Future Billing Methodology

Unlocking a low carbon gas future

Q&A session

DNV·GL

nationalgrid Gas Distribution

Agenda

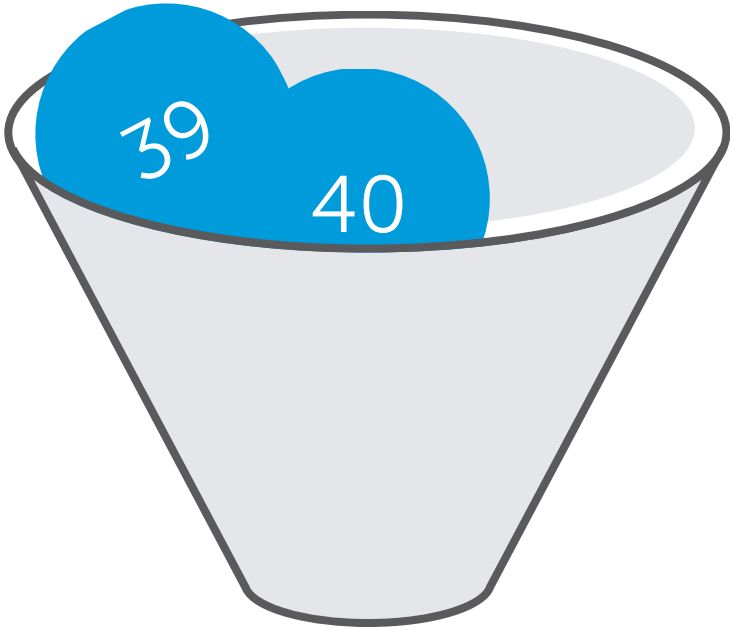
- General:-
  - Please keep your phones on mute unless you are asking a question/commenting to reduce background interference noise
- Presentation to cover:-
  - Why Future Billing Methodology?
  - Potential impact of this project on shippers/suppliers
  - Responding to some of the FAQs so far
- Open Q&A:-
  - Please indicate if you would like ask a question by typing ‘Question’ in the message bar on the webinar [image]

Why Future Billing Methodology?

