

Implementation of Common Units: GB Experience

ENTSOG / Energy Community Workshop
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Why Harmonise Units?

- For shippers, enables consistent arrangements for commercial operations at Interconnection Points (IPs)
 - Capacity booking
 - Submission of nominations
 - Receipt of gas allocations
- For TSOs, ensures that the nominations matching process is conducted on an equivalent basis
- Enables 'like for like' comparison of data
 - Transparency reporting
 - Data publication

Interoperability Code Requirements nationalgrid

– Article 13

- *“Each TSO shall use the common set of units defined in this Article for any data exchange and data publication related to Regulation (EC) No 715/2009”*
 - Shipper capacity bookings at IPs
 - Shipper nominations and TSO matching at IPs
 - TSO data publication arising from EU Network Codes and transparency rules

Parameter	Unit
Pressure	Bar
Temperature	Degrees Celcius
Volume	m ³
Gross Calorific Value (GCV)	kWh/m ³
Energy	kWh
Wobbe Index	kWh/m ³

- *“The reference conditions for volume shall be 0°C and 1,01325 bar(a). For GCV, energy and Wobbe Index the default combustion reference temperature shall be 25°C”*


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The GB market uses reference temperatures of 15°C (volume) and 15°C (combustion)



- *“The reference conditions for volume shall be 0°C and 1,01325 bar(a). For GCV, energy and Wobbe Index the default combustion reference temperature shall be 25°C”*

What is a 'reference temperature'?

- Ambient temperature is one factor that affects measurement of a quantity of gas
- Measurements are therefore corrected to constant reference temperatures for volume and GCV in order to prevent seasonal distortions in energy measurement
- Fundamentally relate to a physical process but are also relevant for 'commercial' energy figures (capacity bookings, nominations, gas allocations)

GB Interconnection Points



Impact and Options Considered

Impact

- 1 kWh (15/15) = ~0.999 kWh (0/25)

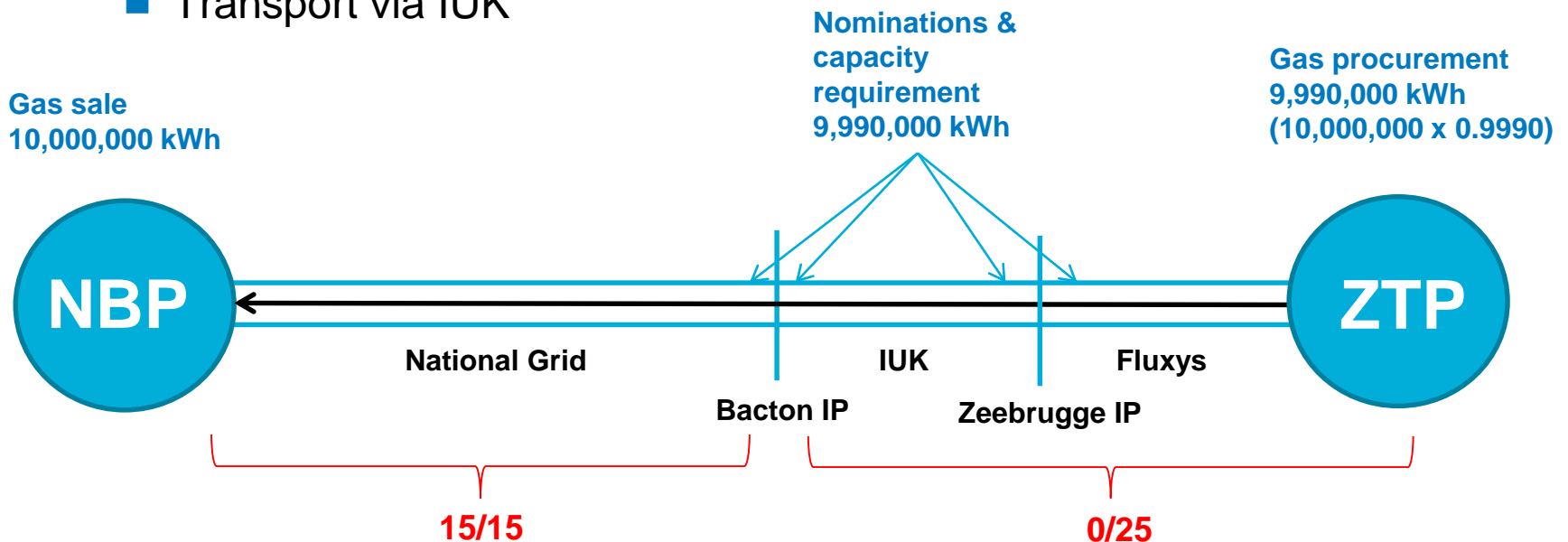
Options

- 1) Convert all of GB to 0/25 reference temperatures
- 2) Round the 0.999 conversion factor to 1
- 3) Ring-fence to interconnection points
 - Capacity, nominations and gas allocations processes conducted at 0/25 conditions
 - GB shipper allocations adjusted to 15/15 for imbalance purposes

