73 Members around the world

Map shows locations of Member Head Offices. Many operate globally.

The map above shows the division of the world into seven regions on which subscription shares are based. The delineation of zones is not intended to reflect offshore boundaries.
Why domestic production for EU?

- Promotes development of liquid hubs
  - TTF, NBP
- Competition is enhanced
- Leads to roll out of gas infrastructure
- Develops gas chain skills which ultimately benefits the market
- Public benefits, jobs, and energy R&D

Source: Woodmap for IOGP: Upstream Competitiveness
Gas Hubs

- Resilient basis to support gas market development
  - Avoid dependency on infrastructure
  - Ability to compensate for disruptions

TTF Liquidity Development
Source: GTS
At present the EU28 + Norway accounts for 50% of EU28+Norway’s total gas supply requirements, a decline from 57% in 2015

**Key Gas Suppliers to EU28+Norway**

**Norway:**
Annual export on track to exceed ~116 bcm supported by increased availability from Troll

**Russia:**
Nordstream 1&2 to increase exports by 90 bcm by 2035. Permit issued for Turkstream

**USA:**
LNG supply expected to reach 106 bcm (79 mmtpa) by 2025
Long-term deals with UK and Med. countries

**Algeria:**
Significant rise in exports in 2016/17, to continue supported by new compression Hassi R’Mel, Gassi Touil, In Salah and new fields in the Southwest

**Azerbaijan:**
Europe’s Southern Corridor, TAP/TANAP – on schedule for 2019

**Qatar:**
Total LNG supply expected to reach 119 bcm (88 mmtpa) by 2025 – new mid term contracts signed with Poland, Turkey and Germany

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**EU28+Norway Gas Supply Mix**

<table>
<thead>
<tr>
<th>Year</th>
<th>Domestic</th>
<th>Other Imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>120 (43%)</td>
<td>179 (57%)</td>
</tr>
<tr>
<td>2017</td>
<td>104 (49%)</td>
<td>221 (51%)</td>
</tr>
</tbody>
</table>

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**Woodmap for IOGP: Upstream Competitiveness**
Despite a decrease in total commercial reserves since 2015, Europe holds 17 bnboe of future upside from existing but undeveloped fields.

**Liquids Reserves, bnboe**

<table>
<thead>
<tr>
<th>2015</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>25,2</td>
<td>25,3</td>
</tr>
</tbody>
</table>

- **Commercial Remaining Reserves**: 19,0
- **Technical Remaining Reserves**: 6,2

**Gas Reserves, bnboe**

<table>
<thead>
<tr>
<th>2015</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>5,512 bcm</td>
<td>5,156 bcm</td>
</tr>
</tbody>
</table>

- **Commercial Remaining Reserves**: 24,5
- **Technical Remaining Reserves**: 7,9

**Total Reserves, bnboe**

<table>
<thead>
<tr>
<th>2015</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>57,7</td>
<td>55,7</td>
</tr>
</tbody>
</table>

- **Commercial Remaining Reserves**: 43,5
- **Technical Remaining Reserves**: 14,2

Source: Woodmap for IOGP: Upstream Competitiveness
Policy focus on hubs and rules

- Hub access can lead to quicker ‘gas to market’
- Cross border access to liquid hubs can avoid inefficient infrastructure
- Import infrastructure in each Member State impacts drivers to integrate cross-border
- Subsidised infrastructure (storage, LNG) distorts the market
- Subsidies also tilt the field against other sources of gas flexibility, leading to suboptimal supply patterns
- Level playing field the best approach, as it keeps system costs down

Source: Woodmap for IOGP: Upstream Competitiveness
Policy factors impacting the market

• Regulated retail prices remain a problem
• Market obligations restrict commercial flexibility
• Questions about the future role of gas
• How can we make the gas system fit for the future?
Steam methane reforming

- Hydrogen with CCS could ensure long-term key role for existing gas infrastructure
- Long-term perspective on infrastructure is necessary
- Leeds project uses CCS

Conclusions

• Indigenous EU resources should be economically recovered, as they contribute to diversification and market competition
  • Promote hub development and liquidity

• A balanced EU portfolio will attract pipeline gas, LNG, domestic production and storage investment
  • Obligations can distort market efficiency
  • Don’t ‘pick winners’, e.g. LNG hub or storage support

• Gas producers are part of the energy transition solution
  • Coal remains priority climate challenge
  • Gas plus renewables
  • New forms of gas ensure continued relevance of EU’s extensive networks
  • Decarbonised gas
  • Policy framework should be assessed in light of future challenges