World LNG Report-2018

-industry trends-

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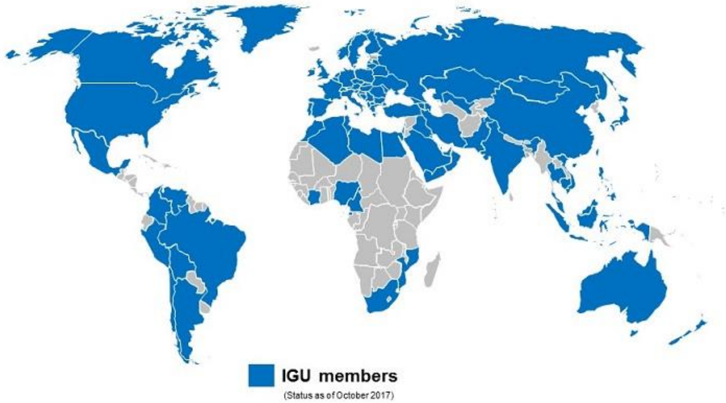
International Gas Union (IGU)

Who we are…

- ✓ Founded in 1931, Represents More Than 160 Member Organizations and Corporations of the Global Natural Gas Industry from 90 countries

- ✓ Represents over 97% of Global Natural Gas Market



- ✓ Objectives: To Serve"*As the Global Voice of Gas*" and "*Seeks to Improve the Quality of Life by Advancing Gas as a Key Contributor to a Sustainable Energy Future.*"

IGU Publications

2018

- ✓ 2018 World LNG Report
- ✓ Whole Gas Price Survey, 2018 Edition
- ✓ Case study in Improving Urban Air Quality – Third Edition, March 2018
- ✓ Best Practices in Governance and Regulation
- ✓ The Importance of Methane Emissions Mitigation
- ✓ Social License to Operate: Case Studies
- ✓ Natural Gas – Fuel of choice towards clean mobility
- ✓ Gas People Index 2018. Workforce Development Taskforce Report
- ✓ Natural Gas: the essential fuel for industry in a sustainable future

and more……………………..

2017

- ✓ The Natural Gas Industry Methane Emissions Challenge
- ✓ Understanding Methane's Impact on Climate Change
- ✓ IGU Wholesale Gas Price Report 2017
- ✓ Natural Gas Global Insights – 2017 Edition
- ✓ IGU World LNG Report
- ✓ Enabling Clear Marine transportation, March 2017

and more…………………..

2016

- ✓ Global Gas Markets Supporting Growth and Sustainability
- ✓ Case Studies Improving Air Quality, Second edition (European cities), November 2016
- ✓ IGU Wholesale Gas Price Survey, May 2016
- ✓ Case studies Enabling Clean Energies, April 2016
- ✓ IGU World LNG Report, April 2016

and more…………………

2018 World LNG Report

Contents;

