

# AUG Sub-Committee Meeting – Innovation Service

13<sup>th</sup> May 2021



**engage** 

ELECTRICITY | GAS | INDUSTRY EXPERTS

# Introductions



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# Purpose of Meeting

- ▶ The purpose of the meeting is to:
  - ▶ Provide an overview of the identified innovations
  - ▶ Confirm Industry appetite for the proposed innovations
  - ▶ Decide which innovation(s) should be progressed further to business case for investigation stage

# Agenda

- ▶ **Background**
- ▶ **Identified Innovations**
- ▶ **Industry Feedback**

# Background

- ▶ The Innovation service is designed to reduce UIG or identify more equitable ways of allocating it
- ▶ We have used our detailed knowledge of the market arrangements, and the data available and analysis undertaken as part of the Core Service, to identify ways in which UIG could be better and more equitably allocated
- ▶ We have identified 27 potential innovations - full details have been provided in the supporting spreadsheet
- ▶ Today we will go through all 27 innovations in order to get consensus on which ones should be shortlisted for further investigation



# Identified Innovations

## Out of scope

- ▶ **Two of the identified innovations are currently classed as out of scope from the core AUGE service as they relate to LDZ Shrinkage. These are:**
  - ▶ LDZ Shrinkage Error linked to leakage rates
  - ▶ LDZ Shrinkage Error linked to estimation of upstream theft

# Identified Innovations

## Introduction

- ▶ We have identified 25 innovations which are in scope
- ▶ They have been grouped together into 6 groups for ease of presentation. They are More Weighting Factors, Dynamic Weighting Factors, Industry Rules, Data Investigation, Additional Data and Other
- ▶ Each of these groups would either reduce UIG, give a more equitable way to apportion UIG or are a data investigation for a specific contributor
- ▶ Each innovation has been scored against a high level assessment of the ease of implementation and the potential benefit scale. This is out of a highest possible score of 5. 5 being the easiest/largest and 1 being the hardest/smallest
- ▶ We are looking for feedback on which individual innovations or groups of innovations you would like to be investigated further
- ▶ The supporting spreadsheet provides more detail, the pros and cons of the investigations, the expected outcome of the innovation and the scores

# Identified Innovations

## More Weighting Factors - Equitable

- ▶ We have identified 8 innovations related to increasing the number of matrix positions within the Weighting Factor tables or number of Weighting Factor tables. They are:
  - ▶ LDZ Specific Factors
  - ▶ Different Factors for the EUC WAR bands
  - ▶ Different Factors for Allocation and Reconciliation (transient UIG)
  - ▶ Seasonal Factors
  - ▶ Fixed and Floating Weighting Factors
  - ▶ Factors specific to Shippers
  - ▶ Split EUC bands 1 and 9
  - ▶ Dimension relating to the last accepted read



# More Weighting Factors

## LDZ Specific Factors

- ▶ LDZs have varying levels of UIG, they also have different proportions of domestic and commercial properties
- ▶ The current method of having national Factors could lead to UIG being allocated to an incorrect party
- ▶ The investigation would determine whether LDZ specific Weighting Factors would apportion UIG more equitably

# More Weighting Factors

## Different Factors for the EUC WAR bands

- ▶ The current Weighting Factor table has 60 matrix positions for EUC class combinations
- ▶ In allocation the EUC bands 03-08 are split further into Winter Annual Ratio (WAR) Bands
- ▶ The investigation would determine if adding the additional WAR EUC bands would apportion UIG in a more equitable manner

# More Weighting Factors

## Different Factors for Allocation and Reconciliation (transient UIG)

- ▶ The Weighting Factors predominantly allocate UIG at the allocation stage
- ▶ The residual reconciliation energy is distributed between Shippers using the same Factors as at the allocation stage
- ▶ We base the Weighting Factors on their calculation of UIG at the Line in the Sand. UIG needs to be applied to the correct market participant as soon as possible
- ▶ An investigation could be carried out to determine the ratio between the initial energy values and the final energy values at code cut off
- ▶ This ratio may vary for different market participants or for different matrix positions
- ▶ The investigation would determine if a ratio that looks at transient UIG would apportion UIG more equitably

# More Weighting Factors

## Seasonal Factors

- ▶ **Currently, there is one static Weighting Factor for each EUC band product class combination for the whole year**
- ▶ **The quantity of UIG changes between the winter, summer and shoulder months**
- ▶ **The investigation would determine whether seasonal Weighting Factors would apportion UIG more equitably**

