**KN – an oil product and LNG terminal operator**

<table>
<thead>
<tr>
<th>Traditional business</th>
<th>Focus for strategic expansion – development, construction and operations of LNG terminals</th>
</tr>
</thead>
<tbody>
<tr>
<td>50+ years of oil product terminal operations</td>
<td>Klaipeda LNG terminal based on FSRU Independence</td>
</tr>
<tr>
<td>State fuel reserves terminal</td>
<td>LNG reloading and bunkering station</td>
</tr>
<tr>
<td></td>
<td>LNG transport and bunkering vessel project for the Baltic Sea</td>
</tr>
<tr>
<td></td>
<td>LNG terminal development and Advisory services</td>
</tr>
</tbody>
</table>
KLAIPEDA LNG TERMINAL

- KN is developer and operator
- Terminal based on FSRU Independence
- Storage – 170,000m³; Regas ~4bcm
- Average utilization in 2017 – >30%

- Energy security measure for the Baltic States
- Gas diversification
- Full Third-Party-Access
- LNG break-bulking terminal for the Baltic Sea
### Klaipeda LNG Terminal hub in its 3rd year of Operations

**Forecast**

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018 / 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Natural gas regasified, bcm</strong></td>
<td>0.5</td>
<td>1.3</td>
<td>1.1</td>
<td>&gt;0.9</td>
</tr>
<tr>
<td><strong>Capacity utilization</strong></td>
<td>13%</td>
<td>35%</td>
<td>30%</td>
<td>&gt;25%</td>
</tr>
<tr>
<td><strong>Terminal users</strong></td>
<td>LITGAS</td>
<td>LITGAS</td>
<td>LITGAS</td>
<td>Multiple users</td>
</tr>
<tr>
<td><strong>LNG reload services to</strong></td>
<td>-</td>
<td>-</td>
<td>SkanGas</td>
<td>Multiple users</td>
</tr>
<tr>
<td><strong>Access to regas markets</strong></td>
<td></td>
<td></td>
<td></td>
<td>Multiple countries</td>
</tr>
<tr>
<td><strong>Reloaded LNG delivered to</strong></td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>LNG suppliers</strong></td>
<td>Staioil</td>
<td>Staioil</td>
<td>Staioil</td>
<td>Multiple suppliers</td>
</tr>
<tr>
<td><strong>LNG truck loading station users</strong></td>
<td>-</td>
<td>-</td>
<td>LITGAS</td>
<td>Multiple users</td>
</tr>
<tr>
<td><strong>LNG truck loading services for</strong></td>
<td>-</td>
<td>-</td>
<td></td>
<td>Multiple users</td>
</tr>
<tr>
<td><strong>Operational regime</strong></td>
<td>Energy security</td>
<td>Energy security</td>
<td>Energy security</td>
<td>Energy security</td>
</tr>
<tr>
<td></td>
<td>Commercial regas</td>
<td>Commercial regas</td>
<td>Commercial reloading</td>
<td>Commercial truck loading</td>
</tr>
</tbody>
</table>

**Oil terminal**
SMALL SCALE BREAK BULK

- Reloading up to 5,000 m³/h
- LNG Bunker vessels capacity from 1,000 m³
- LNG quality determination with GC and sampling during reload
- Navigation in Klaipeda port 24/7, incentive dues for LNG carriers up to 25,000 GT

- No additional investment for reload
- Since 2017 seven reloads performed
LNG transportation vessels in the region

- **Pioneer Knutsen**
  - Capacity: 1,100 m³
  - Status: Active

- **Coralius**
  - Capacity: 5,800 m³
  - Status: Active

- **Stolt-Nielsen Gas**
  - Capacity: 7,500 m³
  - Delivery time: 2019 Q3

- **Coral Methane**
  - Capacity: 7,500 m³
  - Status: Active

- **Engie Zeebrugge**
  - Capacity: 5,000 m³
  - Status: Active

- **Coral EnerGICE**
  - Capacity: 18,000 m³
  - Status: Active

- **Seagas**
  - Capacity: 170 m³
  - Status: Active

- **KN / Nauticor**
  - Capacity: 7,500 m³
  - Delivery time: 2018 Q4

- **Cardissa**
  - Capacity: 6,500 m³
  - Status: Active

- **Coral Energy**
  - Capacity: 15,600 m³
  - Status: Active
Natural gas supply chain in Klaipeda

LNG TERMINAL INFRASTRUCTURE

- FSRU "INDEPENDENCE"
- LNG TERMINAL JETTY WITH EQUIPMENT
- LNG TRANSPORTATION & DISTRIBUTION BY SEA
- LNG RELOADING STATION
- PIPELINE CONNECTING WITH GAS GRID
- GAS METERING STATION

Neringa
Klaipėda
Kiškenai
• Third party access
• No BOG allocation to users
• Service 24/7
• Up to date technology

• Multi-service and most flexible small scale terminal
<table>
<thead>
<tr>
<th><strong>TRUCK LOADING</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume of LNG storage tanks</td>
<td>5 x 1.000 m³</td>
</tr>
<tr>
<td>Maximal LNG filling level</td>
<td>90%</td>
</tr>
<tr>
<td>Station's annual technological capacity</td>
<td>250,000 m³</td>
</tr>
<tr>
<td>Number of truck loading bays</td>
<td>2 bays</td>
</tr>
<tr>
<td>Maximal number of LNG loaded trucks per day</td>
<td>24 trucks</td>
</tr>
<tr>
<td>LNG truck loading rate</td>
<td>up to 100 m³/h</td>
</tr>
</tbody>
</table>
**VESSEL BUNKERING**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of the jetty</td>
<td>274m</td>
</tr>
<tr>
<td>Maximum vessel draught</td>
<td>12,5m</td>
</tr>
<tr>
<td>Jetty location</td>
<td>close to the port entrance</td>
</tr>
<tr>
<td>LNG bunkering rate</td>
<td>up to 500 m³/h</td>
</tr>
</tbody>
</table>

- KSSA applies 70 % discount for certain port dues if vessel arrives for the purpose of bunkering.
Regional benefits of small scale LNG delivery

Delivery of LNG to off-grid cities:
- LNG as an energy source for heating
- LNG as an energy source for households
- LNG as an energy source for industrial companies

LNG as fuel for transport:
- LNG as ship fuel
- LNG as fuel for heavy duty transport
Number of LNG fueling stations in Europe, 2017

- Since 2025 LNG fuel station every 400 km
- Since 2025 CNG fuel station every 150 km
- In Lithuania natural gas used as transport fuel is not subject to excise duty

Source: NGVA Europe

Source: EU Strategy for Clean Energy
Contact details:

Nerijus Strazdauskas
Senior Coordinator
n.strazdauskas@kn.lt