



AUGE Response to the draft AUG Statement Consultation for Gas Year 2022-2023

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INTRODUCTION

The draft AUG Statement was published by the Joint Office of Gas Transporters on 22nd December 2021. Alongside this, we provided a consultation document requesting stakeholder views on the Weighting Factors, our overarching methodology and any assumptions, methodology aspects, calculations and results for each UIG Contributor within the draft AUG Statement.

We thank all stakeholders for their responses. We have reviewed these carefully, considering the arguments made and the rationale presented, along with any evidence provided. This is consistent with our terms of reference.

Where any points made give rise to changes to the Statement, we have noted any adjustments that we intend to make. Other points have been recorded for future consideration.

We have numbered all industry comments and have tried to signpost them when responding to them. We do not respond to every point made: some are recorded for transparency but do not invite or require a response. Our responses focus on questions raised, areas where we can further clarify our approach or thinking, or more generally where we believe it is beneficial to (re-)state our position on a subject.

Overall, we have used our judgment to reflect all material points made by stakeholders in this document.

We will present the views summarised in this document, and our response to them, at the AUG Sub-Committee on 18th February 2022. There will be an opportunity for discussion for any interested party, and we will welcome any further views at this meeting, whether or not they have already been shared as part of this consultation process.

CONSULTATION RESPONDENTS

RESPONDENT	NO. OF PARTIES REPRESENTED
British Gas	1
Corona	1
E.ON	1
ICoSS	12*
Scottish Power	1
Total Gas & Power	1
Utilita	1
Utility Warehouse	1

* Although ICoSS members, separate responses were provided by Total Gas & Power and Corona



SUMMARY OF STAKEHOLDER REPOSSES AND AUGE CONSIDERATIONS

Stakeholder views are summarised in the tables below, ordered by respondent for each consultation question, and directly followed by our consideration in response to the points made.

To address the points made clearly and efficiently, we have assessed and responded to them in logical groups. Some points raised may appear under a different consultation heading to the respondent's original document. We have been careful not to overlook any points raised.

Some of the original wording from stakeholder responses has been paraphrased for the sake of clarity, brevity, and to apply standardised phrasing and terminology to make reading easier. We sought to capture the substance of every point made.

At the end of each section, we list any actions resulting from our consideration of stakeholder views.



QUESTION 1

Our overarching methodology is detailed within Section 4 (“Overarching Methodology”) of the draft AUG Statement. This methodology is based on the following principles:

- **Bottom-up Determination:** we quantify UIG for each identified contributor and add these together, rather than estimating the overall UIG and apportioning it or using it as a means of differencing;
- **‘Polluter Pays’:** we interpret “fair and equitable” to mean that UIG should be allocated in the same proportions as it is created. As the UNC does not permit the allocation of UIG at a Supply Point level, the best current attainment of this principle is that each position on the matrix of EUC Band and Class attracts its appropriate proportion; and
- **Line in the Sand:** we only include in our calculation of Weighting Factors the UIG that will exist at the Line in the Sand (the final Settlement position) and not UIG that exists temporarily prior to this.

Please highlight any aspect of these principles or our overarching methodology that you disagree with or could be improved upon, providing your rationale and, wherever possible, supporting evidence. Please also make any suggestions for alternative approaches and describe how you think this would improve the Weighting Factors contained in the AUG Table.

Respondent	#	Points Raised
British Gas	1	We agree with the overarching methodology. The AUGE is performing their duties with due skill, care and diligence.
Corona	2	We have concerns about methodology and data and so whether UIG has been equitably shared.
Corona	3	The methods employed result in variable factors year on year, as well as significant volatility. Further work is required to find a methodology that enables both the cost of UIG to be distributed equably and provide stability over time.
Corona	4	It is hard to evaluate the robustness of the methodology because information is provided only at a high level.
Corona	5	From what has been made available, our view is the current methodology is not suitable. It does not achieve the aim of providing an accurate assessment of UIG and its sources.
Corona	6	The use of a "bottom-up" methodology is not a credible mechanism for the majority of UIG. Sufficient data does not exist to derive a robust assessment in the largest areas.
Corona	7	Our assessment of this statement confirms our view that the AUGE framework is not fit for purpose. As minimum stronger oversight is needed of the AUGE process to ensure equitable outcome. Longer-term the process needs to be fully



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		reviewed to ensure shippers can benefit from a stable and transparent process for managing UIG.
Corona	8	It is concerning that the market is seeing significant swings year on year in Weighting Factors, particularly in the lower end of the market.
Corona	9	The re-emergence of a marked differential between Class 3 and 4 customers in the lower EUC bands will mean a substantial shift of sites back to this class. This creates harmful distortions and incentivises unnecessary moves in Class.
Corona	10	The outcome of this statement is, as last year, an unfair redistribution of costs from domestic to non-domestic customers, to a greater extent than in the previous statement.
Corona	11	It is also concerning that the statement includes data from a limited number of sites (two) which is likely to distort the calculation of Weighting Factors.
E.ON	12	The process in place to deliver the AUG statement is transparent and well presented.
E.ON	13	We welcome the new additional categories for detailed investigation.
E.ON	14	Further work is required to ensure that each known contributor is fully explored to give Shippers a better indication that the weighting applied to each factor is proportionate.
E.ON	15	It is concerning that Weighting Factors vary so much year on year despite how long UIG has been in existence.
E.ON	16	Whilst the overarching methodology remains unchanged in its style and structure, this unfortunately does not address some of the fundamental issues which contribute to the volumes of UIG.
E.ON	17	UIG impacts costs to all parties who transport, meter, and supply gas to consumers. However, the current model does not spread the responsibility to reduce UIG across all parties.
E.ON	18	The splitting of the EUC categories to such granularity has created some oddities in the data where cells are blank, and so grouping at a higher level would be better.
ICoSS	19	It is concerning that data that is likely to be inaccurate has been included in the calculation of losses to both unregistered and Isolated Sites. The distortion these numbers produce in the statement demonstrates the weakness of a bottom-up approach to calculating UIG.
ICoSS	20	A large proportion of the statement is a refinement from the previous year's methodology and so the majority of our comments from the previous year are still applicable.