# More Weighting Factors

## Fixed and Floating Weighting Factors

- ▶ The current process allows for one set of Factors and therefore are based on a seasonal normal year
- ▶ Floating Factors would take account of in year variations to Factors including, for example, weather, meter changes, pandemics
- ▶ An investigation would look in to whether there is any benefit in splitting the Weighting Factors into Fixed and Floating

# More Weighting Factors

## Factors specific to Shippers

- ▶ Shippers' actions in the market can create UIG in different ways
- ▶ The current process smears UIG across the market based on the Factors and the allocation volumes
- ▶ The investigation will assess the value of creating Factors specific to Shippers linked to their performance

# More Weighting Factors

## Split EUC bands 1 and 9

- ▶ **By consumption, the largest two EUC bands are bands 1 and 9**
- ▶ **This investigation would assess any additional benefit of splitting these matrix positions further so that certain polluters are more easily identifiable, thereby apportioning UIG more equitably**

# More Weighting Factors

Dimension relating to the last accepted read

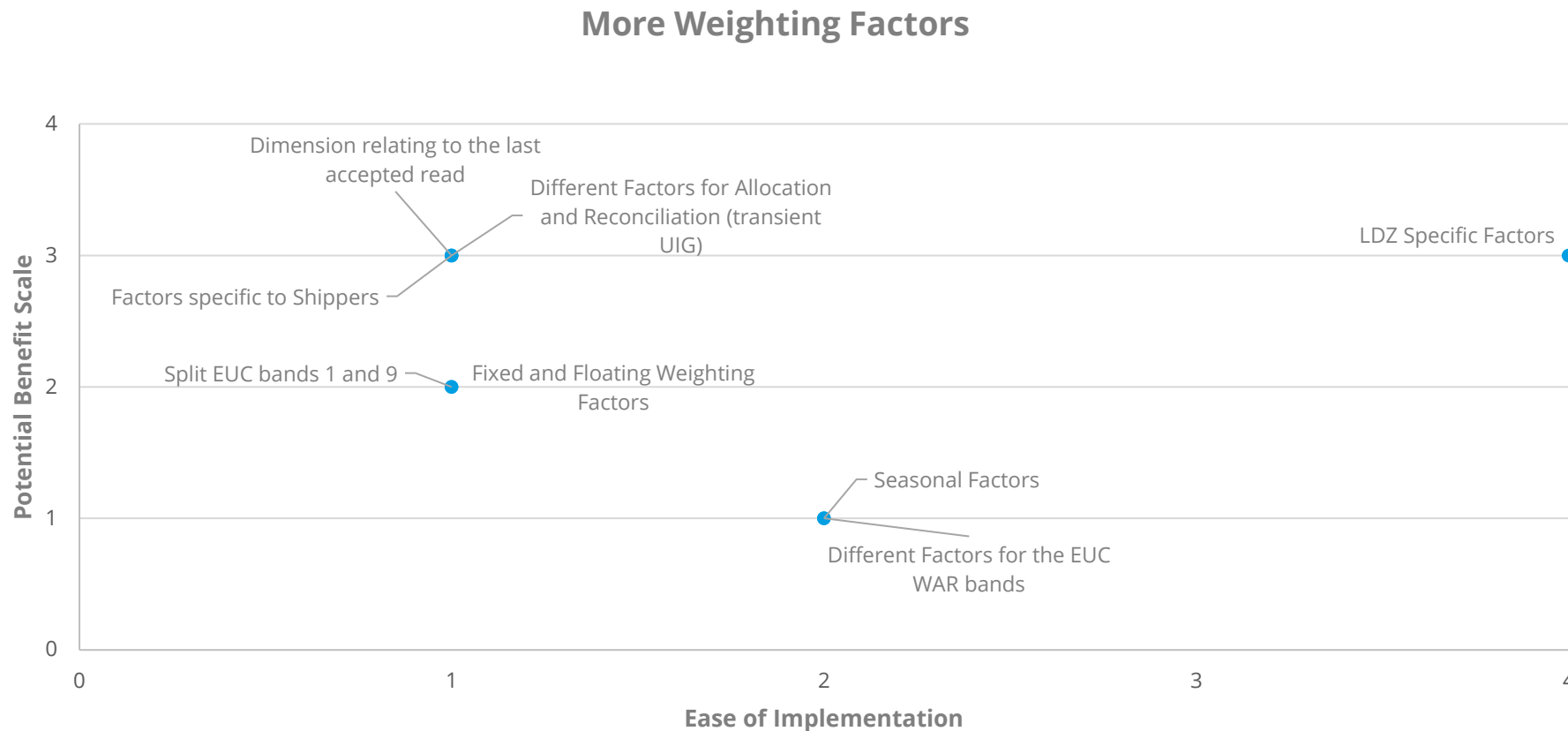
- ▶ It has been suggested that there is a correlation between the amount of time that has passed since a Supply Meter Point had a read accepted and the UIG that is created for some sites
- ▶ The current table does not have a dimension relating to the read frequency or when a read was last accepted
- ▶ The investigation will look in to adding a dimension to the Weighting Factor table relating to when the last meter read was accepted