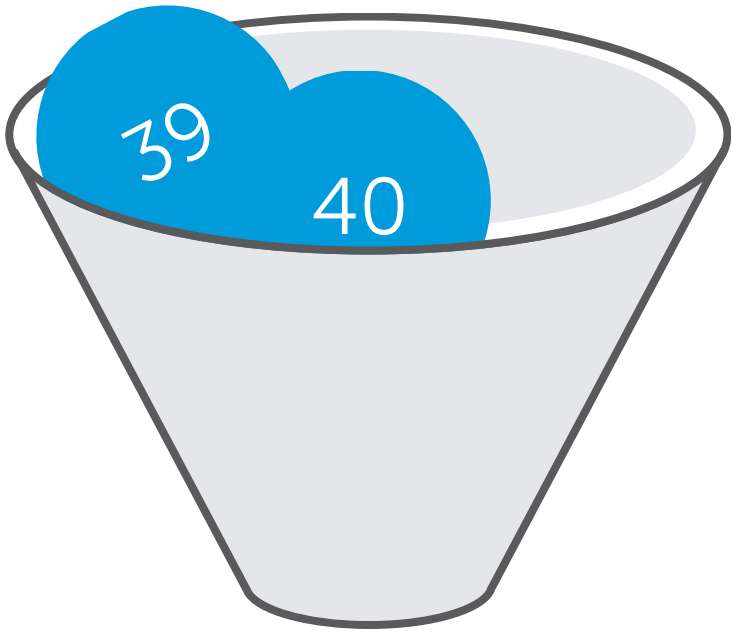
All gas must be safe to transport

All gas must be safe and meet regulations to be transported