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ICoSS	21	The AUGE statement has, in a number of areas, improved the understanding of Unidentified Gas in the retail sector. This would include such areas as consumption meter errors and temperature and pressure assumptions.
ICoSS	22	It is still our view that the current methodology is not the optimal approach and that the underlying methodology and/or data used in that assessment is not robust.
ICoSS	23	We continue to have concerns regarding the bottom-up methodology. Such a process requires reliable information on the sources of Unidentified Gas. It does not exist for the vast majority of the Unidentified Gas identified, in particular the assessment of topic 010-Theft of Gas, the largest contributor.
ICoSS	24	In many areas of the report, there seems to have been a reliance upon limited data to arrive at a determination which materially affects the scaling factors. Relying on limited data also subjects the methodology to potentially wild swings as that data is refined. This is notable in 020 - Unregistered Sites and 160 - Isolated Sites where a single site is the majority of the Unidentified Gas contribution in both cases.
ICoSS	25	It is difficult to fully understand the implications of the work undertaken by the AUGE owing to the lack of visibility of some of the detail of the calculations.
ICoSS	26	Consideration should be given to reverting all or part of the statement, particular the areas regarding theft, to the methodology utilised prior to 2021-22. If this is not possible, then the table used for the 2020-21 AUGE year should be used instead.
OVO	27	We agree with and support the principles as noted with the draft Allocation of Unidentified Gas (AUG) Statement for the Gas Year 22/23.
Scottish Power	28	We would like to see a top-down assessment using one or two suitable modelling methodologies for comparison with bottom-up. There will be value in assessing how complete the bottom-up analysis is. If AUGE doesn't agree this is within their scope, then we propose that AUGE is asked to carry this out under their value-added services
Scottish Power	29	It would be useful to see a version of the analysis that considers UIG that exists earlier at initial allocation stage, and how that then translates to the Line in the Sand position.
Total Gas & Power	30	We appreciate the effort and work that has gone into producing the table and are glad to see the steps being taken to continually improve and address the challenges defining many of these hard items needed in the statement.
Total Gas & Power	31	One of our key concerns is how data inputs that stand out so considerably can be put into the data and so significantly affect the Weighting Factors.



Utilita	32	We believe that the current AUGE process does not incentivise positive Shipper behaviour.
Utilita	33	The AUGE is dependent upon the quality of data which they are required to use. We believe that fundamental changes are required to improve the quality of the overall process. We intend to review UNC obligations and will consider modification options to implement positive change.
Utility Warehouse	34	We are broadly supportive of the methodology changes.
Utility Warehouse	35	We are supportive of the principles in this year’s methodology and the new and refinement investigations.
Utility Warehouse	36	It would be appreciated if the AUGE could continue to share new information to help Shippers better understand the drivers for fluctuating UIG.

AUGE Consideration

Summary and Outcomes

We welcome the valuable engagement and feedback that this consultation has provided regarding the approach we have taken to forecast UIG for the Target Gas Year, and are grateful for the broad support for the additional contributors and refinements we have made to our methodology.

We note the continued strength of opinion, particularly in relation to the bottom-up methodology we have employed. These elements were discussed at length last year and, like last year, there are no fundamental changes to our bottom-up methodology as a result of the responses received. We welcome continued specific suggestions for improvement, especially where supported by analysis and/or evidence.

We have received useful feedback in several areas which we are following up as immediate additional analysis. If appropriate, this may be reflected in an update to the proposed final AUG Statement – if we are able to source the necessary data in time to allow rigorous analysis. These areas include:

- iGT Shrinkage: reflecting the differing proportion of domestic properties on CSEPs relative to average LDZ values
- Modification 0664¹ impact on our consumption forecast

We will also refresh the outputs for Isolated Sites, No Read at Line in the Sand, Theft, Shipperless and Unregistered Contributors using the latest data from the CDSP.

Principles and Bottom-up Approach (Comments 1, 2, 5, 6, 10, 12, 13, 22, 26, 27, 28, 34, 35)

We were pleased to see continued support for our overarching methodology principles.

Some respondents re-iterated their view that the bottom-up approach we use is not fit for purpose. We remain convinced that our approach is a robust way to derive a credible set of Weighting Factors,

¹ Modification 0664: Transfer of Sites with Low Valid Meter Reading Submission Performance from Classes 2 and 3 into Class 4. See Comment 65 below and our response on page 18.

and that the judgements we have made in doing so are founded on the best available information and data.

We assure all stakeholders of our continued commitment to diligence and integrity, and we hope to be able deliver our methodology principles to a greater degree with each passing Gas Year. That means that we will continue to look for and incorporate new information to our calculations, and welcome every opportunity to benefit from the insight and expertise of our industry stakeholders. We will consider all proposals for improvement.

One Shipper suggested validating the outputs of our bottom-up methodology using appropriate top-down methodologies. We understand the intent behind this suggestion and would be happy to discuss further detail before concluding on its merits or practicality.

We would point out, however, that we do undertake a high-level top-down validation comparing the amount of gas recorded as consumed and the amount that entered the LDZ. It is from this that we derived this year's 83% figure² – broadly showing that our methodology identifies most, but not all, of total UIG. This is reasonable given that we know there are always further contributors to identify, and refinements to existing contributors to be made.

We again reject the suggestion of reverting the methodology or proposed Weighting Factors to those used for the Gas Year 2019-2020. We consider that the benefit in doing this has not been demonstrated.

Variability of Output Year on Year (Comments 3, 8, 15)

We acknowledge stakeholder concerns about the variability of the Weighting Factors each year and understand the challenges in pricing and contracts that this may give rise to.

We do not believe that this is unique to the methodology that we use. Previous methodologies have also been subject to material inherent variation year on year.

