Surge in LNG supply creates opportunities to open new markets

Royal Vopak – Analyst Day 2017
Ton Floors, Global LNG Director
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Vopak’s well-balanced global portfolio

- **Oil products**: 0-5 years, 40-45%
- **Chemical products**: 0-5 years, 20-25%
- **Industrial terminals**: 5-20 years, 20-25%
- **Vegoils & biofuels**: 0-3 years, 5-7.5%
- **Gas products**: 10-20 years, 3-5%

Typical contract duration per product / terminal category

- **Netherlands**: EUR 287 million
- **EMEA**: EUR 121 million
- **Asia**: EUR 297 million
- **Americas**: EUR 121 million
- **LNG**: EUR 28 million

FY 2016 EBITDA*: EUR 287 million

*Excluding exceptional items; including net result of joint ventures
Reshaping of the LNG market

A new wave of LNG supply is expected, initially predominately coming from the US and Australia.

The size of the circles depicts the supply actual/forecasts for 2016, 2025 and 2035 for the largest LNG exporters. The sequence of concentric circles represents the growth dynamic of the exporter. Existing exporters that are forecast to expand have yellow circles within red and blue circles. Existing exporters that have no growth forecast have yellow circles. New exporters with no 2016 exports have red and blue circles only.

Source: IHS 2017
Increasing LNG demand

70% of LNG demand growth comes from new importing countries, mainly driven by increasing energy demand

LNG demand by region/country
- Japan, Korea, Taiwan
- Recent & likely entrants: China, India
- Europe

50% of the demand growth in 16 countries with Vopak presence
- China: 11%
- India: 11%
- Indonesia: 5%
- Thailand: 5%
- Malaysia: 4%
- Singapore: 3%
- Germany: 3%
- Pakistan: 2%
- Bahrain: 2%
- UAE: 2%
- Vietnam: 1%
- Colombia: 1%
- Panama: <1%
- Brazil: <1%
- Mexico: <1%
- S-Africa: <1%

20% of the demand growth in countries with no Vopak presence
- Puerto Rico
- Poland
- Kuwait
- Egypt
- Jordan
- Dom Rep
- Ghana
- Bangladesh
- Namibia
- El Salvador
- Morocco
- Cote d'Ivoire
- Uruguay
- Senegal
- Cuba
- Philippines
- Chile
- Argentina

Source: IHS 2017
**LNG infrastructure demand**

An increasing demand for dedicated and fit-to-market infrastructure solutions

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**Mature markets**

**Drivers**
- Various hinterland markets
- LNG trading
- Break bulk distribution
- Transport / bunkering

**Growth markets**

**Drivers**
- LNG-to-power
- Political – security of supply
- Industrial

**Emerging markets / small islands**

**Drivers**
- Bunker market
- Industrial
- LNG-to-power

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**Hub terminal**
- E.g. Gate

**Single-customer terminal**
- E.g. Altamira
- FSRU 175,000 cbm

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**FSRU 50,000 cbm**
- ISO-container / bullet
**LNG value chain**

Specialization has increased the number of parties in the LNG value chain

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**Production**
- 0.5-2 $/Mbtu
- Focusing on low cost gas

**Liquefaction**
- 1-2 $/Mbtu
- Simplifying designs (modular, small scale)

**Trading**
- 0.2-0.4 $/Mbtu
- Increasing flexibility of portfolio

**Shipping**
- 0.5-3 $/Mbtu
- DES Asia
- ~0.5 $/Mbtu
- Reducing Boil-off
- Operating floating regas (FSRU)

**Regasification**
- B2B 0.2-0.4 $/Mbtu
- B2C 1.5-2.5 $/Mbtu
- Levering digital platforms

**Marketing**

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Source: Annual World LNG summit – Optimizing value chain (Total)
Vopak’s vital role in the chain

Vopak continues to look for opportunities to strengthen its presence as a service provider in the LNG infrastructure market

**Vopak’s Focus is on LNG Import Infrastructure**

1. **Onshore terminal infrastructure**
   - Continued strategy pursuing greenfields, acquisitions and further development of current terminals

2. **Infra-integrator**
   - Pursue projects where Vopak plays vital role as infra-integrator, leveraging on key onshore capabilities (e.g. jetty infra, pipelines) and our global network
   - Growth as infra-integrator can be accelerated by acquiring a stake in single projects

3. **FSRUs**
   - Vopak LNG aims to capture the FSRU market momentum on a project-to-project basis by investigating a joint venture or acquisition
Development of existing terminals
Case study: Rotterdam Gate Terminal

1. 2013: Refitted existing jetties for medium size vessels (un)loading
2. 2014: Adding truck loading facility
3. 2016: LNG Break Bulk Rotterdam; expansion development jetty 3

Lessons learned:
- Built in time and budget
- Multiple customers
- Multiple services
- Commingled product
- Right size engineering
LNG Hub terminal business model
From import to full (hub) service in five years

- Unloading and reloading (including transshipment)
- Additional customers for reloading
- Subordinated slots
- Multiple customer model or dedicated LNG-to-power and/or industrial facilities
- Experienced in commingled storage tanks
- Suppliers, portfolio players, traders, end-users and city gas players
- Different services for further distribution
- Additional customers for LNG trucking, bunkering and break-bulk
Key messages
Surge in LNG supply creates opportunities to open new markets

- The global natural gas market is undergoing a major transformation
- A new wave of LNG supply is expected, initially predominately coming from the US and Australia
- An increasing LNG demand growth is expected from new importing countries, mainly driven by increasing energy demand in Asian markets
- Vopak continues to look for strategic opportunities to strengthen its presence as a service provider in the LNG infrastructure market
- GATE a perfect example for future opportunities and ‘full potential’
Questions & Answers.

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