- ✓ LNG Trade
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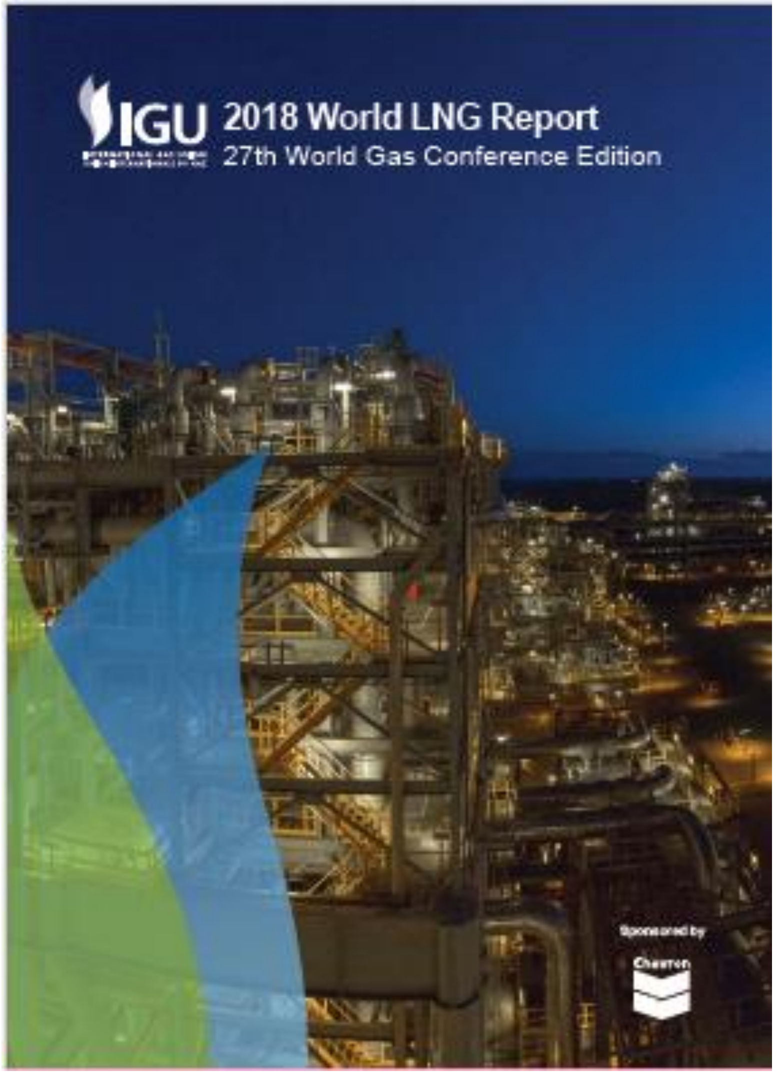
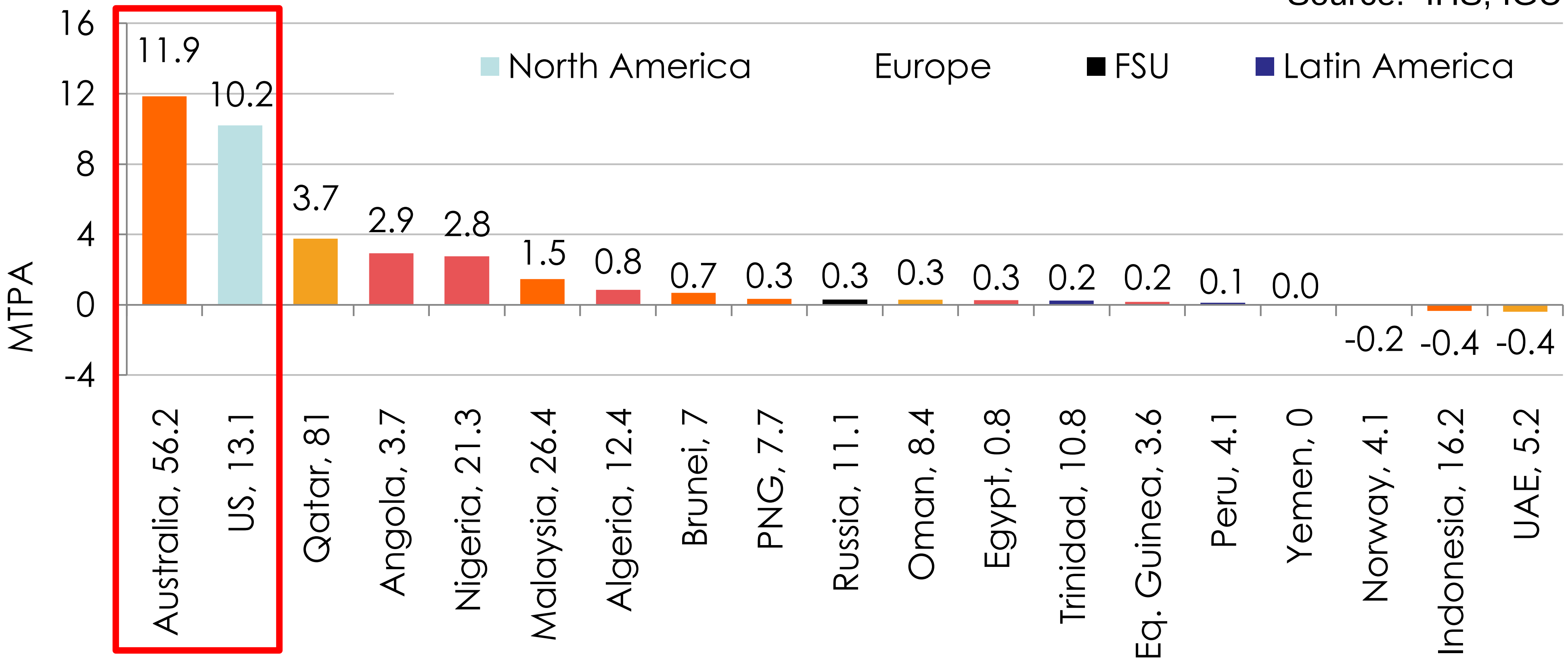
To download the full report visit; www. igu.org.