Variability in output is driven by variability in input (except in cases where there are fundamental changes in the methodology, as occurred last year). It is inherent to the nature of the undertaking that reflecting new and up-to-date data inputs each year has the potential to drive material changes in output.

Most of all, the year-on-year variability is driven by the granularity of the presentation of Weighting Factors as a result of Modification 711. The smaller populations of Supply Meter Points in each Matrix Position result in changes in input data having a greater and more visible impact than they would if those same populations were aggregated to a fewer Matrix Positions.

The choice to be made will always be between promoting predictability or promoting accuracy. Given that our overarching principles include the requirement to allocate UIG as equitably as possible given the available data, this drives our approach to favouring accuracy, and as such, outcomes that may change each year to reflect changing input data.

² This refers to our 'sense-checking' process whereby we compare the UIG we estimate for our identified contributors for the target Gas Year to the *actual* UIG for previous Gas Years.



Although we believe there would be some disadvantages in implementing a year on year smoothing process to limit the impact of annual changes to Weighting Factors, we are happy to discuss this issue further with stakeholders.

Small Sample Size and Impact (Comments 11, 19, 24, 31)

A number of respondents have expressed concerns about the inclusion of limited-size or single-site samples in our datasets, and that the inclusion of large sites has a material impact on outputs.

We accept that single sites can sometimes have a considerable impact on Weighting factors in Matrix Positions with small populations. However, we are unconvinced that this alone is sufficient reason to exclude them. We use a consistent validation process to assess the value and robustness of the data provided to us by the CDSP. That includes an assessment of outliers and a judgement on whether they should be removed on a case-by-case basis, for example based on the plausibility of consumption values and the likelihood of rectification before Line in the Sand (or the existence by that point of an equivalent case). Therefore it is sometimes our judgement that single-site data points do indeed constitute a significant sample and so cannot justifiably be excluded from the dataset.

During data validation, we look to identify high impact outliers. High impact normally means large-consumption Supply Meter Points, and in this case, outliers would be instances which we judge are not representative of the broader population on the basis of probability. We make a point of highlighting these to the CDSP as early as possible in an attempt to prevent an impact on UIG calculations. It is for the good of the UIG estimation process to do this.

With specific reference to one comment about the accuracy of data used to calculate losses in the Unregistered and Isolated Sites contributors, if this is data that is known to be inaccurate but that is provided to us as part of the CDSP data provision, this accuracy will improve as Shippers continue to update CDSP records. Alternatively, we would welcome further clarification as to why the respondent deems the calculation of losses for Unregistered and Isolated Sites to be inaccurate so we may consider whether an adjustment to our assumptions is required or additional validation using an alternative data source is needed.

Data Visibility and Sharing (Comments 4, 25, 36)

More than one respondent noted the challenges in reviewing the AUGE's output owing to the high level at which data and calculations are presented. We have no objections in principle in sharing any data or calculation results. However, we note that some of the data is confidential and so cannot be shared without the permission of the source. We also note that, in conjunction with Xoserve, we would need to determine the service line and arrangements under which any such additional works were progressed.

We think it would be helpful for stakeholders to identify specific areas in which they are interested in looking more deeply at data and calculations, as has been the case relating to theft allocation at one non-domestic matrix position already. We are also happy to support proposals for Shipper or industry support that we can undertake under our Advisory Service, or assess for progression under our Innovation Service.



Market Data and Impact of AUGS on Market Incentives (Comments 9, 16, 32, 33)

We note one respondent’s comment on the impact of the Statement on Classes 3 and 4. We restate our position that we make no consideration of the potential impact of UIG allocation on Shipper behaviours – except where such behaviours may reinforce the trends we use to inform our consumption forecast - as our Terms of Reference are solely to produce Weighting Factors that allocate UIG equitably taking into consideration market trends.

We would support another respondent’s observation that the AUGE’s output is reliant on the quality of data available to us. Incentives on Shippers to work to improve the quality of this data are beyond our remit, but we will always be happy to contribute to any industry initiatives where it is felt that we may be able to provide valuable insight.

A further respondent points out that the AUGE process does not address the fundamental issues in the industry that contribute to the creation of UIG. We agree, and whilst noting that this is not our role, we restate our commitment to assisting in identifying the root cause of these issues where the data allows. We may also bring forward proposals for addressing specific issues under our Advisory Service.

Allocation to EUC Bands and Complexity (Comment 18)

We note the comments about the additional complexity arising when allocating across EUC Bands. This element of the methodology results from the implementation of UNC Modification 0711, which determines the structure of the output we produce.

Other Considerations

We are grateful to all suggestions for future refinements and additions to our methodology. We are especially mindful of requests to consider how we present fluctuations in UIG, associated Weighting Factors, and the reasons for them.

We are happy to discuss again the potential provision of UIG levels at initial allocation stage and will approach the respondent to facilitate this. The methodology for this has been established in the past but owing to our bottom-up approach it no longer forms a necessary part of the UIG calculation. We suggest this would be best considered as part of our Advisory Service (Comment 29).

AUGE Action	
22/1a	We will discuss identifying UIG at initial allocation stage with interested stakeholders as a potential Advisory Service.
22/1b	We will consider the practicalities of a further level of top-down validation of our outputs.
22/1c	We will collate and present a list of potential areas for industry initiatives in data quality, identified during our analysis, as part of our potential Advisory Services.



