UGS in ENTSOG deliverables

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UGS – a key infrastructure for the gas networks

**UGS role**

- Normal conditions:
  - Seasonal modulation – Flattening of supply
  - Peak demand
  - Network balancing
- Emergency: Supply disruptions, unexpected demand levels

**UGS data**

- AGSI – a very valuable source of data
  - Withdraw
  - Injection
  - Stock level
- Entries and exit flows into and from the gas networks (TSO data)

*The potential behaviour of UGS is assessed in many of ENTSOG deliverables: TYNDP, Seasonal Outlooks and Reviews, ENTSOG Maps....
Analysis of UGS behavior
UGS in the System Development Map

**UGS role in the EU gas supply:**

*Key UGS figures – country aggregate - :*
UGS in the Seasonal Reviews

Winter Review:

Figure 38 - UGS injection/withdraw profile. Source AGSI

Figure 39 - Use of UGS during Winter 2013/14 & 2012/13

Figure 40 - Winter UGS utilization (% WGV)

W2010/11 54%
W2011/12 52%
W2012/13 67%
W2013/14 40%

Figure 41 - UGS winter use

Figure 42 - Winter average

Figure 43 - 14-d high demand period (21 Jan - 3 Feb 2014)

Figure 44 - 29 January 2014

Figure 45 - TWh W09-10 W10-11 W11-12 W12-13 W13-14

Figure 46 - UGS Supply share (%)
UGS in the Seasonal Reviews

Summer Review:

Figure 28 - UGS injection/withdraw profile. Source AGSI

Figure 29 - UGS net injection

Figure 30 - Stock level (%WGV)

Figure 31 - Stock level: 30 Sept vs. max Stock level

Figure 32 - Evolution of stock level. Summers 2010-2014 (Source AGSI)
UGS in ENTSOG assessments
Assessment of UGS in Summer Outlook

Assumptions:

- Actual stock level per balancing zone at the end of the winter (AGSI).
- Reference target: 90% stock level by 1 November at each balancing zone.
- Sensitivity analysis with alternative stock levels: 80% and 100%
- Injectability curves (GSE)

Results:

- Potential network bottlenecks preventing the targeted stock level.
Winter Outlook

Assessment of UGS in Winter Outlook

> Assumptions:
  - Actual stock level per balancing zone at the beginning of the winter (AGSI).
  - Deliverability curves (GSE)

> Results:
  - Evolution of UGS stock
  - Potential disruptions of demand under normal conditions or under supply stress situations
UGS assessment within TYNDP

> 20-year evolution on 2 different demand scenarios and 3 different infrastructure scenarios:

- Potential contribution of UGS to the coverage of the peak-day demand:

- Evolution of seasonal use of UGS:
Thank You for Your Attention

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