LNG IMPORT TERMINAL IN KLAIPEDA

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KN – AN OIL PRODUCT AND LNG TERMINAL OPERATOR

**Traditional business**

- 50+ years of oil product terminal operations
- State fuel reserves terminal

**Focus on strategic expansion – development, construction and operation of LNG terminals**

- Klaipeda LNG terminal based on FSRU Independence
- LNG transport and bunkering vessel project for the Baltic Sea
- LNG reloading and bunkering station under construction in Klaipeda
- LNG terminal development and Advisory services
THE RATIONALE LNG TERMINAL

Ensured **security** of energy supply

**Diversified** energy sources

**Third party access** to spur competition

Import prices reflect the **global** market price level
- Terminal commissioned by KN in Dec 2014
  - 170,000 m³ of LNG storage
  - 4 bcm/y regasification capacity
  - Open third party access

Terminal operator

FSRU operator

Transmission system operator

KLAIPEDA LNG TERMINAL INFRASTRUCTURE

FSRU and jetty operation - Offshore connecting pipeline - Onshore pipeline Subterranean, 15 km - Gas metering station

Gas metering station

Knorr

HÖEGH LNG

Amber Grid
MARKET BENEFITS BROUGHT BY THE TERMINAL

- Ended the 100% reliance on monopoly supplier
  - Transparent third party access mechanism

- Effective price cap
  - Access to international LNG markets

- Near-complete ability to supply the gas market need
  - Combined with Incukalns UGS for seasonality

- Access to clients with limited size portfolios
  - Joint use of LNG in the terminal

- Enabling the small scale LNG development
  - Break bulk of high quality LNG for further distribution
SECURITY OF SUPPLY FOR THE BALTIC STATES

Gas supply disruption 6 months, cold spell scenario

- Baltic states are now protected against a major gas supply disruption from the east
- Security provided by a combination of key infrastructure elements
  - Alternative gas import route via Klaipeda LNG terminal
  - Seasonal storage in Incukalns
  - Upgraded transmission pipeline network
- Full supply in cold winter
  - District heating operating as usual
  - No interruption to either residential or industrial customers

Source: Energy Security Stress Test 2014 coordinated by the European Commission: Joint report by Estonia, Latvia, Lithuania and Finland (adjusted by Klaipėdos Nafta to reflect post-Stress Test conditions)
PRICE CONVERGENCE TO EUROPEAN HUBS DUE TO LNG TERMINAL IN KLAIPEDA

- Gas prices in the Baltic region have converged closer to the main European gas trading hubs
- Klaipeda LNG terminal allows regional gas consumers to source gas from global markets
- Former incumbent and monopoly gas supplier is unable to charge premium prices
  - LNG terminal provides bargaining power, even if some physical volumes still come from the east

Source: European Commission Q4 2016 Gas market report
COMMERCIAL INNOVATION - JOINT USE OF LNG

- Advantages of SWAP model
  - Terminal can be simultaneously used by several clients
  - Decouples client regasification profile from physical LNG delivery
  - Enables relatively small regional gas traders to access LNG markets

- Process
  - Borrowed / returned LNG quantities are indicated in approved schedules
  - Terminal users provide bank guarantees to each other to ensure LNG delivery
KLAIPEDA LNG TERMINAL – SMALL SCALE LNG ENABLER

- Klaipeda LNG terminal enables further small scale LNG developments in the Baltic Sea region
  - Three reloading operations in 2017 so far

- Small scale LNG reloading station nearing completion in Klaipeda
  - 5,000 m3 LNG storage capacity
  - Truck loading and vessel bunkering

- LNG bunkering transportation vessel to be launched in 2018
  - Ice-class multi purpose vessel
  - 7,500 m3 capacity
### KLAIPEDA LNG TERMINAL IN ITS 3RD YEAR OF OPERATIONS

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018 / 2021</th>
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<tbody>
<tr>
<td>Natural gas supplied, bcm</td>
<td>0.5</td>
<td>1.3</td>
<td>1.1</td>
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<td>Capacity utilization</td>
<td>10% - 15%</td>
<td>30%</td>
<td>&gt;25%</td>
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<td>Terminal users</td>
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<td><img src="image3" alt="LITGAS" /></td>
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<tr>
<td></td>
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<td><img src="image5" alt="ACHEMA" /></td>
<td><img src="image6" alt="ACHEMA" /></td>
<td>New users</td>
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<td>LNG suppliers</td>
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<td><img src="image13" alt="Statoil" /></td>
<td><img src="image14" alt="Statoil" /></td>
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<td>Operational regime</td>
<td>Energy security</td>
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<td></td>
<td>Commercial regas</td>
<td>Commercial reloading</td>
<td>Commercial truck loading</td>
<td>Commercial truck loading</td>
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</tbody>
</table>

**Forecast**

- **New users**: Multiple suppliers
- **Multiple users**: LITGAS, ACHEMA
- 320% YOY increase in regasified volume in 2016
- Reload operations started in 2017
- 4 global LNG traders supplying via the terminal