LNG Supply in 2017

- LNG supply grew 35.2 MT in 2017 and reached 293.1 MT.
- This increase was driven by higher production in Australia and US

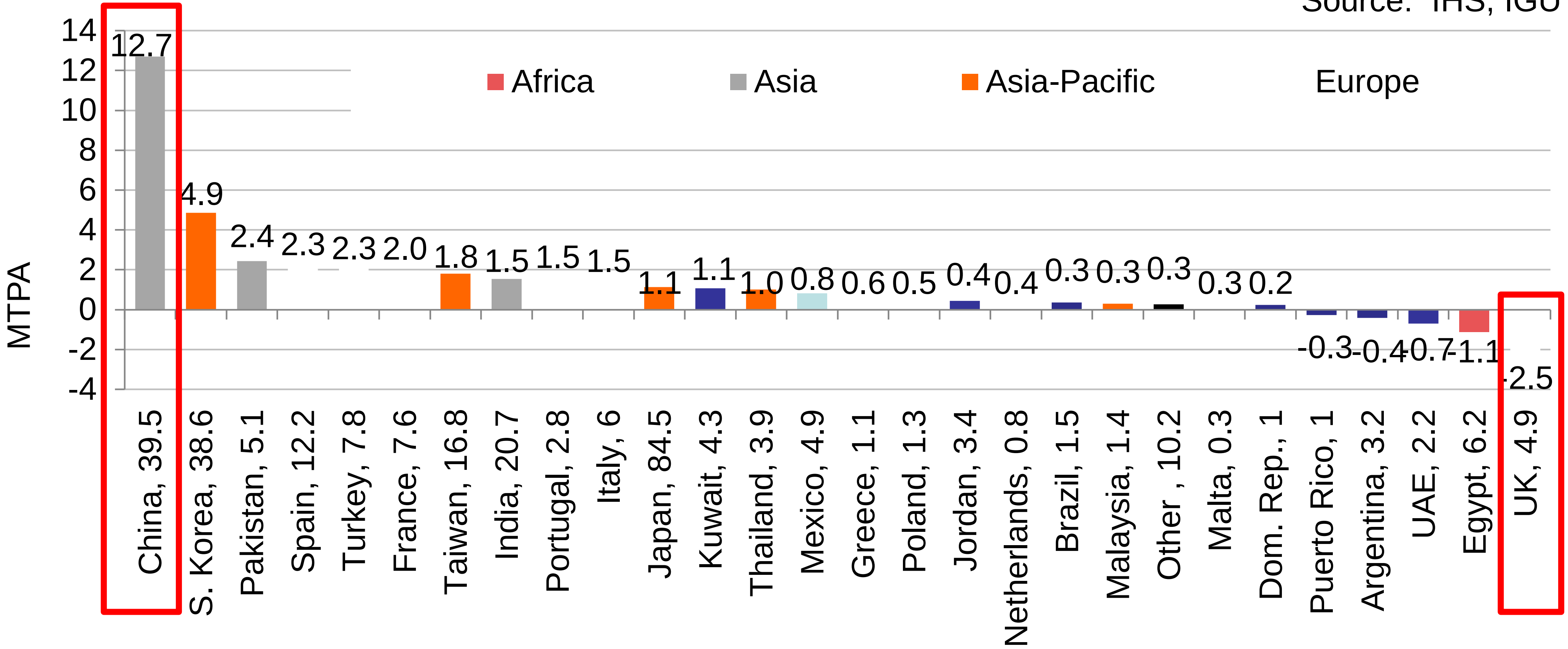
Source: IHS, IGU