# More Weighting Factors

## Initial Assessment

- ▶ We have scored each More Weighting Factors innovation based on ease of implementation and potential benefit:



# Identified Innovations

## Dynamic Weighting Factors - Equitable

- ▶ **We have identified two innovations related to making the Weighting Factors more dynamic. They are:**
  - ▶ **Dynamic Weighting Factors linked to the throughput**
  - ▶ **Temperature and pressure actuals feeding into the Weighting Factors**

# Dynamic Weighting Factors

Dynamic Weighting Factors linked to the throughput

- ▶ **The Weighting Factors are fixed annually for each matrix position**
- ▶ **As part of the methodology, we have a number of assumptions within our calculation based on a forecast number of sites and associate AQ for the target year which has a risk associated within it**
- ▶ **To remove this risk, a mechanism to introduce more Dynamic Factors could be implemented to apportion UIG**
- ▶ **The investigation would determine if Dynamic Weighting Factors linked to a more up to date consumption forecast would allocate UIG more equitably**

# Dynamic Weighting Factors

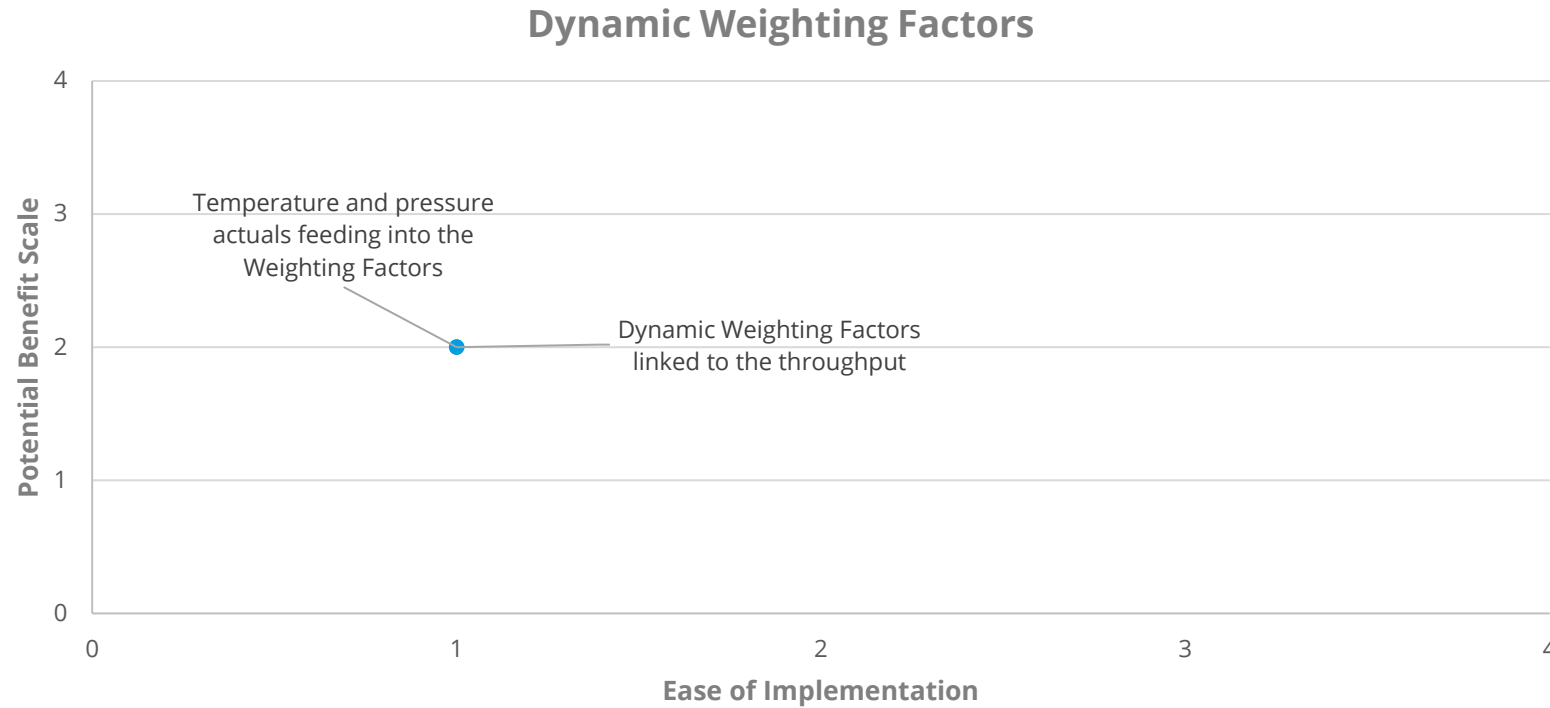
Temperature and pressure actuals feeding into the Weighting Factors

