

Reference gas qualities for the long term monitoring outlook

6TH SJWS

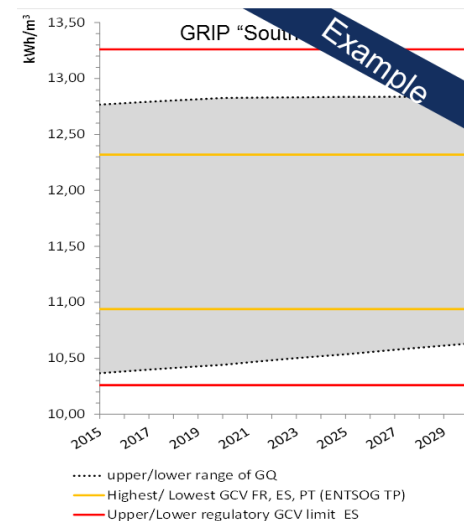
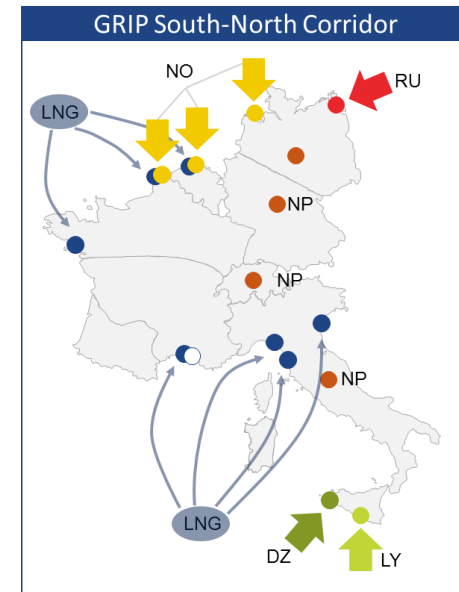
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Gas quality reference values

Introduction (INT NC Article 18)

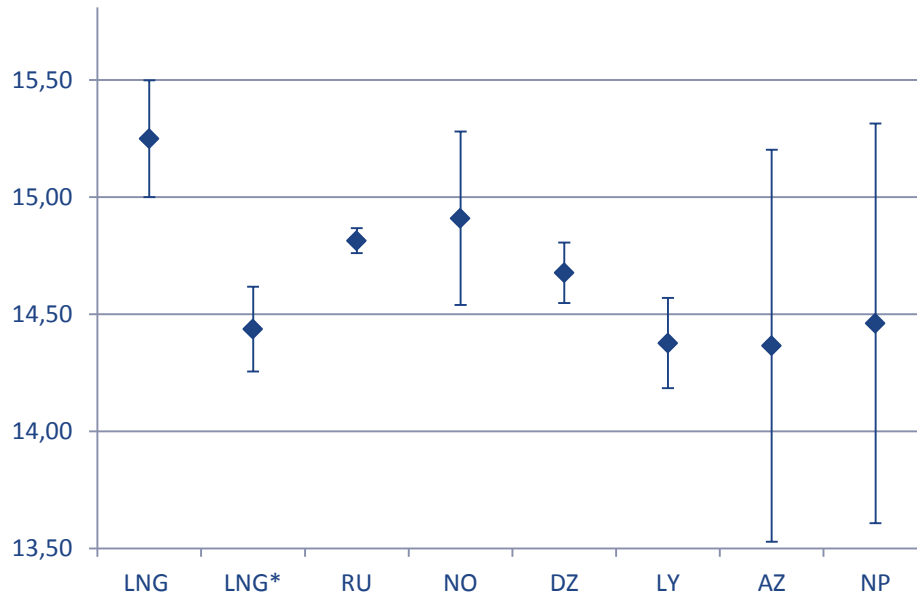
- > INT NC Article 18 requires ENTSG to publish a long-term gas quality monitoring outlook for transmission systems identifying potential **trends of gas quality** parameters and respective **variability** within the next 10 years.
- > The outlook will be consistent and aligned with TYNDP by relying on the same scenarios.
- > The outlook will be split into different regions
- > To define the reference values of gas quality parameters for the respective supply sources, an analysis of the previous years is being carried out.
- > The following slides present a summary of **Wobbe Index** and **Gross Calorific Value** data gathered for different supply sources.