QUESTION 2

Our results for the two new contributors and two refinement investigations are contained within Section 5 (“Detailed Investigations”) of the draft AUG Statement. For each of these contributors, please highlight any assumptions, methodology aspects, calculations, and results which you disagree with and which you believe materially affect the Weighting Factors contained within the AUG Table. Where possible, please provide your rationale, suggestions for improvement and supporting evidence

2.1 140 – METERS WITH A BY-PASS FITTED (NEW)

Respondent	#	Points Raised
E.ON	37	With greater focus this contributor could improve the overall UIG picture.
E.ON	38	We agree that currently the data is too poor to allow a UIG impact to be calculated using the proposed methodology.
ICoSS	39	We do not expect regular Consumption Adjustments above the 10,000 KWh threshold where meter bypasses have been operated.
ICoSS	40	We agree with the AUGE that the information that has been identified indicates that a negligible level of Unidentified Gas can be apportioned to this factor.
ICoSS	41	No evidence has been provided by any industry party of widespread misuse of meter bypasses despite a recent focus on this area. We believe the AUGE should focus its resources on other topics.
OVO	42	We welcome the investigation by the AUGE into this category and look forward to reviewing your continued investigations in this space.
Scottish Power	43	<p>We agree meters with a bypass fitted contribute to UIG through incorrect Consumption Adjustments (CA) before the Line in the Sand.</p> <p>There are many causes including incorrect central records and lack of notification to CDSP of open closed status (each of which prevents CDSP following up with the site or validating the CA). We recommend that CDSP convenes a clean-up exercise and the AUGE is kept up to date on the impact of progress on its assumptions.</p>
Scottish Power	44	We would like CDSP to provide a monthly report on all Consumption Adjustments (including, but not limited to CAs triggered by bypass operations) to PAC and the AUGE for review. The objective would be to identify any required controls and process definitions to ensure that CAs are being made when required and as accurately as possible.



AUGE Consideration

We welcome stakeholder interest and engagement in this topic, and we thank stakeholders for proposals to increase availability of useful information for this contributor.

We are very interested in all industry insight in this area, and will engage with the ongoing industry workgroup to exchange insight. We are happy to provide further support to industry workgroups under our Advisory Service. (Comment 44)

We thank one respondent for sharing their assumption that very few Consumption Adjustments will be required relating to bypass operation (owing to the 10,000 kWh threshold). This may explain why we see so few in the data that we have sourced to date. However, we note that bypass operations that do not require a Consumption Adjustment will still, and almost always, create positive UIG, and so we should be interested in how many bypass operations are undertaken. (Comment 39)

To be clear, and as explained in the draft AUG Statement, our investigation did not proceed to an estimation of UIG because the available data did not allow it. We have not concluded that the UIG associated with meter bypasses is negligible. Our current view is that there is value in further investigation in this area, and so meter bypass will be re-assessed next year along with other industry suggestions and any further topics we have identified. (Comment 40, 41)

AUGE Action

22/2a	We will include Meter Bypass in our list of topics for annual assessment for the Gas Year 2023-2024.
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2.2 160 – ISOLATED SITES (NEW)

Respondent	#	Points Raised
E.ON	45	We agree the analysis confirms that UIG exists for these sites, and the analysis is sensible from the available data.
ICoSS	46	We agree in principle that Unidentified Gas from Isolated Sites should be assessed to determine Unidentified Gas volumes.
ICoSS	47	We note that the vast majority of the value of this source of Unidentified Gas is assumed to come from one site. We believe that the underlying issue for this site is to be addressed and so its contribution will be removed from the calculation.
ICoSS	48	We welcome the commitment to improve the underlying dataset, but it highlights in our view the fundamental weakness in the methodology: reliance on limited information to determine Unidentified Gas apportionment.



OVO	49	This is a reasonable area of investigation, but there is still some development required. Whilst Isolated Sites without reads submitted may be flowing gas, it could be the case that sites which are isolated due to being genuinely vacant make up a good proportion of these, especially given current wider economic factors. A sample of sites that are isolated and not submitting a read should be visited so that a more accurate assumption can be applied in future. Electricity read data would also indicate whether the property is vacant.
Total Gas & Power	50	The SPC1 site within this dataset stands out. We understand how these situations can happen temporarily but look forward to the updated tables as this particular case is unlikely to persist until Line in the Sand without resolution.
Total Gas & Power	51	We would like to understand AUGÉ’s view on whether this should have been part of the dataset or whether there is a better way to address/manage these types of situations outside of AUGÉ methodology and calculations.
Total Gas & Power	52	For other bands in future AUGÉ should consider alternatives to actual AQ for volume impact as AQ’s might not be reflective.
Utility Warehouse	53	We support the analysis completed on Isolated Sites.

AUGE Consideration

We acknowledge the impact of a single large site on the UIG calculated for the draft AUG Statement. In the latest report there are no Class 1 isolated sites and on we judge that it is unlikely that another such site will exist in the target Gas Year. We will confirm as soon as we can its removal from our calculation and provide updated outputs. (Comment 47, 50)

The issue of a single large site impacting a small dataset has been discussed more generally under Question 1 above. To be clear, our view is that if it is certain that the site in question will be resolved, and it is highly improbable that the scenario will recur, such a site should remain part of the dataset, because it serves as a proxy for the likely future state of that dataset. We are interested in views about alternative ways to deal with such ‘outliers’, whilst ensuring an equitable apportionment of UIG, and would welcome further discussion with interested stakeholders. (Comment 48, 51)

We agree that alternatives to actual AQ data might improve the accuracy of our calculations. We will investigate this, although note that there is currently no data available from CDSP on the connection details of Isolated Sites.(Comment 52)

We are grateful to one respondent for the suggestion of further ways to validate the Isolated Sites dataset. We will be assessing all suggestions for inclusion as a refinement to this contributor in future years. (Comment 49)

AUGE Action	
22/2b	As part of our annual assessment for the Gas Year 2023-2024, we will investigate additional ways to validate the Isolated Sites data for inclusion in future AUG Statements.
22/2c	We will assess whether additional data is available to improve the accuracy of AQ assumptions for Isolated Sites.