- ▶ **The temperature of gas, and the weather-related pressure of gas, changes the amount of gas within a set volume**
- ▶ **The investigation will assess the benefit of applying daily temperature and pressure readings directly and dynamically into Settlement**

# Dynamic Weighting Factors

## Initial Assessment

- ▶ We have scored each Dynamic Weighting Factors innovation based on ease of implementation and potential benefit (both have the same score):



# Identified Innovations

## Industry Rules – Contributor Specific Data Investigation (Equitable)

▶ **We have identified five innovations related to contributor specific data investigations. They are:**

- ▶ **Recalculate the UIG and Weighting Factors at the Line in the Sand**
- ▶ **Changing the residual reconciliation redistribution process (UGR)**
- ▶ **Re-reconciling the whole month**
- ▶ **All meters must have volume conversion equipment fitted**
- ▶ **Portfolio Optimisation effects**

# Industry Rules

Recalculate the UIG and Weighting Factors at the Line in the Sand

- ▶ **The estimate UIG that we calculate is over five years before the Line in the Sand**
- ▶ **There is a chance that the industry rules or Shipper performance may change between the Statement year and the time that the Line in the Sand is reached**
- ▶ **This investigation would determine whether there would be any value in recalculating the Weighting Factors at the Line in the Sand based on an updated estimate of the UIG contributors and total UIG**

# Industry Rules

## Changing the residual reconciliation redistribution process (UGR)

- ▶ **Currently, the market rules split the residual reconciliation energy pot for each reconciliation run equally between the previous 12 months**
- ▶ **These volumes are then allocated to Shippers based on their energy position following direct reconciliations**
- ▶ **An investigation would be carried out to see if this is the most equitable mechanism to distribute residual UIG or whether there is a more appropriate mechanism**



# Industry Rules

## Re-reconciling the whole month

- ▶ **The reconciliation process allocates the unidentified gas reconciliation amounts rather than re-reconciling the whole month**
- ▶ **In the current process if two Shippers have the equal and opposite effect in direct reconciliation, their UIG position would not update even though their allocation has changes as a proportion of the total allocation**
- ▶ **The investigation will look in to whether the current mechanism is the most equitable way or if the whole month should be reconciled at set intervals**

# Industry Rules

All meters must have volume conversion equipment fitted

- ▶ **Volume conversion equipment to take account of local pressure and temperature conditions is currently only installed at a small number of larger consuming Supply Meter Points**
- ▶ **The investigation would assess the benefits of having this equipment fitted to all Supply Meter Points**

