SSO: RWE Gas Storage

ENTSOG, TYNDP, 21–22 March 2013, Riga

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Head of Sales, RWE Gas Storage
Value of storage consists of three basic elements; it is not a pure S-W spread!

- **SoS value**
- **Extrinsic value**
- **Intrinsic value**
S-W spreads stabilized at ~2 EUR/MWh; storage prices strongly correlated with S-W spreads

- S-W spreads have become a „magic formula“ when buying storage
- Most forecasts expect S-W spread to increase again in the mid-term

> RGS auctions show a very strong correlation between final auction prices and S-W spreads
> Higher interest in seasonal products for a lower price
SSOs to seek for additional benefits for the customers vs regulatory limitations

Range of products
(bundled/unbundled, long/short-term, additional services, SSO cooperation?)

Easy and user-friendly applications and tools
(on-line booking, etc.)

Simplified market model
(e.g. elimination of transmission to/from storage -> UGS directly at VTP)

Support of secondary market
(e.g. store-x, internal tool simplifying transfer of gas between storage users)

Transparency
(data publication, e.g. final auction prices: http://www.rwe-gasstorage.cz/en/auction-history/)
RGS introduced new services in 2012 and develops additional; customer base steadily increasing

New services/products of RGS

- **Temporary WGV**
  - Re-selling of WGV not currently used
  - Allocation via auctions/e-mail
  - Attractive price level

- **Guaranteed Reverse Capacities**
  - Flexible injection/withdrawal switching with guarantee
  - Allocation based on contracted volume

- **Secondary auctions**
  - Organization of auctions for secondary capacity in the RGS Auction system

> Additional services/products planned for 2013, e.g.
  - Protected area for customers
  - On-line requests for capacity lease/transfer, gas transfer
  - Other type of interruptible capacity

Number of customers

> Both Czech and EU storage users
RGS behaves (more than) transparently

- Virtual storage capacity
- Aggregated Outflows / Inflows
- Daily published information
  - Total capacity (total withdrawal and injection capacity for the following gas day by products)
  - Total contracted capacity (total contracted firm withdrawal and injection capacity for the following gas day by products)
  - Daily stock level (current stock levels in the virtual gas storage by products)
  - Available interruptible capacity (actual daily injection and withdrawal capacity)
  - Interrupted interruptible capacity (interrupted interruptible withdrawal and injection capacity and the highest offered price per capacity unit that was interrupted)
  - Interrupted firm capacity (interrupted firm withdrawal and injection capacity by products)
  - Daily withdrawal and injection (actual daily withdrawal and injection capacity by products)
  - Aggregated nominations (sum of all nominations for the following day)
- Capacity development
- Planned shutdowns and maintenance

<table>
<thead>
<tr>
<th>Date</th>
<th>Daily Stock Level [mcm]</th>
<th>Utilization of injection rate [mcm]</th>
<th>Utilization of withdrawal rate [mcm]</th>
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<tbody>
<tr>
<td>27.06.2010</td>
<td>2140,7</td>
<td>16,4</td>
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<td>26.06.2010</td>
<td>2151,2</td>
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<td>29.06.2010</td>
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<td>30.06.2010</td>
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<td>01.07.2010</td>
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<td>02.07.2010</td>
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**Planned shutdowns and maintenance**

<table>
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<tr>
<th>Period</th>
<th>Restriction</th>
<th>Comment</th>
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<tbody>
<tr>
<td>06.10.2010 -</td>
<td>to 84.5% of max. available</td>
<td>Stabilisation</td>
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<tr>
<td>15.10.2016</td>
<td>withdrawal capacity</td>
<td></td>
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<tr>
<td>01.10.2010 -</td>
<td>to 42.8% of max. available</td>
<td>Stabilisation</td>
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<tr>
<td>05.10.2016</td>
<td>withdrawal capacity</td>
<td></td>
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</tbody>
</table>

RWE Gas Storage currently has no shutdowns or maintenance restrictions.

Planned shutdown:
In the Czech Republic, new PSOs are defined by law and fulfilled by gas suppliers

A group of “protected” end customers has been defined including households, health and social services, public transit, food industry and heating plants

**Off-take regimes** have been defined with a merit order for cutting off selected groups of customers in case of emergency

**Security of supply standard** is set and updated each year for protected customers for the following situations:

- 7 coldest days in 20 years
- 30 coldest days in 20 years
- Failure of the largest piece of gas infrastructure for a period of 30 days

From October to April, at least **20 percent** of the security of supply standard must be covered using gas storage anywhere in the EU

If stored outside of the Czech Republic, a firm transmission capacity contract is also required
Current conditions on the market do not support development of new capacities; some projects still alive

- Extending its Uhřice UGS stepwise by 65 mcm
- Should start 450-580 mcm extension of Dambořice storage (MoU with GE)

GSCeP intends to develop two fast UGSs with total WGV of 180 mcm

- Probably parked its plan to build 100 mcm
- Based on OS results, RGS decided to stop its expansion project in Tvrdojnice

No expansion plans

- Intends to connect its D. Bojanovice UGS to Czech storage market

Zbyněk Pokorný, RWE Gas Storage
Czech TSO grid