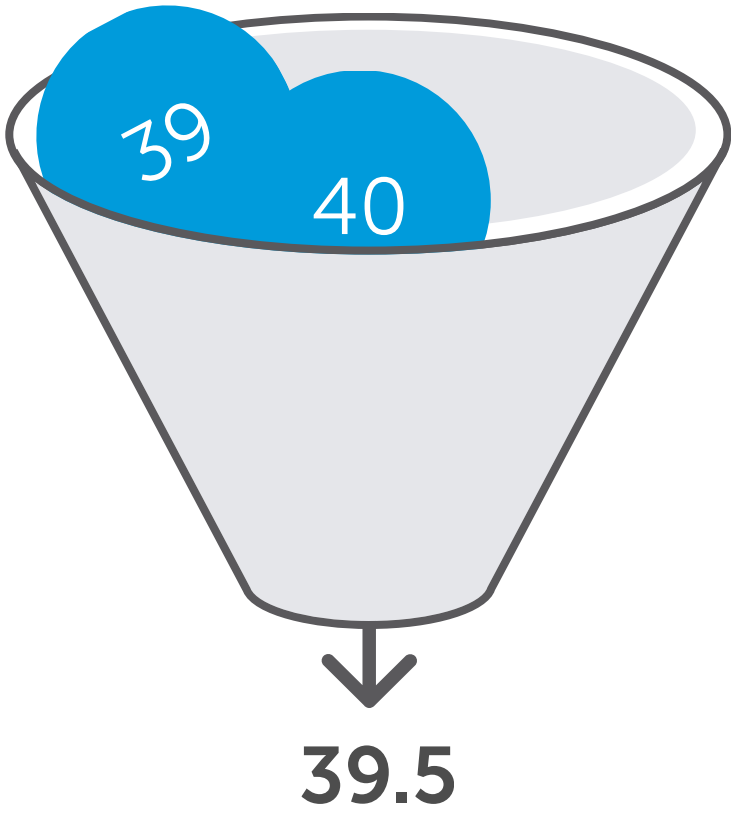
Flow-weighted average calorific value



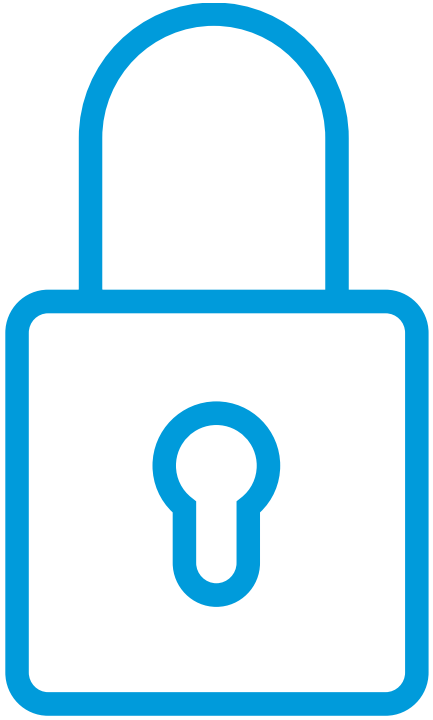
Flow-weighted average calorific value



