# Unidentified Gas (UIG) Update – Gas Year 2021/22

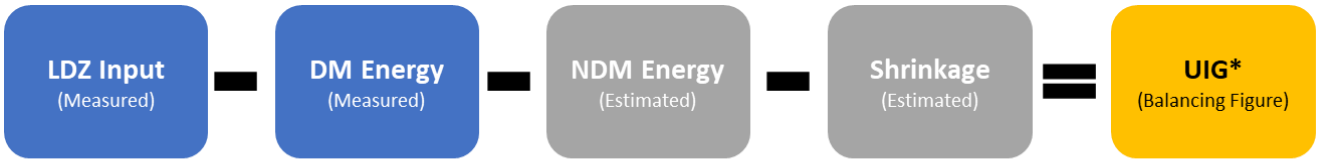
May 2022

Dear Customers and Industry Colleagues,

Xoserve would like to share with you a commentary on the unusual levels of negative Unidentified Gas (UIG) observed in recent months, likely causes and how this is impacting the monthly Amendment Invoice.

## Background Information

UIG is the balancing figure in the daily Demand Attribution calculations which means mathematically it is perfectly possible for UIG to be a negative figure, despite this being a physical impossibility. The most common reason for negative UIG, particularly if it is for an extended period and/or for several Local Distribution Zones (LDZs), is for the estimate of Non-Daily Metered (NDM) Energy to be too high. Incorrect or missing measured values for LDZ Inputs and DM Energy can trigger negative UIG but this is more likely to be for a single gas day or LDZ.




* UIG at D+5 is 'Temporary'. As NDM meter point reconciliation occurs the 'real UIG' figure will emerge

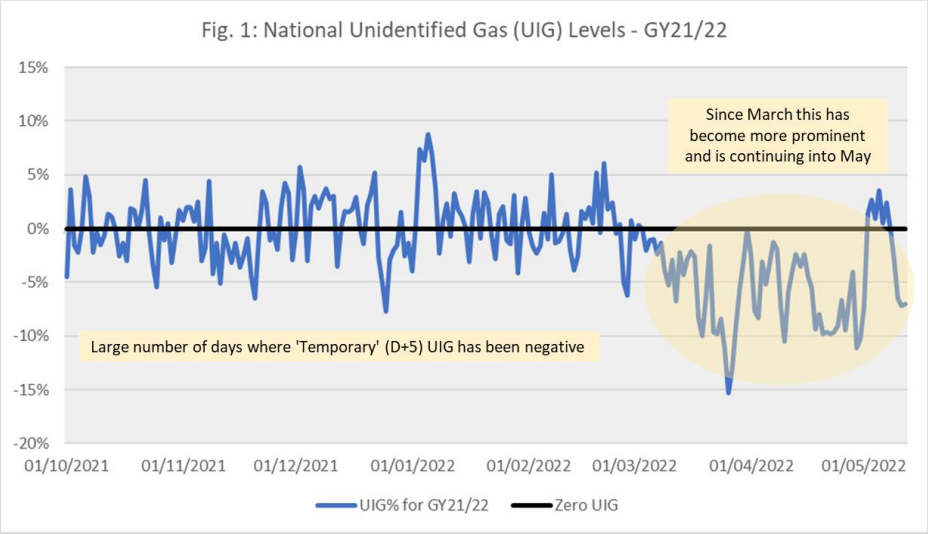
The Demand Estimation team monitors daily UIG and related demand data to:

(i) ensure ad-hoc data issues that have caused a (+) or (–) spike are corrected before 'exit closeout' (D+5) and
(ii) review UIG levels and trends to help us respond to customer queries.

We provide updates to the industry via the UIG Allocation Issues Tracker available on the UIG page here.

## Unidentified Gas (UIG) Levels in Gas Year 2021/22

During the current Gas Year (see Fig.1) we have seen extended periods of negative UIG which is particularly unusual during the space heating months of October to April, especially when benchmarked with comparable periods in previous years (see Table below). On-line graph of National UIG available here




| Gas Year | Average UIG % (Oct to April) | No. of Days Negative UIG |
|---|---|---|
| 17/18 | 5.43 | 11 |
| 18/19* | -0.54 | 118 |
| 19/20 | 2.09 | 44 |
| 20/21 | 2.83 | 43 |
| 21/22 | -1.50 | 135 |

* Not true position as Industry agreed to artificially inflate NDM estimate via use of 'Uplift Factors'