2.3 010 – THEFT (AMR ONLY) (REFINEMENT)

Respondent	#	Points Raised
British Gas	54	We support the changes to the methodology in this area. (theft)
British Gas	55	We question whether there is a category of meter that has been missed while assessing the theft data (perhaps of the data-logger variety). The stand-out factors for Product Class 2 in general, and Product Class 3, EUC band 8 are suggests that this might be the case.
Corona	56	The data that has been used does not seem to be applicable to the GB gas market.
E.ON	57	Through the number of confirmed cases in TRAS, we can attribute a substantial volume of gas theft to residential prepayment. Cases of commercial gas theft are considerably lower. Whilst the industry has worked hard to improve performance and reporting of gas theft, this is not accurately reflected in the AUGE's breakdown.
E.ON	58	<p>There is still a need for a greater clarity within the 'theft' contributor to separate the dataset to a number of factors which would be more accurately represented as 'Unbilled gas'.</p> <p>Industry workgroups have identified a number of scenarios which can cause gas to be consumed, without any meter interference or tampering (which are currently being counted as Theft in AUGE's calculations), e.g.:</p> <ul style="list-style-type: none"> • where a new connection is fitted, the install of the meter can be arranged without a supply contract being in place. • voluntary withdrawal where a supplier ceases responsibility for consumption (often on the grounds of failed access.)
E.ON	59	We believe that there may have been a meter category missed in the analysis given the larger sites should all have AMR fitted to meet obligations. We would suggest this is investigated and updated this year if possible.
ICoSS	60	There has been some improvement in the assessment of theft, there are still a number of assumptions which have not been fully justified and are not applicable

		to gas theft in the non-domestic sector. Any assessment of the preponderance of theft in a market sector must be determined using a robust dataset that is applicable to the unique circumstances of the gas market.
ICoSS	61	We welcome the recognition of the fact that industry data indicates that AMR sites have very low levels of theft associated with them. This is an improvement to the current methodology.
ICoSS	62	Our view is that the current methodology used to apportion gas theft is still not fit for purpose.
ICoSS	63	It is not clear as to why significant volumes of Unidentified Gas have been removed from the calculation thanks to the presence of AMR devices, but the total amount of gas stolen has increased.
ICoSS	64	The information used in this report is very high level, does not apply to the gas market and very little information has been provided on how the wide range bands have been condensed down to a single figure. The lack of robust justification of some of the values calculated continues to undermine confidence in this report.
OVO	65	<p>UNC Modification 0664 will have an impact on the volume of theft within Profile Class (PC) 2 and 3 should be considered.</p> <p>A steady supply of daily reads is an indicator of a lack of theft. As PC3 mandates the steady supply of daily reads, it follows that instances of theft in PC3 will be ejected into PC4 off the back of 0664.</p>
Total Gas & Power	66	It is good to see the investigations of the impact of AMR on theft.
Total Gas & Power	67	It will be good to see if the anomalies in AQ band 8 can be addressed.
Total Gas & Power	68	Getting to the bottom of the AMR rates in AQ bands 1 and 2 for non-domestic would be helpful. We are concerned that these bands consistently flag up with outlier rates based on the data. If the output is to be trusted, then there could be something fundamental that needs to be done to these bands to address all issues.
Total Gas & Power	69	We understand the minimal impact of outliers on Band 1. However, we are not yet satisfied we can adequately explain this to customers as we feel we are not yet fully behind the logic. This boils down to not fully understanding why or how this band is so different to any other matrix positions.
Utilita	70	<p>There are also issues with the method used to allocate UIG across matrix positions.</p> <p>We recognise that Shippers are obliged to take steps to identify and report theft. However, we also note that the current process results in increased UIG allocation</p>

		for doing so. As theft is identified through TOG/TRAS data, Shippers are indirectly penalised for identifying theft, as doing so increases subsequent years' allocation of UIG.
Utility Warehouse	71	<p>Our internal statistics suggest that there should be a greater differential between theft attributed to traditional gas meters compared with smart gas meters. We continue to believe that customers with smart meters are more engaged and less likely to commit energy theft. Additionally, Smart meters provide real-time alerts to indicate if the meter has been tampered with, allowing suppliers to identify and stop energy theft significantly sooner which should be reflected in less UIG allocated to smart meters.</p> <p>We would like to see a clearer differentiation between smart meters and traditional meters and welcome further detail and explanation of the assumptions used for these, and how these impact the draft AUG table.</p>
Utility Warehouse	72	We support the refinements made to the Theft methodology.
Utility Warehouse	73	We would urge the AUG to look for new sources which help further understand true levels of theft across the gas and electricity network and support any incentives to reduce such levels of theft.
Utility Warehouse	74	We are monitoring closely the effects of the wider energy crisis and expect that as the cost of energy rises, the theft element of UIG may increase in line with financial challenges faced by some consumers.

AUGE Consideration

AMR Refinement and Summary (Comments 55, 59, 68, 69, 74)

Respondents agree that our data-led consideration of AMR-enabled Supply Meter Points has resulted in an improvement to the methodology for calculating UIG associated with Theft.

We thank respondents for identifying that there may be a category of meter missing from the cohort of AMR-enabled meters. This is plausible. Industry input was invaluable in identifying the meters currently included in this dataset, and we would welcome again any insight into any meter models or types that may have been overlooked. We will also conduct our own enquiries.

We will re-publish through the Joint Office our current list of asset identifiers and would welcome circulation among industry metering asset experts.

We agree with one respondent that the current energy crisis may result in changes to theft levels. We will not pre-judge what those impacts may be, but will continue to consider our overall theft assumptions in light of the best information available at the time.

Finally, we would like to reiterate our offer of further discussion and welcome proposals for Shipper or industry support that we can undertake under our Advisory Service, or assess for progression under our Innovation Service.



Inadequate Data and Assumptions (Comments 56, 60, 62, 64)

In response to some respondents' continued concerns as to the validity of our assumptions to the GB gas market, we gave careful consideration to these points in [our response to last year's consultation](#). We welcome any and all further insight that will help to strengthen the assumptions used for this contributor, and will continue to consider improvements to our methodology for allocation to market sectors and Matrix Positions on the basis of rigorous examination of the available evidence.

High Incidence of Theft at Domestic Prepayment in TRAS Data (Comment 57)

A respondent suggested that based on observed TRAS cases, the AUGE's weighting towards theft at domestic pre-payment meters might be too low.