Wobbe Index reference values

Wobbe Index
(kWh/m³, comb 25°C, volume 0 °C)



| Supply | Avg | U (k=2) |
|--------|-------|---------|
| LNG | 15,25 | 0,25 |
| LNG* | 14,44 | 0,18 |
| RU | 14,81 | 0,05 |
| NO | 14,91 | 0,37 |
| DZ | 14,68 | 0,13 |
| LY | 14,38 | 0,19 |
| AZ | 14,37 | 0,84 |
| NP | 14,46 | 0,85 |

> Notes:

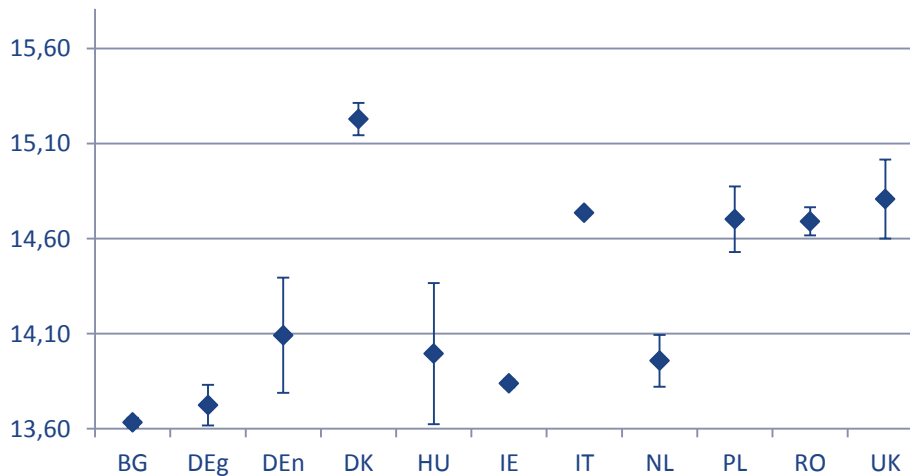
- LNG* represents an estimate of the output of terminals in the UK after ballasting based on national specs
- LNG represents a wider range covering all LNG qualities potentially arriving to the rest of EU
- For the indigenous national production (NP) different national values will be used
- Azeri gas (AZ) values are derived from specifications rather than measured values



Wobbe Index reference values - NP

Wobbe Index

(kWh/m³, comb 25°C, volume 0 °C)



| Country | Avg | U (k=2) |
|---------|-------|---------|
| BG | 13,63 | 0,03 |
| DEg | 13,72 | 0,11 |
| DEn | 14,09 | 0,30 |
| DK | 15,23 | 0,08 |
| HU* | 13,99 | 0,37 |
| IE | 13,84 | 0,02 |
| IT | 14,74 | 0,02 |
| NL | 13,96 | 0,14 |
| PL | 14,70 | 0,17 |
| RO* | 14,69 | 0,07 |
| UK* | 14,81 | 0,21 |

> Notes:

- Values marked with* are inferred from GCV values rather than based on actual measurements

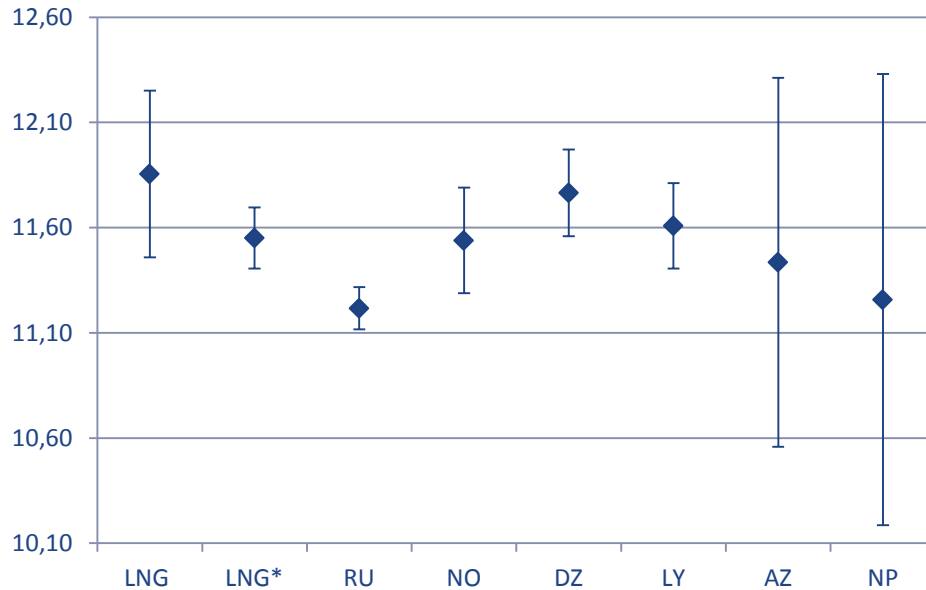


GCV reference values



Gross Calorific Value

(kWh/m³, comb 25°C, volume 0 °C)



| Supply | Avg | U (k=2) |
|--------|-------|---------|
| LNG | 11,86 | 0,40 |
| LNG* | 11,52 | 0,18 |
| RU | 11,22 | 0,10 |
| NO | 11,54 | 0,25 |
| DZ | 11,76 | 0,21 |
| LY | 11,61 | 0,20 |
| AZ | 11,44 | 0,88 |
| NP | 11,26 | 1,07 |