# Industry Rules

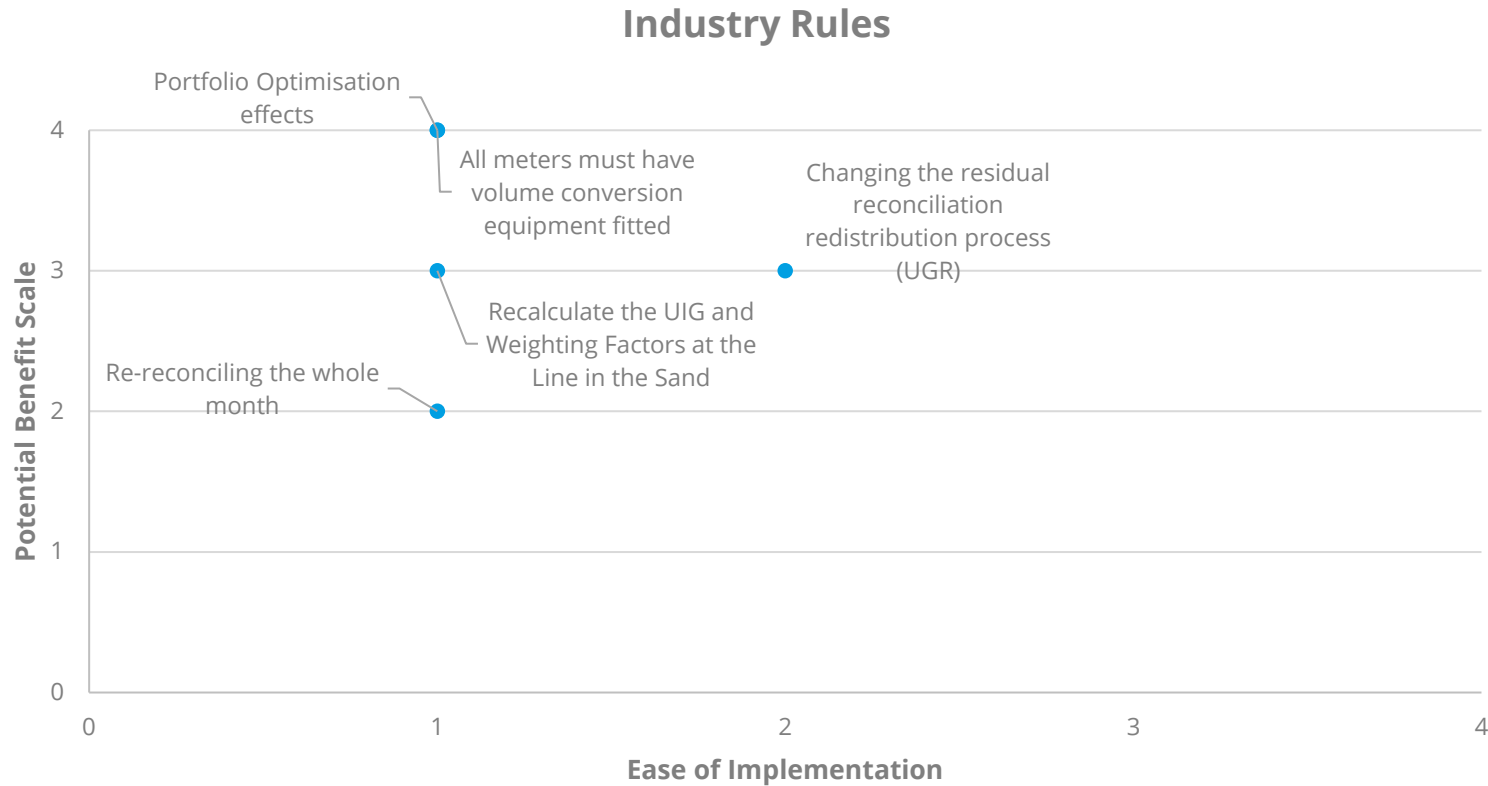
## Portfolio Optimisation effects

- ▶ For certain matrix positions it is up to the Shipper to choose which matrix position their Supply Meter Point should be registered to
- ▶ In previous years Shippers have changed the class of their sites to reduce their exposure to UIG costs
- ▶ This investigation will assess the effect of this. This will include determining whether there will be any benefits in actively applying adjustments to the Factors to account for potential changes, or whether there should be only one matrix position that a Supply Meter Point can be registered to

# Industry Rules

## Initial Assessment

- ▶ We have scored each Industry Rules innovation based on ease of implementation and potential benefit:



# Identified Innovations

## Data Investigation – Contributor Specific Data Investigation (Equitable)

- ▶ **We have identified six Data Investigation innovations. They are:**
  - ▶ Investigation into the temperature of gas in the meter
  - ▶ Investigation into the accuracy (bias) of all types of meter
  - ▶ Leakage investigation of IGT sites
  - ▶ Audit of the Correction Factors
  - ▶ Optimum meter capacity
  - ▶ In service testing for LDZ offtake meters