Whilst TRAS data is part of our dataset, it has inherent shortcomings, not least the inherent bias introduced by the associated incentives to report theft. This is why we combine TRAS with TOG data, and the justification for doing so can be found in last year's consultation response summary (link above). It is also important to consider not just the number of cases, but also the size of the theft in each case.

Further Categorisation and 'Unbilled Gas' (Comment 58)

We welcome all suggestions for further areas of 'unbilled gas' that may be contributing to UIG. In the two examples of this given by the respondent, we believe we have already captured potential UIG under other contributors, where this is within the AUGE's scope to do so. Anything that is consumed before first registration (new connection) is dealt with under shrinkage generally and this is outside of the AUGE's Terms of Reference. The voluntary withdrawal scenario mentioned by the respondent is catered for under 025 - Shipperless Sites.

Smart vs Traditional Meters (Comment 71)

One respondent noted that their own data on the impact of smart on theft contradicts what the industry-level data is showing. This is quite possible. Again, we can only reiterate that we are led by the data in aggregate. Individual Shipper data will be a part of this and so have some bearing on it, but we are not able to put a greater weighting on one or more Shipper's sub-sets within the overall dataset unless there is clear justification for doing so.

In this case, we believe that the impact of smart metering on theft may show over time, and because we carry out detailed analysis each year based on the latest data available to us, the effect of this will carry through to the Weighting Factors.

We will continue to monitor closely any output from other research and analysis being undertaken in the area of energy theft, most notably under RECCo.

The splits by meter type for undetected theft that were used on the draft AUG Statement are as follows:



Undetected theft similar to detected theft	
Meter Type	Share of undetected theft
Traditional	80%
Smart	19%
AMR	1%

Mod 0664 Impacts (Comment 65)

One respondent highlighted to us the potential impact that the implementation of Modification 0664 (“Transfer of Sites with Low Valid Meter Reading Submission Performance from Classes 2 and 3 into Class 4”) may have on volumes of theft in Classes 2 and 3.

We note this with interest and will look to understand whether we need to make any adjustments to our assumptions. As a first step, we will be looking to acquire the necessary data from the CDSP to be able to investigate whether the suggested impact is manifesting.

We have already discussed with Xoserve provision of the necessary data to us. As this is not a straightforward data request for them to deliver, it is likely that investigations will be undertaken as part of our assessment of potential refinements for the next Gas Year.

Increase in Total Theft Despite Removal of AMR Theft (Comment 63)

One respondent has questioned why total gas stolen has increased when a large amount of UIG has been removed thanks to the low incidence of theft identified for AMR sites. The analysis of AMR-related theft which is now applied in our model does not result in UIG being reduced. Instead, it impacts on the way total theft UIG – whatever that total is – is equitably split between Matrix Positions. The Weighting Factors for Matrix Positions which have a high proportion of AMR-enabled Supply Meter Points have seen a relative reduction this year. The total theft UIG figure is independent of this, driven largely by overall throughput and an unchanged set of assumptions about the overall likelihood of gas being stolen.

Disincentives to Report Gas Theft (Comment 70)

One respondent noted a disincentive to report gas theft on the basis that having done so, they would subsequently attract more UIG. We do not know the extent to which this is the case as we have no access to Shipper-specific data. However, we would note the obligations in place to ensure that theft is reported.

We would like to emphasise that this is not an issue with the way that UIG is allocated to Matrix Positions. AUGE’s Terms of Reference are to produce a set of weighting factors that allocate UIG equitably among Shippers based on the available data at that time.



AUGE Action	
22/2d	We will continue to monitor closely any output from other research and analysis being undertaken in the area of energy theft, and specifically the outcome of the current RECCo review.
22/2e	We will acquire the relevant data to investigate the impacts of Mod 0664 and whether there is a relationship between read frequency and theft. We will include this in our assessment of potential refinements for Gas Year 2023-2024.
22/2f	We will re-share the existing list of asset identifiers used for AMR-enable devices.

2.4 090 - NO READ AT THE LINE IN THE SAND (REFINEMENT)

Respondent	#	Points Raised
E.ON	75	Using the reason codes to look at the rejected reads volumes is sensible. However, to be sure that the reason codes being used are correct, further analysis of MPRN's in this category, (and those with significantly higher volumes of rejection rates), is needed.
E.ON	76	As the industry is nearing the end of the Smart Meter and AMR roll out, the frequency and accuracy of reads is expected to improve and thus will have a positive impact on industry settlement. This is not yet evident in the data produced for this contributor.
E.ON	77	The evidence provided to PAC would suggest that many reads are being rejected due to timing, not inaccuracies. Further work in this area would be welcomed and we would support PAC being requested look at how to ensure reads are received successfully into the system.
ICoSS	78	It is notable that a comparatively narrow change in methodology has resulted in a 38% increase in Unidentified Gas from this contributor.
Total Gas & Power	79	We are concerned that a table has been presented with such a significant change in associated UIG volume flowing into a standout rate in one matrix position. This change is showing in Band 1 SPC4 (non prepayment non-domestic). To have a rate over 12 times higher than the next rate down and 150% what was there last year is very concerning. Is it possible to better demonstrate where in the calculation this is flagged as an anomaly?
Utility Warehouse	80	We support the research completed to include the 'No Read at the Line in the Sand'.

AUGE Consideration

Read Rejections and Further Analysis of Affected MPRNs (Comment 75 and 77)

One respondent suggests that further analysis could be undertaken into rejected reads. We are happy to be involved in industry discussions on read performance if our insight would be helpful.

We confirm that the datasets we use are subject to robust validation and would question what further analysis is required for the AUG's purposes. If two reads approximately a year apart are rejected for the same reason, we assume that they are valid readings and that the read held on UK Link is incorrect, thus causing the rejection. From this assumption we determine UIG associated with the Supply Meter Point in question.

We now only exclude reads rejected owing to a different number of dials to CDSP records because including these cases could lead to an incorrect volume calculation.