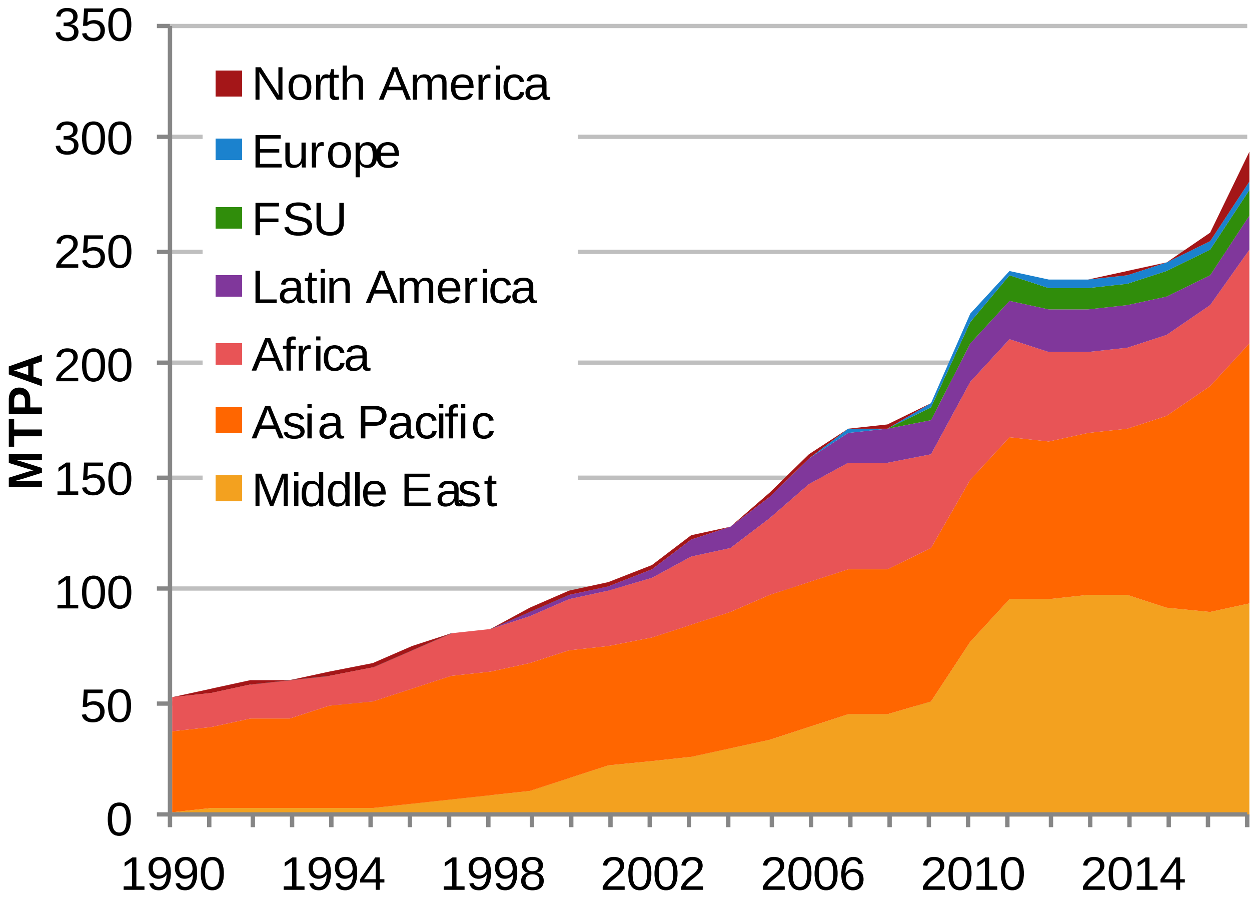
LNG Demand in 2017

- LNG demand reached 293.1 MT.
- China accounted for over one-third of net demand growth, rising by 12.7 MT by a strong enforcement of environmental policy

