Global Outlook for Natural Gas and LNG

23rd International Uzbekistan Oil and Gas Conference 2019

Prof. Joe M. Kang
President, International Gas Union
AGENDA

Global Gas Developments
Regional Demand Growth
Uzbekistan’s Opportunity
Top Observations from 2018

Asia leads global LNG demand, with Japan, S. Korea, China importing over half of the world’s LNG.

Chinese demand jumped 150 percent in 2017-18 period, over half of the global gas demand increase.

LNG Freight rates reach a record high above $170,000 USD/day in November.

Demand & Prices

Henry Hub annual 2018 avg. price closes at $3.16 mmBt, up from $2.99 mmBt in 2017.

European Monthly Spot price increases in 2018 and peaks at $9.52 mmBt in September.

Asian LNG Spot prices spike to a 4-year high for the October 2018 delivery in Asia at $11.40 per mmBt; 2017 was at $6.00 mmBt.

China becomes the largest natural gas importer.
Top Observations from 2018

Supply & Infrastructure

- Prelude, the world’s largest FLNG platform starts production, making Australia the largest LNG exporter, surpassing Qatar.
- In the first half of 2018, the US doubled its LNG exports, well on the way to reaching 60 Mt by the end of 2019.
- Yamal LNG reached full capacity (16.5 mmtpa) in December, under budget and well ahead of schedule.

A Sustainable Future – Powered by Gas
LNG trade set a **record for the fifth consecutive year** in 2018.

**LNG Trade**
Global LNG trade increased sharply in 2018.

- Increased by **28.2MT**
- Setting a new annual record of **316.5MT**
- 5th consecutive year of incremental growth
- 3rd largest annual increase ever (behind only 2010 and 2017)

LNG import growth in 2018 was driven by China and South Korea, the world’s second- and third-largest LNG importers.

- Represented nearly 80% of the increase in net trade
- Combined incremental growth of **22.2MT**

Two new markets began receiving LNG supply in 2018:

- Bangladesh
- Panama

Cameroon joined the club of LNG exporters with the world’s second floating liquefaction project.

Australia led all exporters in incremental growth.
Developing Asia Dominates Growth Long-Distance Gas Trade

China will continue to be the engine of global gas trade; more than 80% of the growth to 2040 comes in the form of LNG

Source: World Energy Outlook 2018
Net Imports in the Region are Expected to Grow Significantly

Source: World Energy Outlook 2018
India’s “gas economy” slowly developing

**Gas demand in India**

<table>
<thead>
<tr>
<th>Year</th>
<th>Power</th>
<th>City gas</th>
<th>Industry</th>
<th>Fertilizer</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2012</td>
<td>32</td>
<td>24</td>
<td>16</td>
<td>8</td>
</tr>
<tr>
<td>'13</td>
<td>30</td>
<td>20</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>'14</td>
<td>28</td>
<td>18</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>'15</td>
<td>26</td>
<td>16</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>'16</td>
<td>24</td>
<td>16</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>'17</td>
<td>22</td>
<td>16</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>'18</td>
<td>20</td>
<td>16</td>
<td>12</td>
<td>8</td>
</tr>
</tbody>
</table>

**LNG demand by Sector, 2018**

- Industry: 19.5 MMt (46%)
- Fertilizer: 3.6 MMt (10%)
- City gas: 2.9 MMt (6%)
- Power: 2.6 MMt (5%)
- Other: 7.2 MMt (15%)

Source: Petroleum Planning and Analysis Cell
Policy plays a critical role for shaping gas market development

Policy is critical to developing gas value chains

Examples of successful policies

- Production targets
- Priority upstream licensing
- Market-based pricing
- Competitive tariff structures
- Foreign gas trade agreements
- Anchor agreements by public utilities
- Capacity development targets
- Expedited permitting
- Capex support/lending programs
- Pricing of environmental externalities
- Fuel switching requirements/incentives
- Priority sector-based incentives

Example: Divergence between China and India

![Graph showing gas consumption (million tons) for China and India from 2000 to 2018. China's consumption has increased significantly, exceeding India's consumption by more than 4 times.](image-url)
Uzbekistan's Opportunity - the energy advantage

- **Significant Resources** – 1.2 TCM* proven reserves ranked nineteenth-largest in the world

- **Significant Production** – Uzbekistan is ranked third-largest natural gas producer in Eurasia, eighth largest in the world

- **Strategic Position** - Uzbekistan's gas transportation system provides access to China & Russia markets for local and international producers

- **Attractive Investment** - Uzbekistan has significant successful experience of joint ventures with regional and international O&G companies

- **Exports** - Electricity and natural gas represent the largest two exports, approximately 25% of all exports

*BP Statistical Review
Uzbekistan's Opportunity - the way forward

• **Government Policy and Strategy**
  • 5-year gas production increase program
  • Introduction of Renewable Energies
  • Improvements to Energy Efficiency
  • Reduction in Flaring
  • Modernization of Facilities
  • Diversification of Exports

• **Regulatory Developments**
  • A number of Decree's have been announced to enable the strategic priorities

• **Attracting Investment**
  • Increased transparency key to attracting greater foreign investments
  • Construction of the 4th-line, Central Asia- China line, critical to enable additional export capacity
Thank you