## Causes of Negative UIG in Gas Year 2021/22

Negative UIG has been observed consistently across all LDZs this Gas Year and quite markedly during late Winter / Early Spring. This can be directly attributed to an over estimation of NDM demand and so UIG has been forced to swing negative as a result. The formula for estimating NDM demand ("NDM Algorithm") is shown below:

There are 3 key aspects to consider:

i) establishing a base load for the day ***i.e. AQ/365***
ii) an adjustment to reflect average weather and time of year ***i.e. x ALP***
iii) an adjustment to reflect the actual weather experienced on the day ***i.e. x 1+(WCF X DAF)***

**NDM Algorithm:**


*Where:*
*ALP = Annual Load Profile*
*DAF = Daily Adjustment Factor*
*WCF = Weather Correction Factor*

**Role of the AQ in NDM Algorithm**

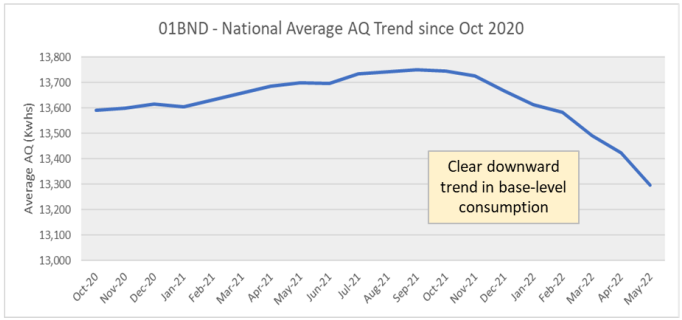
The main driver in the estimate of NDM demand is the Annual Quantity (AQ).

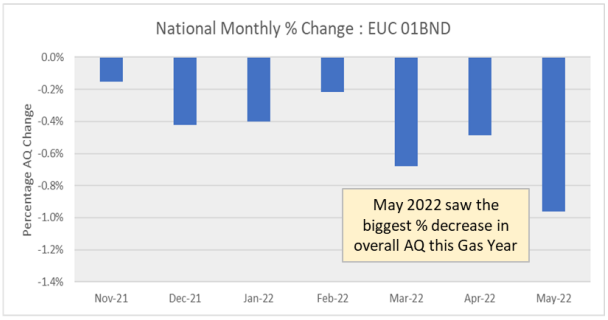
The AQ calculation itself is deliberately designed to provide stability to the industry by ensuring there is not volatile month on month movement because of a potential temporary spike or reduction in consumption. As the optimum read period is 12 months, this means any sustained changes to an end consumer's usage pattern may take several months of updated AQ calculations to filter through.

Crucially, the AQ calculation also contains a weather correction element which means any colder or warmer weather experienced during the read period used is also accounted for. This means any changes to AQ are not weather related but as a result of a clear change in use or more subtle conservational effects.

During 2022 we have undoubtedly observed a reduction in the underlying usage in the Band 1 (0 to 73.2 MWh pa) Domestic End User Categories (EUCs) i.e. "01BND" – Non Prepayment and "01BPD" Prepayment consumers. See Fig.3 below for the main Domestic EUC (c.22m).

**Fig.3 Domestic AQ Trend:**

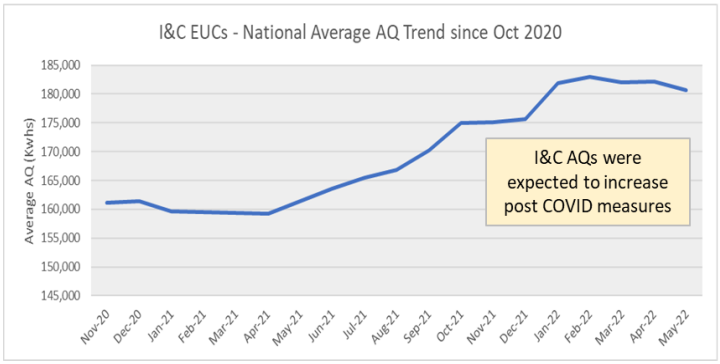


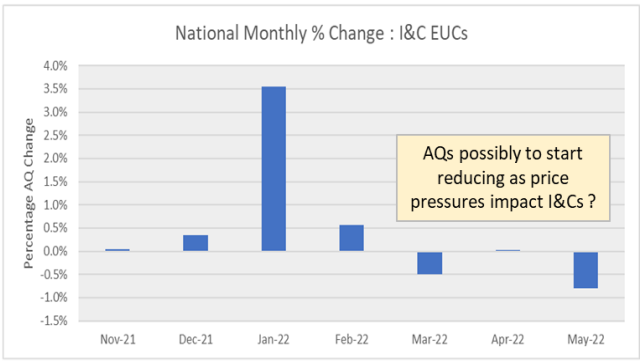




In total there has been c.3.5% reduction since October 2021 which is highly unusual for this EUC and is a clear indicator that there has been a reaction by end consumers to reduce their gas consumption, **almost certainly because of the large increases in gas prices.** It is highly likely that the actual % reduction by this consumer group is far higher than 3.5%, our simulation suggests that based on historic temporary UIG of c.2%, EUC01 Domestic sites have actually reduced their consumption by more like 10% on average.