Source: IHS, IGU



LNG Exports by Region



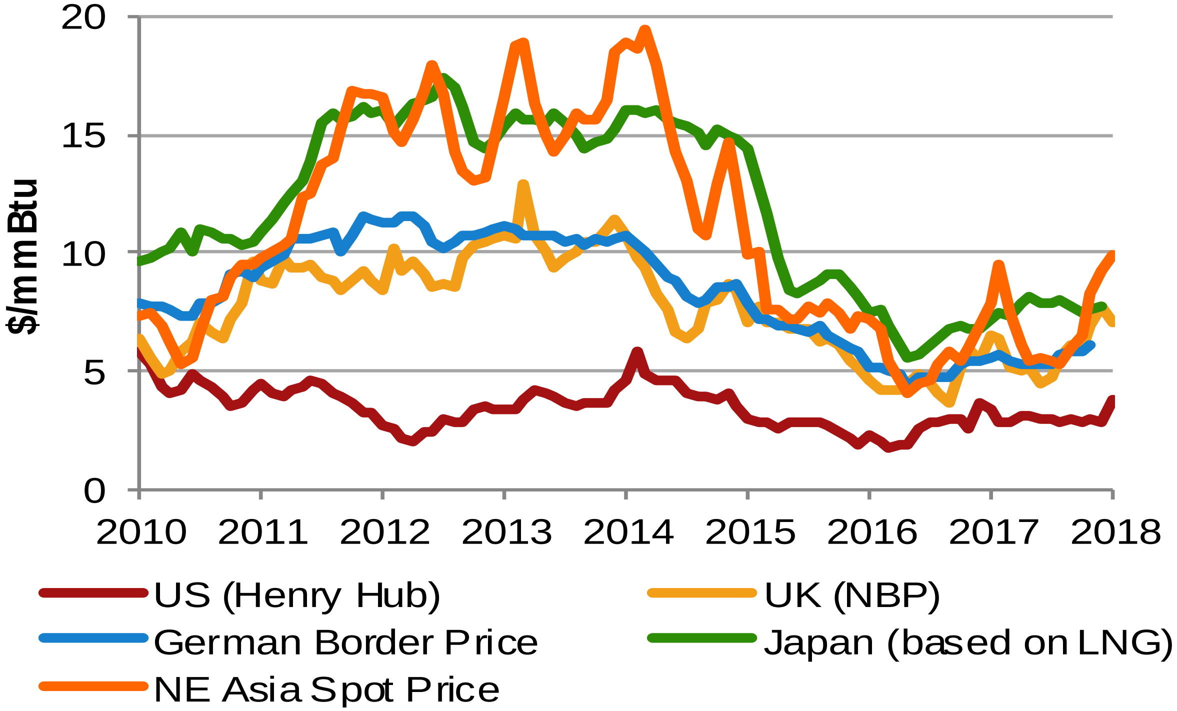
Note: FSU = Former Soviet Union
Source: IHS, IGU

- Asia Pacific region is still leading LNG export adding another 14MT totalling 113.5MT in 2017.
- The Middle East remained the clear second-place.