# Data Investigation

## Investigation into the temperature of gas in the meter

- ▶ **The temperature studies that are used for the temperature contributor are almost 20 years old and the details of the conditions of the study are limited**
- ▶ **The investigation would determine the benefits of organising a study into the temperature of gas under different conditions including air temperature, meter location and service material type**

# Data Investigation

Investigation into the accuracy (bias) of all types of meter

- ▶ **We have been provided with in service testing of domestic sized meters. This has identified that there is an inherent bias with them**
- ▶ **The investigation would determine if there is any inherent bias for other types of meters and if there are any impacts caused by the meter manufacturer, the year of manufacture and how long the meter has been in service**

# Data Investigation

## Leakage investigation of IGT sites

- ▶ We have been provided with anecdotal information that IGT mains do not leak in the same manner as those that are part of the NLT
- ▶ An investigation could be carried out to calculate the leakage rates in the mains that IGTs use
- ▶ This would then feed into the IGT shrinkage contributor



# Data Investigation

## Audit of the Correction Factors

- ▶ **Site specific Correction Factors are used to take account of the altitude of a site, the average temperature assumption of the gas and inlet pressure of the gas**
- ▶ **We have identified a small number of Correction Factors which are lower than the regulations allow and a larger number that have been set to the standard Correction Factor. However, there is currently no mechanism to identify any other erroneous Correction Factors**
- ▶ **The investigation would assess the value of carrying out a one-off audit of all Correction Factors**

# Data Investigation

## Optimum meter capacity

- ▶ **The assumption used in our assessment of meter errors was that the optimum use of a meter was at  $Q_t$  which was assessed to be  $0.2Q_{max}$**
- ▶ **An investigation could be carried out to validate this assumption and to determine if there is any impact on this assumption if the meter is consistently used at other ranges of use**

# Data Investigation

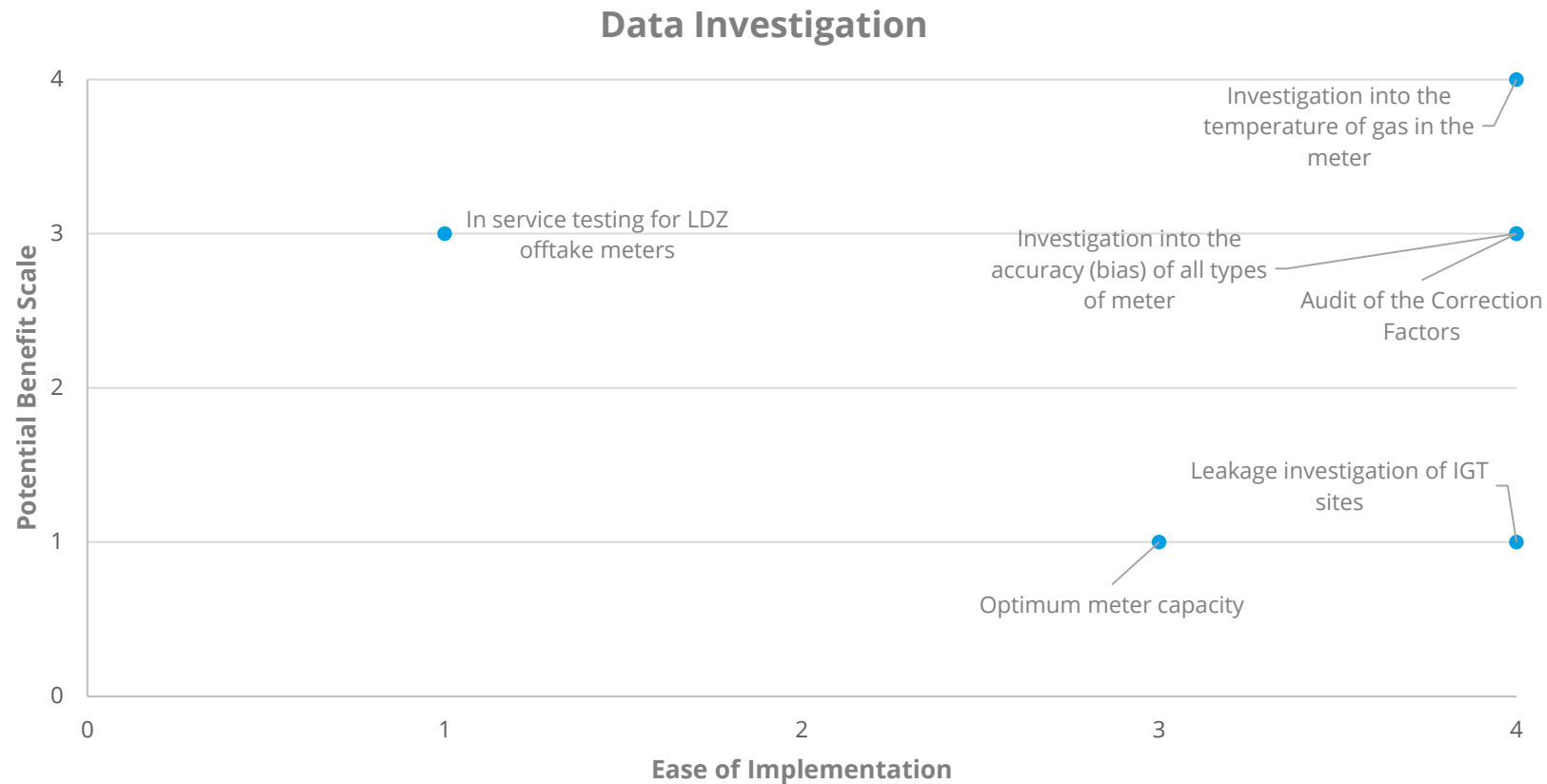
In service testing for LDZ offtake meters

