The Impact of Gas Market Regulation and Liberalization on Gas Pricing

Global Energy 2014

Noradèle Radjai

Geneva, 2 December 2014
Outline

1. Conditions for a successful competitive market
2. Emergence of gas hubs across Europe
3. The future of gas hubs in Europe
4. Evolution of gas price formation in Europe since 2008
5. Basis of gas price formation in Europe today
Conditions for a successful competitive market
- Surplus of gas supply
- Access to infrastructure
- Size of the market
- Political will
Emergence of gas hubs across Europe
The Impact of Gas Market Regulation and Liberalization on Gas Pricing
Hubs in Europe today

**Britain**: NBP, first European gas hub (1996)

**The Netherlands**: TTF, 2003, take-off in 2007

**Germany**: 2 market areas, 2 hubs NCG and Gaspool (GPL) (2009)


**France**: PEG Nord, PEG Sud and PEG TGIF (2004)

**Austria**: Baumgarten CEGH

**Italy**: PSV (2003)

Others
### Selected hubs volumes comparisons

#### Total volumes (TWh) hub vs. hub; OTC vs. exchange

<table>
<thead>
<tr>
<th>Hub</th>
<th>2012</th>
<th>2013</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Others</td>
<td>1071</td>
<td>1064</td>
<td>+7</td>
</tr>
<tr>
<td>1576</td>
<td>1559</td>
<td>1559</td>
<td>+17</td>
</tr>
<tr>
<td>PEGs</td>
<td>377</td>
<td>292</td>
<td>+85</td>
</tr>
<tr>
<td>483</td>
<td>380</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>GPL</td>
<td>528</td>
<td>516</td>
<td>+12</td>
</tr>
<tr>
<td>902</td>
<td>873</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>NCG</td>
<td>1258</td>
<td>1084</td>
<td>+174</td>
</tr>
<tr>
<td>1403</td>
<td>1340</td>
<td>63</td>
<td></td>
</tr>
<tr>
<td>TTF</td>
<td>7650</td>
<td>7002</td>
<td>+648</td>
</tr>
<tr>
<td>8301</td>
<td>7701</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>NBP</td>
<td>18487</td>
<td>11625</td>
<td>+6862</td>
</tr>
<tr>
<td>16025</td>
<td>10026</td>
<td>5999</td>
<td></td>
</tr>
</tbody>
</table>

Sources: LEBA; ICE; ICE-Endex; EEX; Powernext; CEGH; GME; P. Heather
The principal European hubs

- Europe has 2 mature hubs => NBP and TTF

- TTF is the most trader-friendly hub in Continental Europe

- NBP still leader in terms of volume
The future of gas hubs in Europe
Lengthy process of liberalization

- Even in North America and Britain, transition to full liberalization took time: 15-20 years

- North Western Europe gas markets still some way from full liberalization

- Nevertheless: transformation is happening
The future of gas hubs: likely challenges

- Potential completion of liberalization across Europe by 2025
- Only a few of the new hubs will emerge as pricing hubs
- Absence of infrastructure and of supply optionality
Evolution of gas price formation in Europe since 2008
European gas hubs price correlation

There is now very good price correlation across all the European gas hubs

Month Ahead contracts: Jan-Dec 2012

Sources: ICIS, P. Heather
Prices under LTCs remain relevant

- Gas supplies into Europe: mainly from LTCs
- Flexible volumes: only a relatively small volume
Sources of European gas imports

2. Norwegian pipeline
- Gradual transition from oil-indexed to spot price linked contracts
- Significant production flex optimised against spot prices

1. Russian pipeline
- Similar oil-indexed contract structures (Gas Oil, Fuel Oil)
- Absolute price levels being renegotiated
- But resistant to move away from oil-indexation

4. LNG Imports
- Spot price linked supply into North West Europe
- Additional spot flow if netback prices attractive
- Oil-indexed supply into Southern Europe (primarily Spain) with some diversion flex

3. North African pipeline
- Majority crude + GO/FO indexation
- Strong resistance to move away from oil-indexation

2012 flows
Source: IEA flow data & Timera estimates
Shares of traded gas

- In the UK: 50%, figure still fairly steady

- In Continental Europe:
  - Netherlands: ~33%
  - Belgium and Germany: 25%
  - France: 20%
  - Austria and Italy: 10%
Evolution of Brent prices
Evolution of oil prices against gas prices after 2008

- Before the financial crisis => crude oil and refined oil products as the dominant bases for indexing prices
- Oil prices fell soon after the peak of the financial crisis, but strong rebound in Q2 of 2009
- Economic recession caused gas demand in Europe to fall => contractual surplus of gas
- Increase in supplies due to completion of infrastructure projects + shale gas revolution
- Development of competition between gas suppliers + growth of gas market trading hubs
The impact of the crisis on prices in LTCs

- First quarter of 2009:
  - Western European gas importers found themselves paying high oil-indexed gas prices under LTCs
  - While gas demand slumped
- Price of gas on the hubs “decoupled” from prices in long-term oil-indexed contracts
- Facing losses => Western European gas importers initiated price renegotiations and arbitrations
European prices spread: German contract and NBP 2006-2012
LTC price renegotiations

- Renegotiations had two main tangible results:
  - Reduction of oil-indexed gas prices to make them competitive with spot/hub prices
  - Gas prices shifted away from oil-price indexation towards spot/hub price indexation.
Northwest Europe price formation (2005-2013)
Mediterranean price formation (2005-2013)
Global gas and Brent prices:
January 2007 – December 2012

Sources: Argus, BAFA, EIA, ICIS Heren, H.V. Rogers
Basis of gas price formation in Europe today
Basis of gas price formation in Europe today

- Britain => all gas supplies priced against NBP
- New contracts concentrate on securing volume rather than securing price
- Pricing structure of European gas markets is slowly also changing
Gas price formation is 51% market priced

- **Q2-2013**
  - 51% market priced
  - 49% oil indexed

- **Other Market Spot** (incl. Gazprom, Norway and GasTerra) - 34%
- Gazprom - 20%
- Sonatrach - 10%
- Norway - 6%
- GasTerra - 4%
- Other - 9%
- UK Market - 17%
Transition to market pricing across Europe is not complete

- Move to market pricing is not spread across all of Europe in the same way
- North and West => definite majority of gas supplied at hub prices
- East and South => still a dominance of oil indexation
- How long the transition will take to complete is uncertain
The relevance of oil prices to gas prices in the future

- Gas competes with oil in the residential sector
- Gas competes with oil in the power generation sector
- Oil-gas linkage may strengthen in the future as a result of direct competition in the transportation sector
Complete disappearance of oil indexation unlikely

- Renegotiations => oil components did not disappear from these contracts, just decreased in percentage terms

- Hub-based pricing does not mean that gas prices will automatically and always be lower than oil-linked prices

- Impact of recent drop in oil prices?
The Impact of Gas Market Regulation and Liberalization on Gas Pricing

Contact:
Noradèle Radjai, Partner, LALIVE

nраджai@lalive.ch
Tel: +41 58 105 20 00
Fax: +41 58 105 20 60

www.lalive.ch