Price and "non-long term" trade

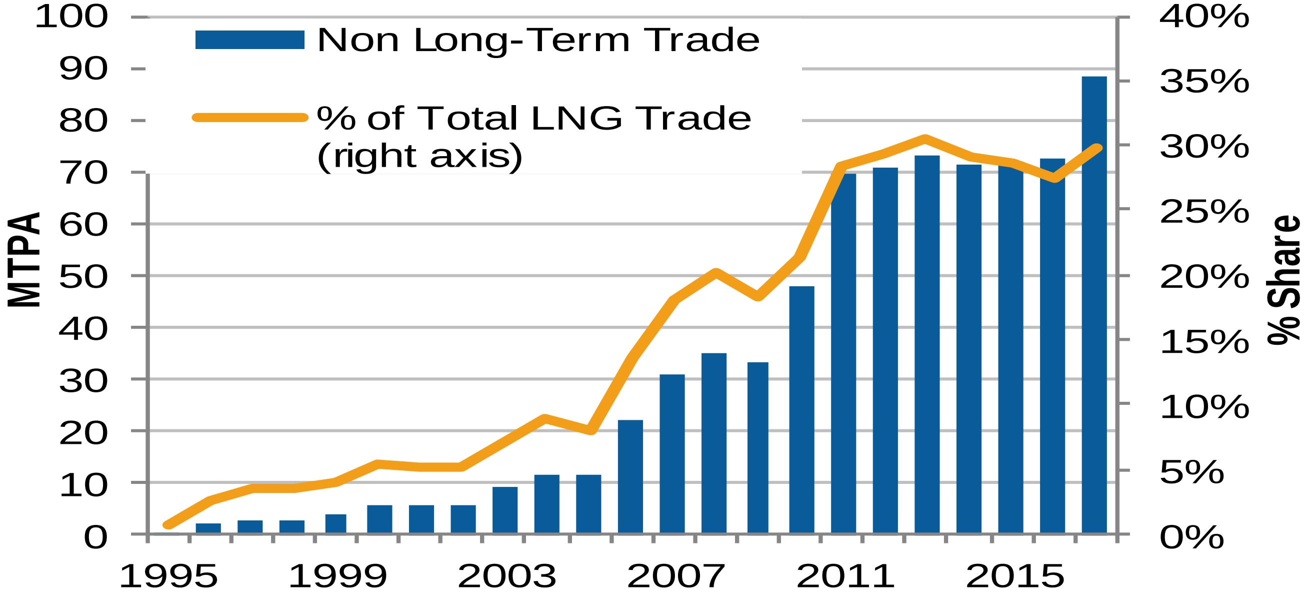
- Seasonal tightness in the global LNG market is very possible..
- Non long-term trade accounted for 30% of total gross LNG trade.