- ▶ **If there is an inherent bias in LDZ meters, then the impact of this could be very large on UIG values**
- ▶ **The investigation would assess the ways that LDZ meters could be tested to ensure that there is no inherent bias in the meter**

# Data Investigation

## Initial Assessment

- ▶ We have scored each Data Investigations innovation based on ease of implementation and potential benefit:



# Identified Innovations

## Additional Data - Equitable

- ▶ **We have identified two innovations related to the AUGE's access to data. They are:**
  - ▶ **Direct reporting ability**
  - ▶ **Additional central reporting**

# Additional Data

## Direct reporting ability

- ▶ **Currently any report that must be provided from the central database has to be defined by the AUGÉ and provided by the CDSP**
- ▶ **This investigation would determine the benefits of the AUGÉ having direct access to the central records**

# Additional Data

## Additional central reporting

- ▶ **Certain contributors are likely to get a higher degree of accuracy if further information that is not held within UK link was held centrally, for example theft information**
- ▶ **This investigation would assess the benefits of having a central repository for this information**

# Additional Data

## Initial Assessment

- ▶ We have scored each Additional Data innovation based on ease of implementation and potential benefit:





# Identified Innovations

Other – Potentially reduces UIG and/or makes it more equitable

- ▶ **We have identified two Other innovations. They are:**
  - ▶ **Weighting Factors used to Incentivise**
  - ▶ **Factors linked to performance assurance measures**

# Other

## Weighting Factors used to Incentivise

- ▶ **Weighting Factors could be used to incentivise and therefore drive a change in performance and behaviour within the industry**
- ▶ **The investigation would assess the benefit of this**

# Other

## Factors linked to performance assurance measures

- ▶ **UIG can be caused by non-compliance and under-performance**
- ▶ **An investigation could be carried out to establish whether linking the Weighting Factors to the performance assurance framework, and application of the various performance assurance techniques, could play an effective role in reducing the overall levels of UIG**