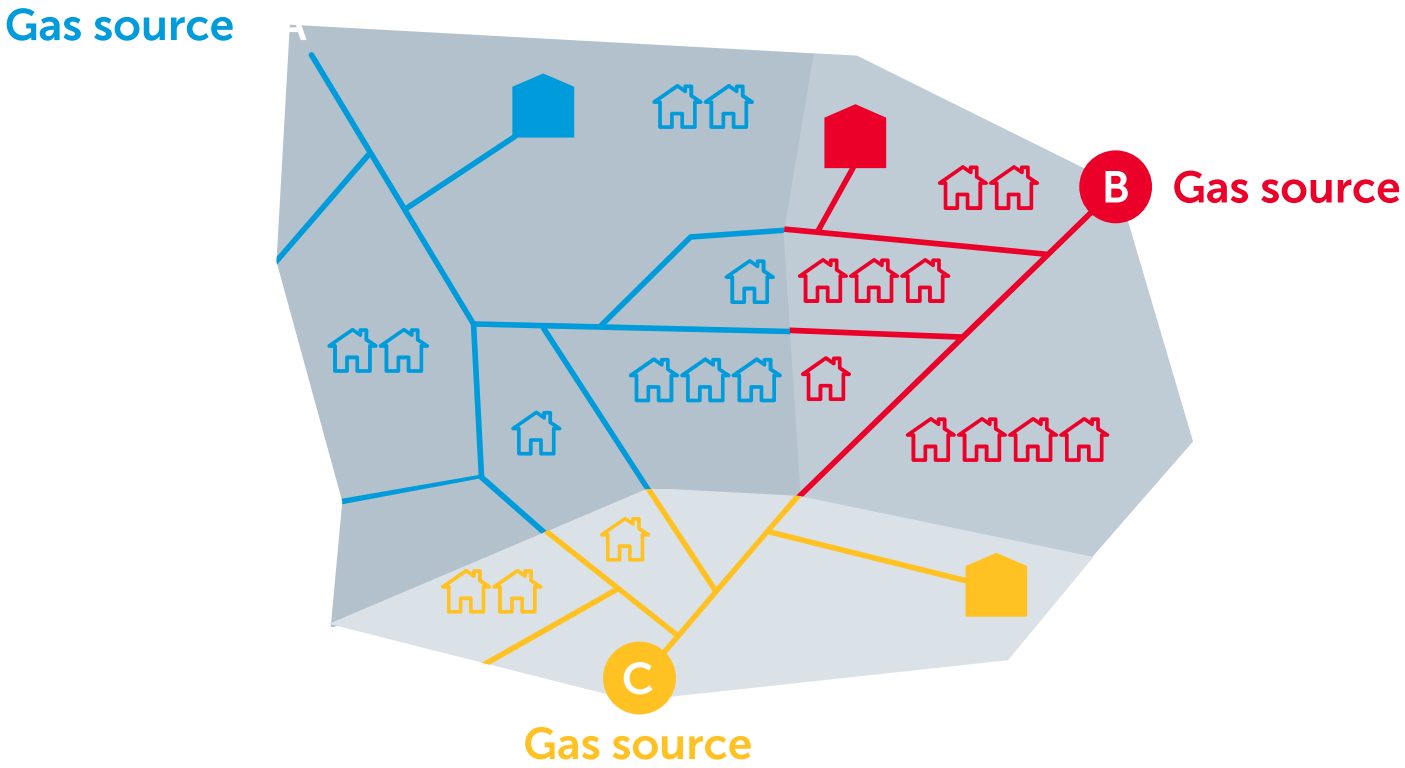
Flow-weighted average calorific value



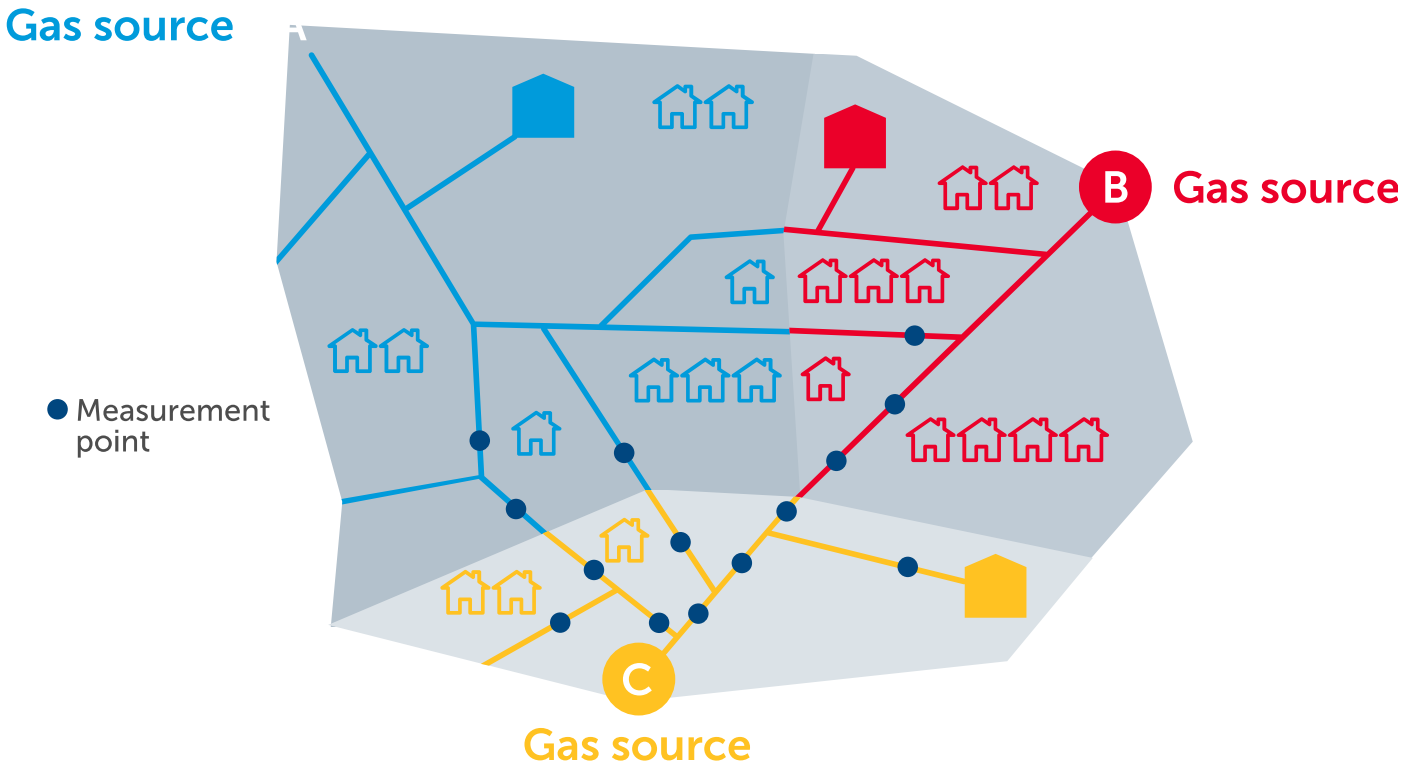
This is a barrier to diverse gas sources



