Natural Gas in Europe:  
*Will customers need more or less?*

September 20th 2018

2018 Energy Community Gas Forum
*Ljubljana, Slovenia*
European gas market may look different in medium and long term

**Medium term: to 2025**

- Diverse supply and increasing trade
  - Europe in a global market
  - Declining, recovering, or variable demand?
  - Pipeline gas or LNG for incremental supply

**Long term: the mid century**

- The context of a net-zero economy
  - EU climate targets
  - Decarbonized energy in 2050?
  - Role for renewable and decarbonized gas

Source: IHS Markit © 2018 IHS Markit
The medium term

- The global context: LNG demand outside Europe
- European demand
- European supply
The global context

Incremental LNG supply will outpace growth in demand

*Europe can absorb the surplus if the LNG is priced competitively—or it can be shut in*

Incremental LNG available supply from 2017

Incremental LNG demand outside northwest Europe from 2017

Potential extra LNG supply, absorbed by:

i) Northwest Europe imports

ii) Lower LNG utilization

Source: IHS Markit © 2018 IHS Markit

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US LNG is expected to be the marginal supplier to world markets

Low US utilization levels during period of peak oversupply (2020 through 2022)

US lower-48 liquefaction capacity versus supply forecast

Notes: Utilization is calculated based on delivered volumes.
Source: IHS Markit

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European Gas Demand (IHS Markit Rivalry Scenario)

2018 EU demand recovers its 2009 level—40 bcm below 2005 and 2010 peak, 80 bcm above 2014 trough

- Own use and losses/statistical difference
- Transport
- Power generation
- Industry
- Residential and commercial

Heating demand varies with winter weather

Power generation demand varies with coal/gas/CO₂ prices

Source: IHS Markit © 2018 IHS Markit
Demand growth and declining EU production met by increase in trade

Mainly pipeline gas (mainly Russian) in past two years … mainly LNG for next three

### EU28 gas supply outlook

- **Russia (gross)**
- **Indigenous production**
- **Norway (pipeline)**
- **Algeria (pipeline)**
- **Libya (pipeline)**
- **Other pipeline**
- **LNG**

**Source:** IHS Markit © 2018 IHS Markit

**Note:** Gross Russian imports (including reexports to Ukraine). Indigenous production.

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### Incremental LNG and Russia to Europe (versus 2015)

- **Supply growth—Russia**
- **Incremental demand**
- **Supply growth—LNG**

**Source:** IHS Markit © 2018 IHS Markit

**Outlook**
But pipeline suppliers have flexibility to compete
Two views of how the next five years may play out
And forecasts can of course be wrong ... !
Actual versus expected LNG imports to NWE so far in 2018 ... a reminder of the global context

Factors affecting NW Europe’s LNG imports in 2018 Jan-July (compared with IHS Markit forecast from December 2017)

<table>
<thead>
<tr>
<th>Imports/March:</th>
<th>Forecast</th>
<th>Actual</th>
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<tbody>
<tr>
<td>NW Europe LNG imports:</td>
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<tr>
<td>Exports: Southeast Asia below forecast</td>
<td>10</td>
<td>12</td>
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<td>Exports: Pacific below forecast</td>
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<td>2</td>
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<td>Exports: Atlantic Africa below forecast</td>
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<td>Exports: Middle East above forecast</td>
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<td>Exports: Other Atlantic above forecast</td>
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<td>Imports: South Korea above forecast</td>
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<td>Imports: MENA below forecast</td>
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</tbody>
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Note: JKT = Japan, Korea, Taiwan; NW Europe = Northwest Europe; SE Asia = Southeast Asia; MENA = Middle East/North Africa.
Source: IHS Markit

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