Monthly Average Regional Gas Prices, 2010-Jan.2018



Source: IHS, Cedigaz, US DOE

Non Long-Term Volumes, 1995-2017

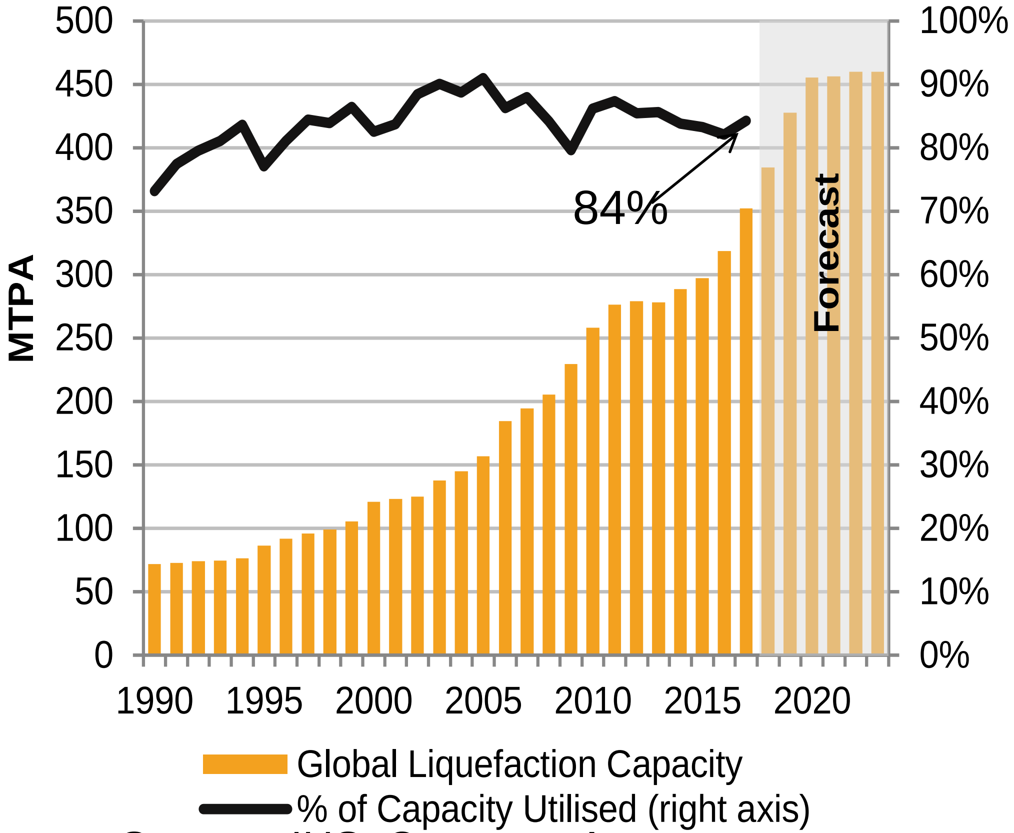


Source: IHS, IGU

Liquefaction

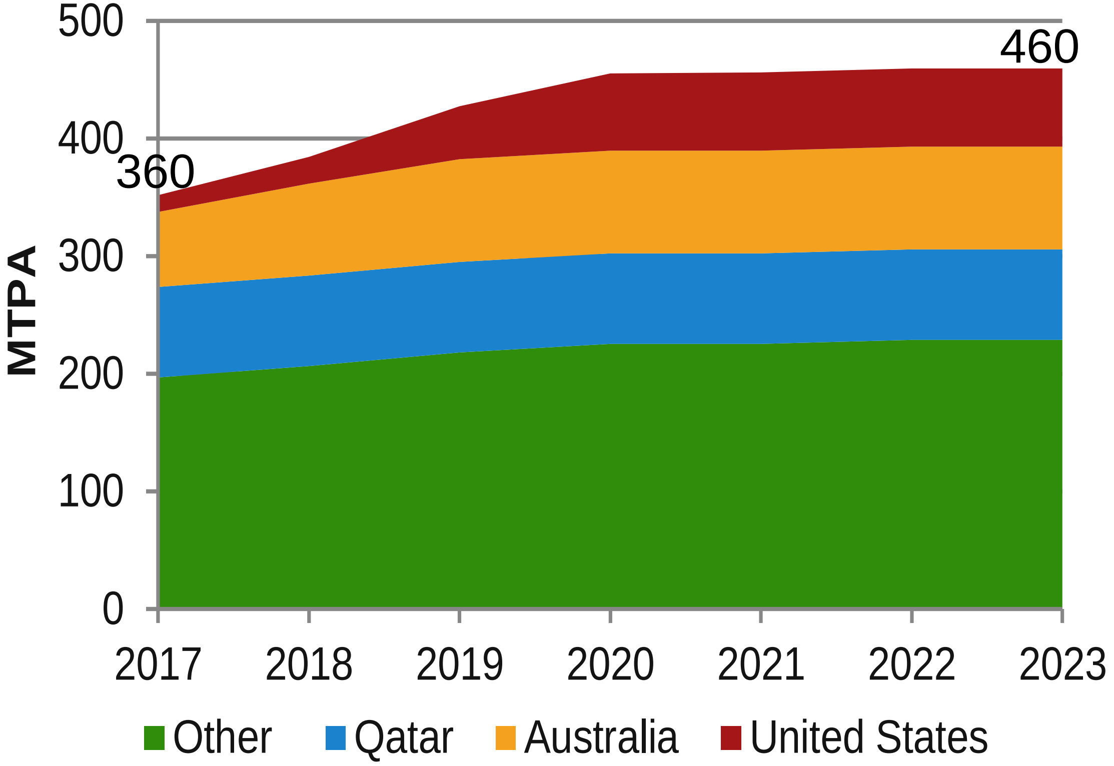
- Global capacity utilisation was 84%, up 2% from 2016
- From 2017 to 2023, it is forecast to increase by 28% to 460 MTPA largely thanks to the contribution of US capacity increase