Industrial & Commercial (I&C) AQs have also seen reductions in recent months (nearly 1% in May), following a period of steady increase due to a 'post COVID correction'.

**Fig.4 I&C AQ Trend:**

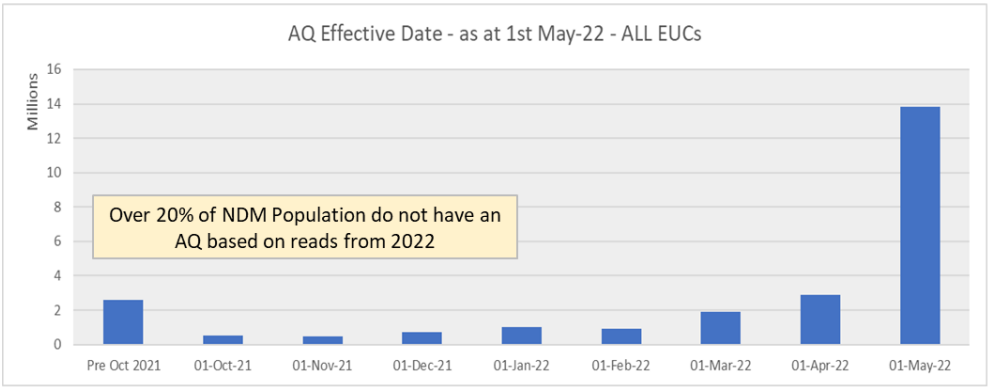



Due to the inherent lag in the AQ calculation, it is likely to be several more months before the more realistic AQ levels are understood. Until then it is likely that the NDM AQ used in the NDM Algorithm will continue to be too high and therefore **we expect the negative UIG to continue for some time**. If the uncertain economic outlook of high inflation (including energy prices) means consumers will be reducing their consumption and/or businesses switch to alternative energy sources, it is possible this could continue to be an issue in Gas Year 2022/23 as well.

Over the next few months, regular meter readings will be more critical than ever in ensuring the 'NDM AQ base' is as close to reality as it can be. The recent call in the media for end consumers to read their meters ahead of the price cap changes at the beginning of April saw an extra 2.5m AQs calculated with an effective date of 1st May 2022, 13.8m in total (see Fig.5), however there remain over 3m AQs with an effective date of 1st October 2021 or earlier. Assuming these sites are also changing their use, this will be contributing to the NDM over allocation and therefore negative UIG.

**Fig.5 AQ Effective Date Age Profile:**




| AQ Effective Date Month | No. of MPRs | % of NDM Population |
|---|---|---|
| Pre Oct'21 | 2,616,600 | 11 |
| 10/2021 | 510,267 | 2 |
| 11/2021 | 482,351 | 2 |
| 12/2021 | 732,326 | 3 |
| 01/2022 | 999,094 | 4 |
| 02/2022 | 910,432 | 4 |
| 03/2022 | 1,922,181 | 8 |
| 04/2022 | 2,877,364 | 12 |
| 05/2022 | 13,849,014 | 56 |

