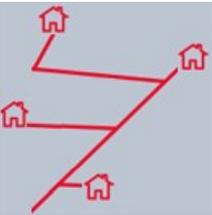


# Why is UIG split by 1/12 per month

In its simplest terms a “Shipper is responsible for a % of the UIG amendment for a site for 12 Months for the period of its ownership” and the reason for this “The Industry agreed that majority of recs would flow within 12 months, and rather than continue to share out recs over a long period, using 12 months would be less of a barrier to exiting the market”

In practical terms if a site is taken over by a new shipper or a shipper leaves the market, the outgoing shipper will still be responsible for the UIG charge on the amendment invoice for the site for 12 months, although this will dwindle over the 12 month period.

**Scenario** We have an LDZ with only 4 sites (SMPs). All sites have the same EUC, Class and AQ. Therefore making UIG share for each site the same. There are 3 Shippers in the market (A,B&C).



- Shipper A had 2 sites and has decided to leave the market its sites are confirmed by Shipper C
- Shipper B had 2 sites but Shipper C has been confirmed on 1 and they retain the other.
- Shipper C is new to the market and now has 3 sites.

To keep it simple - The monthly reconciliation for these sites for the next 12 months total 96kwh per month and as its opposite value UIG amendment is therefore calculated at -96kwh.

Consequently each site is apportioned -24kwh (1/4) and this is smeared as equal 12ths and is calculated at -2kwh per month.



# Why is UIG split by 1/12 per month

**After 1 Month** Shipper A who has exited the market is still responsible for the remaining 11 months for the site and is therefore apportioned 11/12s of the total UIG apportionment for the 2 sites they had. Total = -44kwh

Shipper B is apportioned all of the UIG for their retained site they retained and as they are still responsible for the remaining 11 months for the site that has been confirmed to Shipper C they are therefore apportioned 11/12s of the total UIG apportionment for the second site. Total = -46kwh

As Shipper C only has responsibility for their 3 new sites for 1 month, they are apportioned 1/12 of the UIG for the one month. Total = -6kwh

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Shipper A	4	4	4	4	4	4	4	4	4	4	4	0
Shipper B	4	4	4	4	4	4	4	4	4	4	4	2
Shipper C	0	0	0	0	0	0	0	0	0	0	0	6

**After 6 months** (from month 7) all Shippers are responsible for half (6/12s) of the UIG for the sites they have lost or gained 6 months prior, alongside all of the UIG for any retained sites.

	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13	Month 14	Month 15	Month 16	Month 17	Month 18
Shipper A	4	4	4	4	4	4	0	0	0	0	0	0
Shipper B	4	4	4	4	4	4	2	2	2	2	2	2
Shipper C	0	0	0	0	0	0	6	6	6	6	6	6

12 months (from month 13) after confirmations, all Shippers have the full UIG apportionment for their sites. Shipper A & B no longer have UIG responsibility for the sites they lost 1 year previous.

	Month 13	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24
Shipper A	0	0	0	0	0	0	0	0	0	0	0	0
Shipper B	2	2	2	2	2	2	2	2	2	2	2	2
Shipper C	6	6	6	6	6	6	6	6	6	6	6	6

Tables show the -96kwh is apportioned to each shipper. (All values -ve)



# How to view UIG on the Amendments Invoices (AMS)

- The **Amendment Invoice (AMS)** is triggered by a number of factors
- There are 52 possible charges which can appear on the Amendment Invoice
- One of the charge types is the **UGR charge**
- The purpose of the UGR charge is to redistribute UIG throughout the network and across all Shipper networks proportionally to their portfolio

## Invoice Files and Supporting Information Files

- AMS invoices are issued as a csv file via the IX on the 18<sup>th</sup> Business Day of each month
- Each AMS Invoice provides the UGR total charge per Network
- Shippers will receive separate invoices for each Network they operate in
- ASP Core Amendment Invoice Supporting Information file provides a further breakdown of the UGR charges across all Networks.



# How to view UIG on the ASP Supporting Information File

- The **ASP Supporting Information file** is also known as the “Thin File”
- It is issued as a CSV (comma separated value) file via the IX, sent on the same day as the AMS Invoice (18<sup>th</sup> Business Day of the month)
- The UGR Charge appears in the **K91 record - Reconciliation Invoice UG Smear**
- The K91 record breaks down the UGR charge and includes;

LDZ	EUC Number	Class Type	UIG (Weighting) Factor	UIG Incurred Month & Year (rolling 12 month period)
LDZ Total Throughput	Shipper Throughput	Shipper Throughput Share	UIG Charge Amount	UIG Reconciliation Quantity

Note: If you notice multiple lines on the K91 record with the same information apart from the charge amount and reconciliation quantity, the 1<sup>st</sup> line corresponds to the “Monthly rec smear” and the 2<sup>nd</sup> is the “Other LDZ adjustments smear”. The 2<sup>nd</sup> line relates to an Request To Bill (RTB) that will have been issued following a receipt of an ORD submission.