# Other

## Initial Assessment

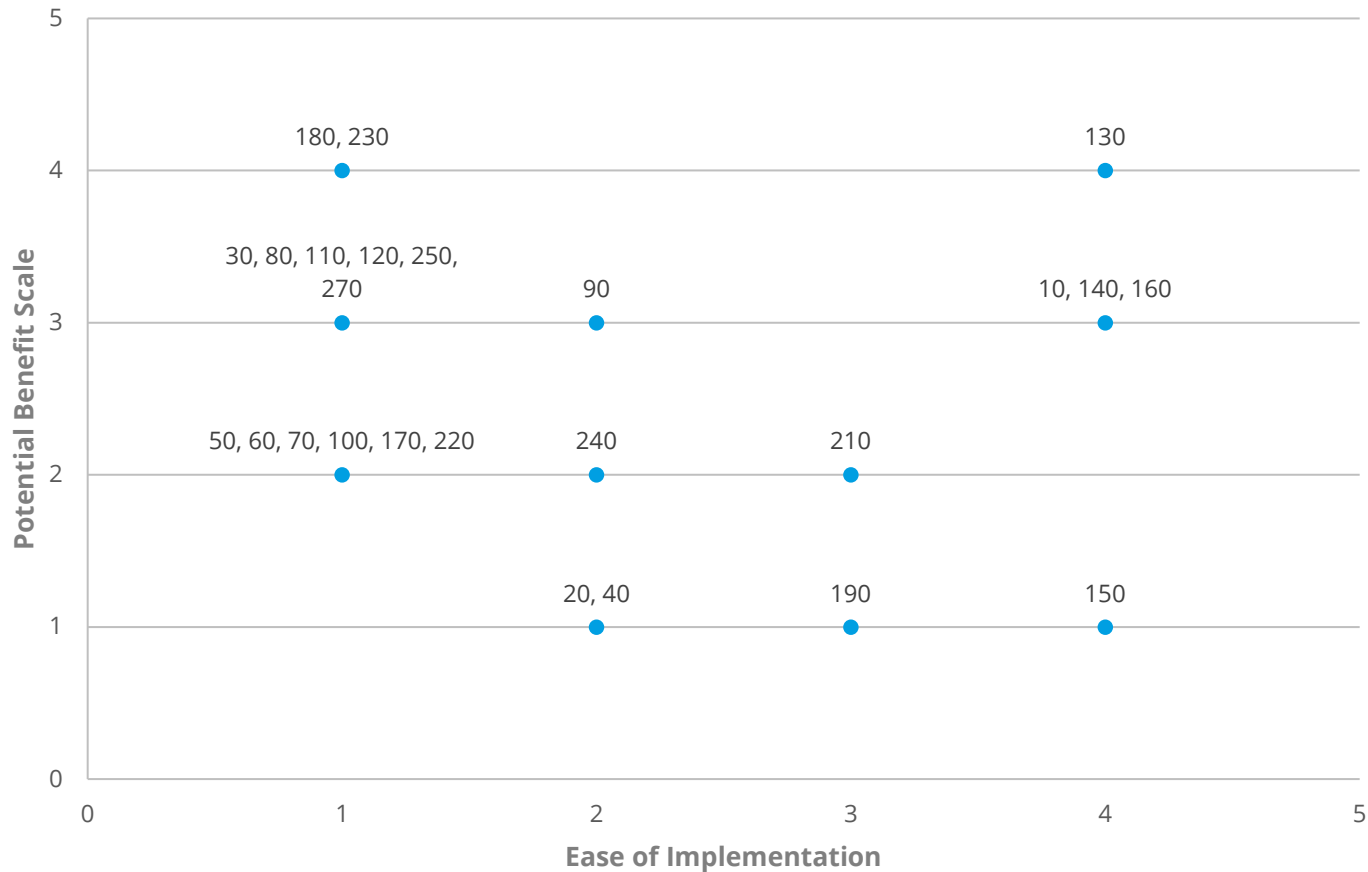
- ▶ We have scored each Other innovation based on ease of implementation and potential benefit:



# Summary

## Initial Assessment for all Potential Innovations in scope

Innovation Scoring



Innovation ID	Innovation Name
10	LDZ Specific Factors
20	Different Factors for the EUC WAR bands
30	Different Factors for Allocation and Reconciliation (transient UIG)
40	Seasonal Factors
50	Fixed and Floating Weighting Factors
60	Dynamic Weighting Factors linked to the throughput
70	Temperature and pressure actuals feeding into the Weighting Factors
80	Recalculate the UIG and Weighting Factors at the Line in the Sand
90	Changing the residual reconciliation redistribution process (UGR)
100	Re-reconciling the whole month
110	Factors linked to performance assurance measures
120	Factors specific to Shippers
130	Investigation into the temperature of gas in the meter
140	Investigation into the accuracy (bias) of all types of meter
150	Leakage investigation of IGT sites
160	Audit of the Correction Factors
170	Weighting Factors used to Incentivise
180	All meters must have volume conversion equipment fitted
190	Optimum meter capacity
210	Direct reporting ability
220	Split EUC bands 1 and 9
230	Portfolio Optimisation effects
240	Additional central reporting
250	In service testing for LDZ offtake meters
270	Dimension relating to the last accepted read

# Request for Feedback

## Questions

- ▶ **Are there any further innovations that have been identified by committee members?**
- ▶ **Is there a group or individual innovation that we can get consensus on progressing further?**



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