Option 3 was selected for implementation

Worked Example (1)

- A shipper wants to
 - Sell 10,000,000 kWh at the NBP in GB
 - Buy the gas at ZTP in Belgium
 - Transport via IUK



Entry Allocation at Bacton IUK = 9,990,000 kWh

Additional 10,000 kWh applied to calculate the shipper's GB imbalance $(1 / 0.9990) - 1 \times 9,990,000$

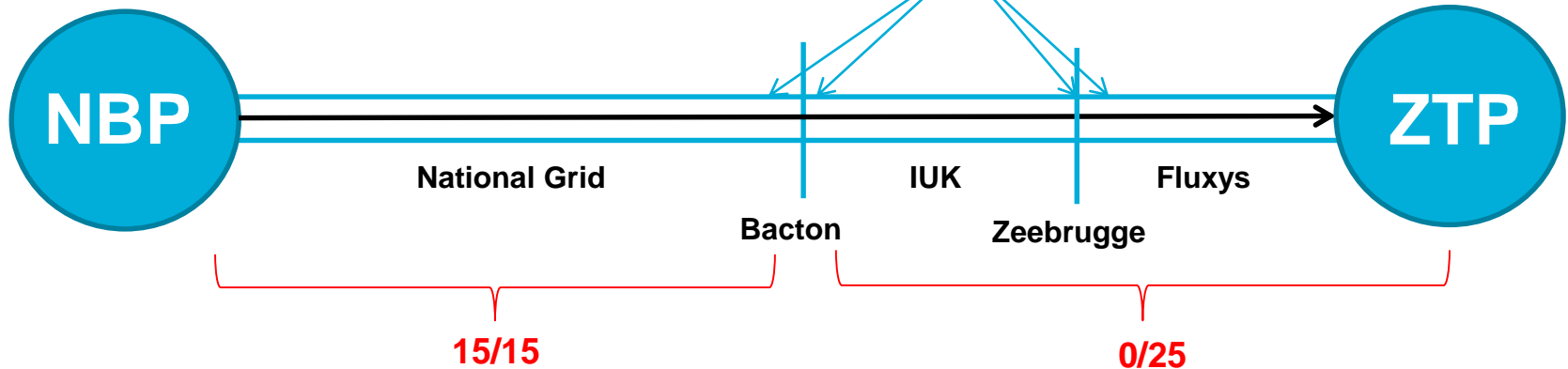
Worked Example (2)

- A shipper wants to
 - Sell 10,000,000 kWh at ZTP in Belgium
 - Buy the gas at the GB NBP
 - Transport via IUK

Gas procurement
10,010,010 kWh
(10,000,000 x
(1/0.9990))

Nominations &
capacity
requirement
10,000,000 kWh

Gas sale
10,000,000 kWh



Exit Allocation at Bacton IUK = 10,000,000 kWh

Additional 10,010 kWh applied to calculate the shipper's GB imbalance ((10,000,000 x (1 / 0.9990)) - 10,000,000)

Moffat IP Solution

- The GB, Northern Ireland and Republic of Ireland gas markets have all historically operated to 15/15 reference temperatures
- Therefore there was no 'interoperability issue' related to reference conditions at the Moffat IP
- The Interoperability Code recognises this type of situation:
 - *"In cases where one Member State is connected to only one other Member State, the adjacent transmission system operators and the parties they communicate with may agree to continue to use other reference conditions for data exchange in connection with Regulation (EC) 715/2009, subject to the approval of their national regulatory authorities"* (INT Code Article 13(3))
- National Grid, Premier Transmission and Gas Networks Ireland all obtained approval from their NRAs to maintain 15/15 conditions at the Moffat Interconnection Point

Summary

- In our view, this represented an appropriate solution to compliance with the common units provisions in the Interoperability Code
- It was achieved by engagement on the potential options with our shippers, NRAs and adjacent TSOs
- Implementation was achieved by a modification to our national network code and a change to Gemini – our IT system interface with our shippers

Thank you for your attention