# Unidentified Gas (UIG) Education Pack

APPENDIX

Pre-Nexus  
Regime

Useful  
Links

Glossary



# Pre-Nexus Regime

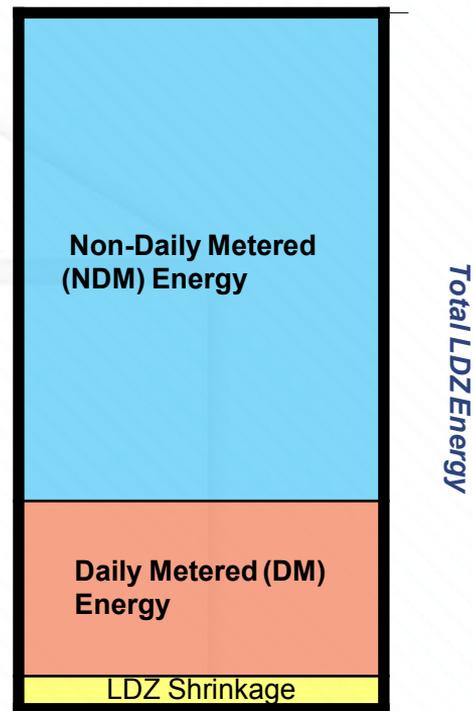
Before UIG the process was know as RbD or Reconciliation by Difference.

The similarities to the UIG process outlined in this pack are:

- Total LDZ energy is calculated in the same way
- The principles of Shrinkage.
- DM Energy (Class1&2) were calculated using actual reads.
- Energy Balancing principles. Although UIG was not an output factor.

Therefore the only difference being that the remainder of the energy was allocated as NDM energy.

This energy was calculated per LDZ and allocated based on portfolio share.



# Useful Links

Document and description	Link
<b>UIG pages on the Xoserve Information Library</b> After launching the Information Library, select Q&A Categories from the title page > select the Unidentified Gas (UIG) tile > view the questions and answers.	<a href="https://www.xoserve.com/index.php/our-change-programme/uk-link-programme/uk-link-programme-workstream-updates/uk-link-information-library/">https://www.xoserve.com/index.php/our-change-programme/uk-link-programme/uk-link-programme-workstream-updates/uk-link-information-library/</a>
<b>UIG pages on Xoserve.com</b> Multiple documents, including UIG Resolution – Weekly Update, UIG Communications, UIG Events Material, UIG Information and Useful Links	<a href="https://www.xoserve.com/index.php/unidentified-gas-uir/">https://www.xoserve.com/index.php/unidentified-gas-uir/</a>
<b>AML Supporting Information File Format and File Hierarchy</b> From the UK Link Documentation Library, select UK Link Interface Documents > 3b. System Interface Documents > Shipper	<a href="#">Shipper File Formats</a> <a href="#">Shipper File Hierarchies</a>
<b>Joint Office of Gas Transporters - AUG Statement 2018/19</b> <ul style="list-style-type: none"><li>• 28 June 2018 Final Allocation of Unidentified Gas Statement for 2018/19</li><li>• 28 June 2018 Final Factor Table Covering Letter</li></ul>	<a href="https://www.gasgovernance.co.uk/augenex/1819">https://www.gasgovernance.co.uk/augenex/1819</a>
<b>UIG values (kWh &amp; %) published weekly</b> From UK Link Secured Documentation, select Folder 18 > Demand Estimation Project Nexus > LDZ Post-Nexus UIG	<a href="https://xoserve.sharepoint.com/sites/XEUKLINKDev/Pages/UserDocumentMgmt.aspx">https://xoserve.sharepoint.com/sites/XEUKLINKDev/Pages/UserDocumentMgmt.aspx</a>
<b>Details of the NDM Demand Formula</b> From UK Link Secured Documentation, select Folder 18 > Demand Estimation Project Nexus > current gas year (e.g. 2018-19 Gas Year) > 4. NDM Algorithms booklet > Section08_18	<a href="https://xoserve.sharepoint.com/sites/XEUKLINKDev/Pages/UserDocumentMgmt.aspx">https://xoserve.sharepoint.com/sites/XEUKLINKDev/Pages/UserDocumentMgmt.aspx</a>