Notwithstanding the above, there may well be merit in further analysis being carried out by industry with a view to addressing rejected reads. We are happy to be party to any such performance assurance discussions if our insight would be helpful.

Smart vs Dumb Read Performance and Read Rejections (Comment 76)

We agree that read performance should improve in line with Smart and AMR penetration in the market. So far, this has not been evident in the industry-wide datasets that we use, which are the basis of the output for this contributor. We think it is likely we will start to see some change in the future, although we note that CDSP systems do not receive reads directly from DCC, and so the onus remains on Shippers to ensure flows are operating effectively.

Scale of Change in UIG Value (Comment 78)

One respondent suggested that a 38% increase in UIG for this contributor is a surprise given such a small refinement to the methodology. Our view is that the incorporation of dozens of additional read rejection reasons for consideration, whilst only impacting one element of the methodology, was always likely to capture a reasonable amount of additional UIG. To put this in context, the number of Supply Meter Points in the dataset trebled from last year to this year.

Matrix Position 01NI in Class 4 (Comment 79)

As the respondent noted in their response, the effects seen in the Matrix Position are indeed attributable to the increasing number of large consuming sites that are being 'trapped' in a Band they shouldn't actually be in. The read rejection process is operating as it is designed to and can only be resolved via the Shipper submitting an AQ correction. There is no anomaly in the way that this is calculated, and the reason it stands out is because of the size of these trapped sites relative to the underlying (genuine) population in the Matrix Position.

We would be happy to discuss other ways of presenting to industry the nature of this impact, although we note if the corrections were to occur, the effects currently seen in the data would disappear.

AUGE Action

No action.



QUESTION 3

Our results for the eight contributors not under detailed investigation are contained within Section 6 (“Other Contributors”) of the draft AUG Statement. These contributors to UIG were investigated last year and are repeated this year. Dataset refreshes have occurred for all eight contributors. In some cases, small improvements have been made to a step in the methodology or calculations, and we highlight these instances.

For each of these contributors please highlight any methodology aspects, calculations and results which you disagree with and which you believe materially affect the Weighting Factors contained within the AUG Table. Where possible, please provide your rationale, suggestions for improvement and supporting evidence, with a particular focus on sharing new insight and commentary not previously provided.

3.1 020 - UNREGISTERED SITES

Respondent	#	Points Raised
ICoSS	81	<p>The vast majority of the gas apportioned to this factor is from a single site, which according to this calculation, is consuming 68GWh a year unregistered.</p> <p>We think it is extremely unlikely that this site is live however and in reality, this site is not consuming such a large amount of energy. We are surprised that no action has been taken to address this issue which is distorting the Unidentified Gas calculations and again demonstrates the risk of using a “bottom-up” approach without addressing outliers.</p>

AUGE Consideration

We are also surprised that this site has not been rectified and removed from the dataset. However, given we have evidence of similar sites being in the same status in future, we consider it to be representative of the population and so it remains in our dataset on the basis of our probabilistic determination. Any updates in next year’s calculations will be dependent on what the refreshed dataset shows us (Comment 81).

AUGE Action

No action.

3.2 025 - SHIPPERLESS SITES

Respondent	#	Points Raised
ICoSS	82	The use of more accurate AQs based on consumption will have improved accuracy.



AUGE Consideration	
None.	
AUGE Action	
No actions.	

3.3 040 – CONSUMPTION METER ERRORS – INHERENT BIAS

Respondent	#	Points Raised
ICoSS	83	As compared to last year we believe that the use of the information to derive this value seems to be a positive step and support any improvements to this information source.

AUGE Consideration	
None.	
AUGE Action	
No actions.	

3.4 050 – LDZ METER ERRORS

Respondent	#	Points Raised
ICoSS	84	In line with last year, we agree that there is unlikely to be a significant amount of permanent Unidentified Gas from this source as errors are quickly identified and corrected for prior to the Line in the Sand.

AUGE Consideration	
None.	
AUGE Action	
No actions.	



3.5 060 – IGT SHRINKAGE

Respondent	#	Points Raised
ICoSS	85	As we noted in the consultation response to the previous year the mapping of LDZ meter point population (Step 9) to losses in the IGT sector results in an unwarranted uplift to larger EUC Bands as the ratio of CSEP sites is different to that in non-CSEP sites.
ICoSS	86	We request further confirmation that the AUGE has not used the information available on CSEP populations from the CDSP to apportion IGT shrinkage losses and, if this is the case, insight as to why.

AUGE Consideration

We thank the respondent for highlighting the impact of the previous mapping of iGT sites.

We have reconsidered our position on this, and have now undertaken some further analysis, with the data showing that there is indeed a relatively higher proportion of domestic Supply Meter Points attached to IGT networks when compared to DNO networks.

We will update our methodology to reflect this mapping to CSEP populations rather than the LDZ profile. This will be reflected in the proposed final Statement for Gas Year 2022-2023 (Comments 85 and 86).

AUGE Action

3a We will update the calculation and output to reflect the alternative mapping and reflect this in the proposed final Statement for Gas Year 2022-2023.

3.6 070 - AVERAGE PRESSURE ASSUMPTION

Respondent	#	Points Raised
ICoSS	87	The approach described within the draft AUGS appears to be an appropriate methodology.

AUGE Consideration

None.

AUGE Action

No action.



3.7 080 - AVERAGE TEMPERATURE ASSUMPTION

Respondent	#	Points Raised
ICoSS	88	The approach described within the draft AUGS appears to be an appropriate methodology.

AUGE Consideration

None.

AUGE Action

No action.

3.8 100 - INCORRECT CORRECTION FACTORS

Respondent	#	Points Raised
ICoSS	89	The methodology described in the draft AUGS appears to be suitable.

AUGE Consideration

None.

AUGE Action

No action.



QUESTION 4

If there is any other relevant matter in relation to this consultation that you would like to raise which you believe materially affects the Weighting Factors contained within the AUG Table, please explain this and provide your rationale and, wherever possible, supporting evidence.