### Impacts of Unusual Weather to NDM Modelling - March UIG

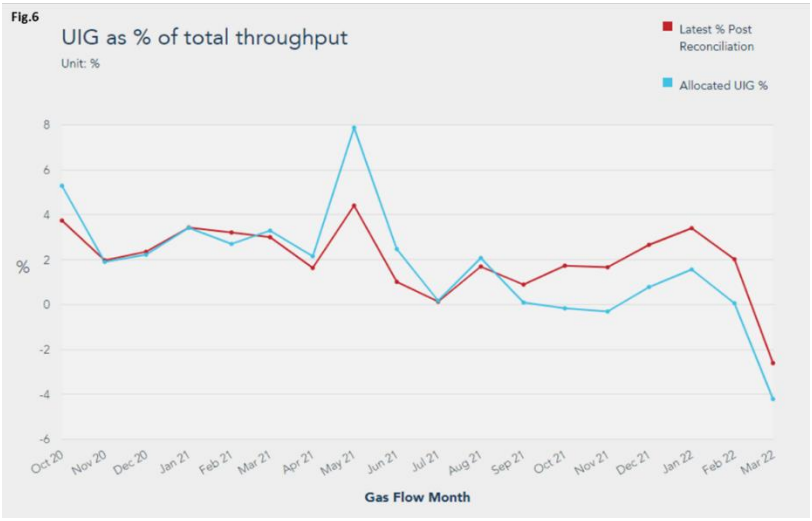
Although the NDM Algorithm includes weather correction, it can struggle to adapt properly under extreme/unseasonal hot or cold weather, as we have less of that in our historic models. An example of this was seen in March 2022 where the combination of a very warm March (4th warmest in last 50 years) and a price savvy consumer base meant the negative UIG was particularly notable. This was explained in more detail in a recent update to the DSC Contract Managers meeting, available here.

## Impacts of Negative UIG in Gas Year 2021/22

We know that the current sustained negative UIG values being allocated to Shippers is only a temporary position and not reflective of the real UIG. It is therefore important to appreciate that the **net position of your NDM Allocation and UIG at D+5 is currently too low** and a correction to this should be expected via the Amendment Invoice over the recent and coming months

**Reminder:** UIG is the balancing figure in each LDZ each day and any subsequent demand data refinements will continue to change that UIG position through reconciliation.

In reality actual UIG will be a positive value in the long run as seen in Fig.6 below. This chart is an attempt to show what the real UIG% is post reconciliation. This represents an approximate view as we don't know exactly how gas consumption between read 1 and read 2 has been used, however using a phasing approach based on the original allocation, we can provide an educated guess. As you can see for the past few months, the post reconciliation UIG has either returned to a positive figure or is heading in that direction. This supports the theory that NDM over allocation has been the cause of the sustained negative UIG and has materialised in unprecedented levels of individual credit reconciliations on the Amendment Invoice in recent months.




The online graph of UIG as a % of Total Throughput is available here

**Key Point:**

A further benefit of upto date meter readings for the whole NDM sector is that the real UIG (red line) and the subsequent costs associated with it will be revealed and settled for the industry much sooner

**Amendment Invoice Outlook:**

For the foreseeable future we expect meter point reconciliation to continue to result in significant credit volumes to those individual sites which have been overallocated due to high AQs and/or unexpected weather reactions. As a consequence, you should expect industry-wide UIG debit volumes to also continue as an equal and opposite to those credits via the 'UGR' charge type on the Amendment invoice.

**Reminder**: There is no gain or loss of energy or financial values in the UIG Reconciliation process. The sum of all the meter point reconciliations is divided by 12 and shared back as an equal and opposite across 12 months of latest weighted throughput, using the relevant UIG Weighting Factors for those 12 Billing Periods. Both the energy quantity and financial values of the individual meter point reconciliations are summed, reversed and shared out, so the price of the UIG Reconciliation is dependent on the prices of all those underlying individual reconciliations.

For more information on the sharing out of UIG and the invoicing process post reconciliation please see our UIG education pack available here

**New Chart:** An additional online chart is now available on the UIG homepage here, which provides a view of how much of the original NDM allocation for each gas flow month has been subject to meter point reconciliation. This provides a view, back to the current 'line in the sand' (April 2019), of how much of the original allocation is yet to reconcile. Updates to the chart will be posted monthly.

## UIG Queries and Further Information

For more information about UIG please take a look at Xoserve.com, and in particular our dedicated UIG website page here. Additional UIG data is also available to UNC parties via the dedicated secure area which is explained in more detail here.

If you have any questions or comments on any aspect of UIG we are requesting that customers raise further requests for assistance via our "Help Centre" here

**Demand Estimation Modelling Gas Year 2022/23**

For information and awareness, work is currently ongoing by Xoserve's Demand Estimation Team (alongside the Demand Estimation Sub Committee (DESC)) to produce the Gas Demand Profiles used in the NDM Algorithm for Gas Year 2022/23. The first draft are due to be published by 10th June, which kicks off an industry consultation period that is scheduled to conclude at the end of July. If you are interested in following progress so far with this year's process, please take a look at the material presented at DESC, available here

## Follow Up Q&A

As we are aware this topic is causing several questions across the industry, we are planning a follow up to this news article in the form of an on-line webinar in June. If you would like to register interest in this event please do so by dropping an email to the Demand Estimation Team here and include a reference to "UIG webinar"