LNG Supply Projects’ Competition
Positioning in a Challenging Environment

Platts 16th Annual Liquefied Natural Gas Conference

February 9th 2017
Agenda

1 – Global LNG Market Opportunities and Challenges

2 – Emerging Trends
1– Global LNG Market Opportunities and Challenges
Emerging markets drive growth in global LNG

Global LNG Demand Forecast (2010-2030)

Source: Poten & Partners
New LNG supply long-term opportunities start in 2022

Global LNG Demand vs. Committed Projects

- Supply Opportunity for New Projects
- Supply Under Construction
- Existing supply
- LNG Demand

Source: Poten & Partners
Around 28 MMt/y of demand available globally to new LNG supply projects by 2025

Note: *30.5 MMt/y production decrease includes Trinidad, Oman, Algeria, Nigeria, and Indonesia.
**112 MMt/y nameplate capacity, adjusted for operations and logistics factors.

Source: Poten & Partners
Many LNG supply projects have challenges

**North America**
- Canada challenged by high cost
- US LNG needs substantial re-marketing of volumes

**North Africa**
- Output dropping (less than 50% utilization at plants) due to increasing domestic needs and struggling production

**West Africa**
- Delayed by feedgas availability and high costs
- Cameroon FLNG under construction and potential project in Equatorial Guinea and Senegal/Mauritania

**East Africa**
- Delayed by Government establishing fiscal regime

**Russia**
- Many projects but cost and risk high
- Yamal has taken FID.

**East Med**
- LNG projects have struggled to develop as Cyprus lacks reserves and policies, cost, and site challenges in Israel delay project

**Middle East**
- Domestic consumption has limited export appetite
- Qatar debottlenecking possible

**Australia**
- Will surpass Qatar as #1 producer in the world
- But priced out of market

*Source: Poten & Partners*
North America and Africa to compete for post 2022 incremental LNG demand
New project opportunity projected to be delayed beyond 2025 with lower China/India LNG demand

Global LNG Demand with China & India Low Case vs. Supply Projection

FORECAST

Source: Poten & Partners
2 – Emerging Trends
Trend #1: Traditional Asian buyers have lesser appetite for longer term deals and seeking to become portfolio players

- Originally, Asian buyers were acting as “King Makers”
  - Selecting winners – negotiating for better price levels
  - Investing in upstream and liquefaction segments
  - Bringing in “competitive” loans

- Presently, Asian buyers have limited appetite for longer term deals
  - Established Asian buyers are reacting to the market, and seeking to become “portfolio players/aggregators”
Trend #2: Niche markets are emerging as key opportunities for suppliers

Key uncertainties in niche markets:

- Credit ratings
- Seasonality requirements
- Infrastructure requirement and development
- Logistics of small scale
- Economics of small scale
- Timing
Trend #2: Niche markets are emerging as key opportunities for suppliers

Typical Project Timeline

- Gas Reserves
- Government Approval & Action
- Site Acquisition
- Fiscal Regime
- Partner Alignment
- Engineering Design & Technology
- EIA and Permitting
- LNG Marketing
- Project FID

Asian Niche LNG Demand Forecast

- Credit Ratings: Non-Investment Grade
- Credit Ratings: Investment Grade
- Others
- Philippines
- Pakistan
- Indonesia
- Singapore
- Malaysia
- Thailand

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**Trend #3:** Downstream integration becoming more important (Demand Creation)

![LNG Value Chain Integration Diagram](image)

- **Upstream**
- **Liquefaction**
- **Transportation**
- **Regasification**
- **Market**
**Trend #4:** Project costs are decreasing, led by US existing and expansion projects

**Global LNG Supply Projects’ EPC Costs**

- **Note:** Data points reflect FID dates

**Source:** Poten & Partners
Trend #5: Buyers are seeking more flexible terms

- Volume
  - Indexation
  - Price Levels

- Destination
  - Seasonality
  - Destination Flexibility

- Pricing
Are you ready for these new trends?

1. Established Asian buyers have limited appetite for longer term deals and are reacting to the market, seeking to become “portfolio players/aggregators”

2. Niche markets are emerging as key opportunities for suppliers

3. Downstream integration becoming more important (demand creation)

4. Project costs are decreasing, led by US existing and expansion projects

5. Buyers are seeking more flexible terms (volume, destination, pricing)