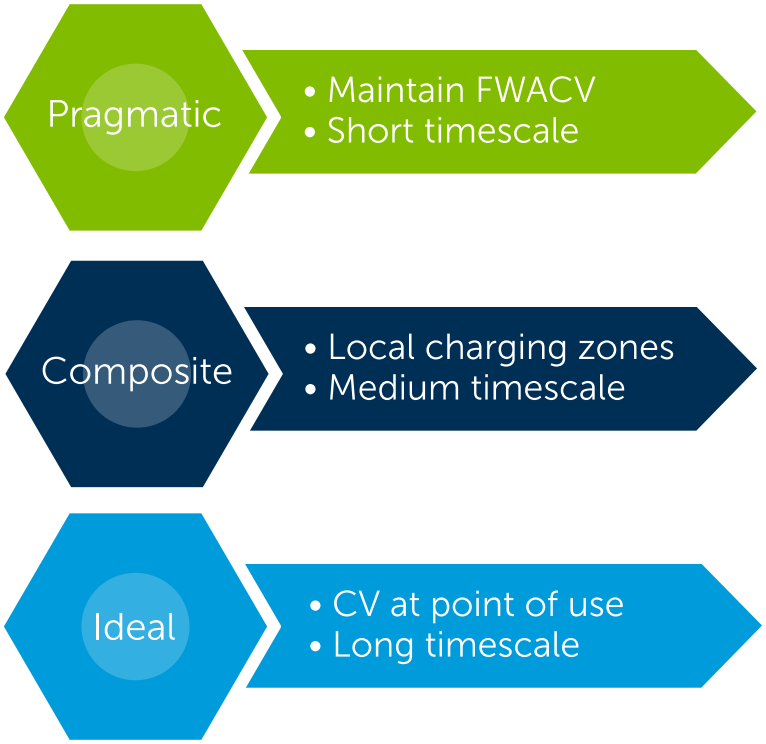
CV zones of influence in the LDZ



Field trials



Exploring three options



FBM: Responding to some FAQs

FBM: Potential impact on end consumers (i)

Where do the cost savings come from?

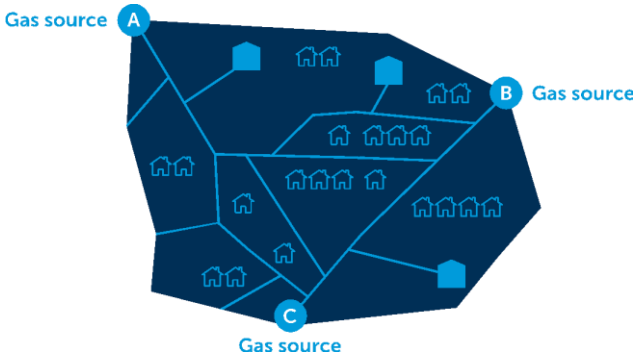
1. Removal of propane
2. Will open up the gas market to greater diversity of gas sources
3. Avoided cost of heating replacement with electric / other
4. Significant avoided cost of wide-scale electrification

FBM: Potential impact on end consumers (ii)

How will FBM impact customers' bills?

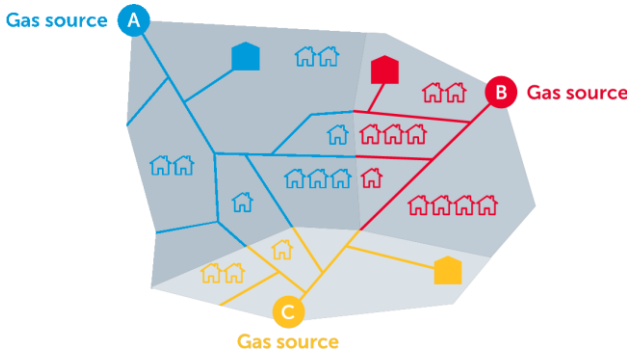
- Customers will still be billed for the gas energy transported to them

Now: LDZ FWA CV (low CV sources enriched)



Charging Area = LDZ

FBM: Actual CV in Zone of Influence



Charging Area = CV Zone

FBM: Potential impact on end consumers (iii)

- How will FBM impact transportation charges?
  - Transportation - Shippers will still be billed for the gas energy transported