> Notes:

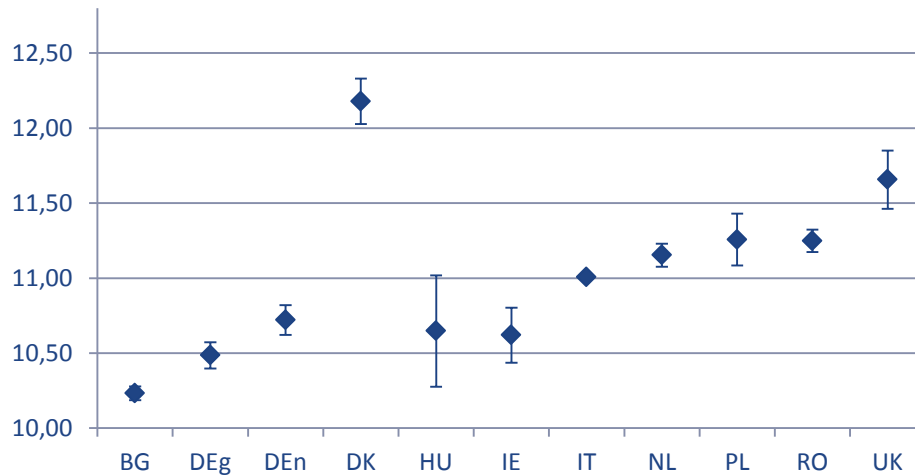
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- For the indigenous national production (NP) different national values will be used
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GCV reference values - NP



Gross Calorific Value
(kWh/m³, comb 25°C, volume 0 °C)

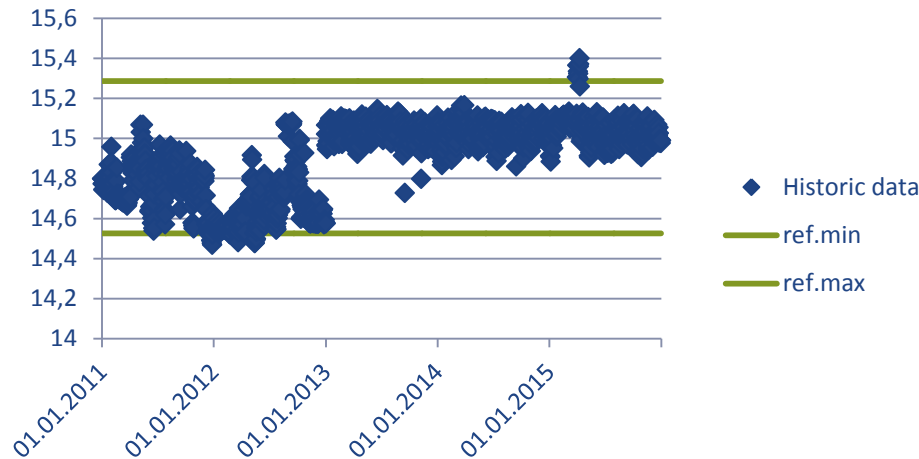


| Country | Avg | U (k=2) |
|---------|-------|---------|
| BG | 10,23 | 0,05 |
| DEg | 10,49 | 0,09 |
| DEn | 10,72 | 0,10 |
| DK | 12,18 | 0,15 |
| HU | 10,65 | 0,37 |
| IE | 10,62 | 0,18 |
| IT | 11,01 | 0,01 |
| NL | 11,15 | 0,08 |
| PL | 11,26 | 0,17 |
| RO | 11,25 | 0,07 |
| UK | 11,66 | 0,19 |



Example analysis

Zeebrugge – ZPT – Wobbe Index



- > Reference values represent a given interval confidence built on historic data
- > Additional views on the evolution of gas quality parameters presented above for the different supplies can be send via e-mail to antonio.gomez@entsog.eu



Thank You for Your Attention

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