Respondent	#	Points Raised
British Gas	90	<p>Given that the bottom-up methodology only captures ~83% of UIG, the tables as presented in the Statement can lead to a general under-appreciation of the expected levels of UIG.</p> <p>It would be useful for the AUGE to include a canonical version of this table scaled up to the reference levels of UIG (i.e. the calculated benchmark UIG for the target Gas Year of 13,090 GWh), and all analysis (e.g. UIG as a % of throughput for each matrix position) be derived accordingly. We propose one of two possibilities for the scaling:</p> <ol style="list-style-type: none"> 1. Assume that current methodology correctly splits UIG between sources but each is slightly under-allocated in its share of UIG, and therefore scale the volumes of UIG up consistent with the AUG factors; or 2. Assume that there is an unknown cause of UIG, which is best split evenly across EUCs and PCs. If this approach was preferred by the AUG Expert, it would suggest itself as an additional step in the derivation of the final AUG factors.
Total Gas & Power	91	<p>We remain concerned that the SPC4 AQ band 1 Non-Domestic sites seem to flag up as having high allocations in a growing number of areas. We are concerned about how robust this and the level of validation undertaken, and believe that additional validation would be justified.</p> <p>As an industry we really need to fully understand why this market sector is performing in this way if this is in fact valid, and we need more information to substantiate and provide to those who have to pay for it.</p>
Total Gas & Power	92	<p>There are also some bigger discrepancies for mid-range Class 3 sites with allocated UIG again being higher than assessed. Please confirm the methodology used that has been and whether you feel it is correct.</p>
Utilita	93	<p>Currently, the largest data issue is poor read performance. In electricity, where incentives exist on read performance, read submission is as high as 97% across all sites within 14 months. Gas does not achieve levels anywhere close to this.</p> <p>Accurate and frequent read submission should result in more accurate allocation of gas and would likely significantly reduce the total levels of UIG, whilst simultaneously allowing for more accurate identification of sites which may be contributing to UIG.</p> <p>Shippers are also disincentivised to correctly classify their sites by EUC sub-bandings (i.e. prepayment and non-prepayment).</p>



Utilita	94	<p>We believe that the total number of sites assigned to the EUC Prepayment sub-bandings in the AUGE's to be lower than the actual number of domestic prepayment gas customers.</p> <p>However, whilst the relative weightings of UIG are so different, Shippers are disincentivised from re-categorising their sites. This results in throughput forecast volume being placed in incorrect sub-EUC bands.</p> <p>This should not be the case - the process must encourage the production of as accurate and complete a dataset as possible, otherwise accurate analysis by the AUGE is much more difficult.</p>
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AUGE Consideration

Reference Levels of UIG (Comment 90)

We understand that a 'scaled up' version of the UIG tables may give Shippers a clearer picture of likely cost.

We note that our 83% figure is a comparator to an historical UIG level, and not the likely UIG for the target Gas Year. It is a sense check that our overall UIG estimations are broadly sound. It is therefore likely to be inappropriate as a starting point for scaling towards a future actual UIG figure.

We thank the respondent for the suggested methodology for scaling up the Weighting Factors. This scaling up of estimated UIG in order to better represent likely actual UIG in the target Gas Year is a step that has been considered in the past, but to date did not score highly given that the AUGE's ultimate deliverable is a set of Weighting Factors. We will again consider this as a contributor (previously known as '180 - Unfound UIG Contributors') as part of our assessment for this year and we will seek the respondent's views on the benefits of progressing this.

Substantiation of Class 4 Band 1 Outcomes (Comment 91)

We understand that affected Shippers will be especially concerned when it is perceived that our methodology allocates a disproportionate amount of UIG in certain Matrix Positions. We remain committed to helping Shippers to understand and explain this to their customers.

Ultimately, our approach is data-driven, supported by a rigorous approach to data validation. We can therefore only comment that this allocation is the direct result of what the industry data shows and is the result of an equitable sharing of UIG on the basis of that data relative to other Matrix Positions.

We would welcome the opportunity to discuss further support, analysis or presentation of outputs for individual Shippers under our Advisory Service.

Discrepancies in Class 3 (Comment 92)

The perceived discrepancies highlighted by one respondent in Class 3 are the result of our deliberate substitution and smoothing process for cells with very low or zero values. We can confirm that this is the process described on slide 45 of the January AUG Sub-Committee pack:



- We calculated the Weighting Factors as a proportion of UIG relative to throughput in our Consumption Forecast for each Matrix Position within the AUG Table
- Some cells had a very small number or no Supply Meter Points so we substituted values
- We smoothed the values in EUC bands 03-09 for class 2-4 to dampen any spikes across like groups with similar characteristics
- After these processes, the factors were normalised so that no UIG was created by the substitution or smoothing process

The changes to Weighting Factors in these Matrix Positions are also a result of a reduction in consumption forecast for those Matrix Positions.

Unreflective Domestic Pre-Payment Numbers (Comment 94)

We recognise the concern about an unreflective population size for domestic pre-payment customers. We reiterate our reliance on industry data, and Shippers maintaining its accuracy. We also refer the respondent to our view on industry incentives under Question 1. The role of the AUGE is not to incentivise or anticipate changes to Shipper behaviours.

We would be happy to support industry initiatives in data quality and performance assurance under our Advisory Service.

AUGE Action

22/4a	We will assess the scaling up of our UIG estimate under contributor '180 – Unfound UIG Contributors', after discussion with interested Shippers.
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NEXT STEPS

We will present our views described in this document at the AUG Sub-Committee meeting scheduled for 18th February 2022. This will be an opportunity for stakeholders to ask further questions and for us to add some more detail to the explanations we have given above.

A link to the documentation for that meeting can be found here: [AUG Sub-Committee 18 February 2022](#).

We will then consider feedback provided by stakeholders at that meeting and whether any further amendments to the AUG Statement for Gas Year 2022-2023, additional to those listed in this document, should be made.

Should you require clarification on the consultation, please do not hesitate to contact us at: auge@engage-consulting.co.uk.





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