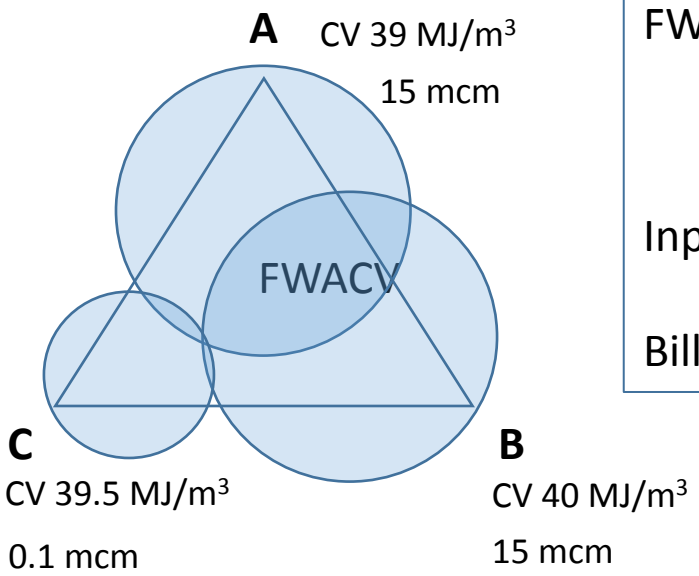
Distribution Charges Example Calculation							
Example Customer Zone C				**LDZ FWA CV**			**FBM CV Zone C**
				EE	**£**		**£**
AQ	13,500	kWh	ZCO	0.0287	3.87		3.87
LF	33.0%						
SOQ	112	kWh	ZCA	0.1736	70.97		70.97
			CCA	0.0973	39.78		39.78
Total Bill (Transportation)					**114.62**		**114.62**
CV				MJ/m³	39.5		37.5
Metered Volume				m³	1,230		1,296
Expected change in metered volume							5.3%

FBM: Potential impact on end consumers (iv)

What is the impact on customers' appliances of low CV gas?

- All gas appliances in GB are built to comply with the Gas Appliance Directive and should therefore operate safely within GS(M)R tolerances.

FWACV – an overview



FWACV = ((15x39)+(15x40)+(0.1x39.5))/(15+15+0.1)

= 39.5 MJ/m^3

Input energy = 330.3 GWh

Billed energy = 330.3 GWh

However, things get more complicated if the LDZ FWACV cap is invoked.

FWACV – Example of Capping Impact

LDZ FWA CV Calculation (Input C enriched)

	CV MJ/m³	mcmd	MJ	GWh
Input A	39.0	15	585,000,000	162.5
Input B	40.0	15	600,000,000	166.7
Input C (enriched)	39.5	0.1	3,950,000	1.1
FWA CV	**39.5**	**30.1**	**1,188,950,000**	**330.3**

LDZ FWA CV Calculation (Input C raw)

	CV MJ/m³	mcmd	MJ	GWh
Input A	39.0	15	585,000,000	162.5
Input B	40.0	15	600,000,000	166.7
Input C (raw)	37.5	0.1	3,750,000	1.0
FWA CV (No cap)	39.5	30.1	1,188,750,000	330.2
FWA CV (Cap)	**38.5**	**30.1**	**1,158,850,000**	**321.9**
Energy Excluded from Billing				8.3
Rough estimate of shrinkage cost generated				£108,360

2.5%

Note that absolute nature of the CV cap means that 0.1 mcm low CV gas (1 GWh) generates eight times the CV shrinkage.

Removing the CV cap would result in overbilling for customers fed from Input C (possibly over £35 per annum for an average consumption), hence the need to create CV zones for billing.

FWACV – impact of change on tariffs

- No impact on transportation tariffs, as billing is based on energy transported
- Providing zonal CV is accounted for in billing throughout the gas chain, consumers' gas bills should remain unaffected for a set energy requirement, but we need input from shippers / suppliers on this point
- Transportation invoices to shippers under FBM would reflect the CV zone structure in each LDZ, but full detail has yet to be worked through

Xoserve billing

- FBM project includes key engagement with Xoserve
- Will explore how to link CV zones determined by network modelling to meter point data which will drive calculation of:
  - Demand attribution for commodity invoice
  - Meter point reconciliation
  - Updating annual quantities and calculation of daily peak for non-daily metered customers

Shrinkage

- Analytical work from the field trials will inform potential impacts on CV shrinkage.
- Robustness of CV zones will be key to success.

Open Q&A

Thank you

- Reminder – the project website address is www.futurebillingmethodology.com
- The website will be updated with some of the FAQs and a separate FAQ document will be circulated.
- Consultation closes on 14 April – all the information on how to respond including a template and the full consultation document are on the website.
- Please get in touch with us if you have any further questions – david.chalmers2@nationalgrid.com.