Global Liquefaction Capacity Build-Out / Capacity Utilization



Source: IHS, Company Announcements

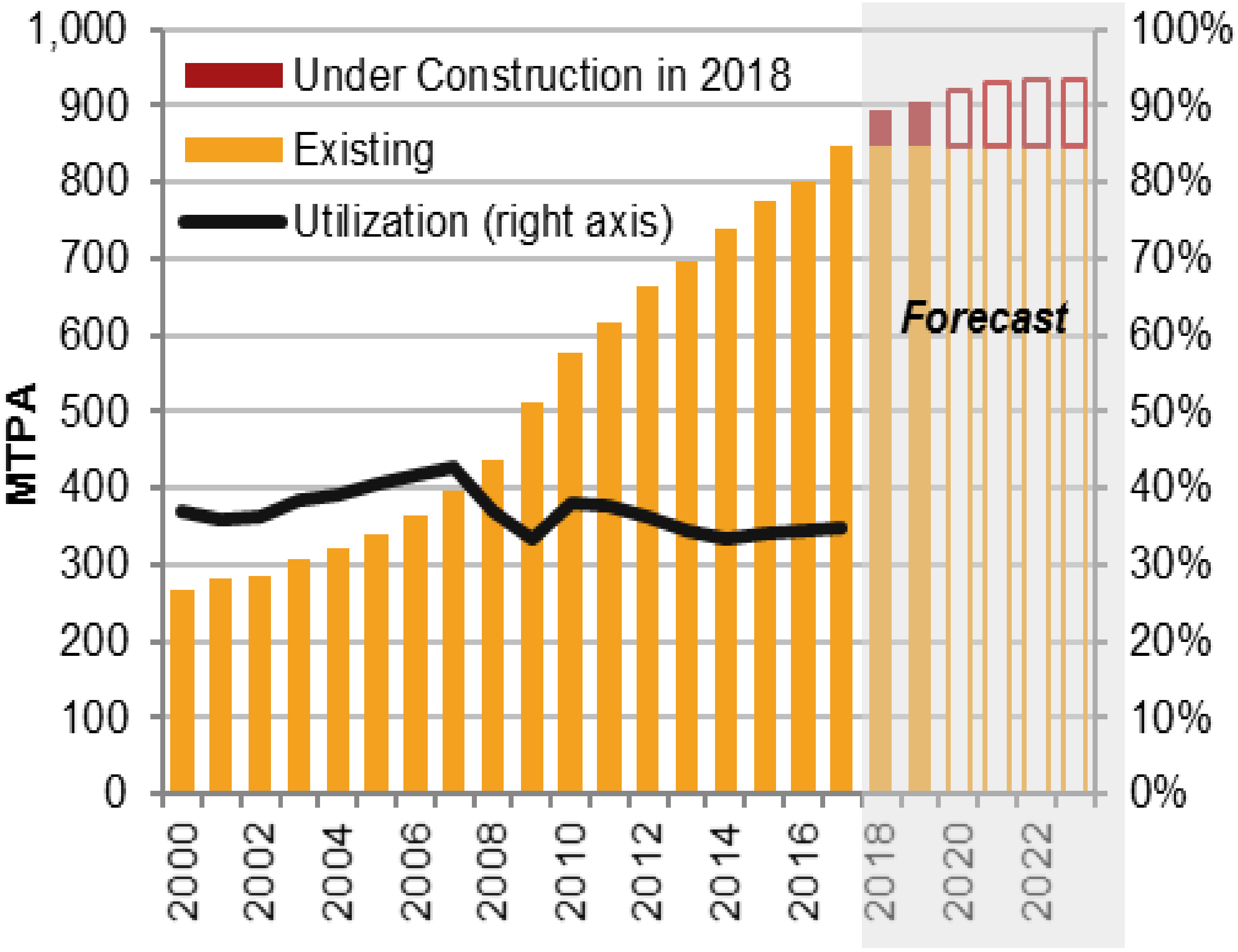
Post-FID Liquefaction Capacity Build-Out 2017-2023



Source: IHS, Public Announcements

New Markets

Global Receiving Terminal Capacity, 2000-2023



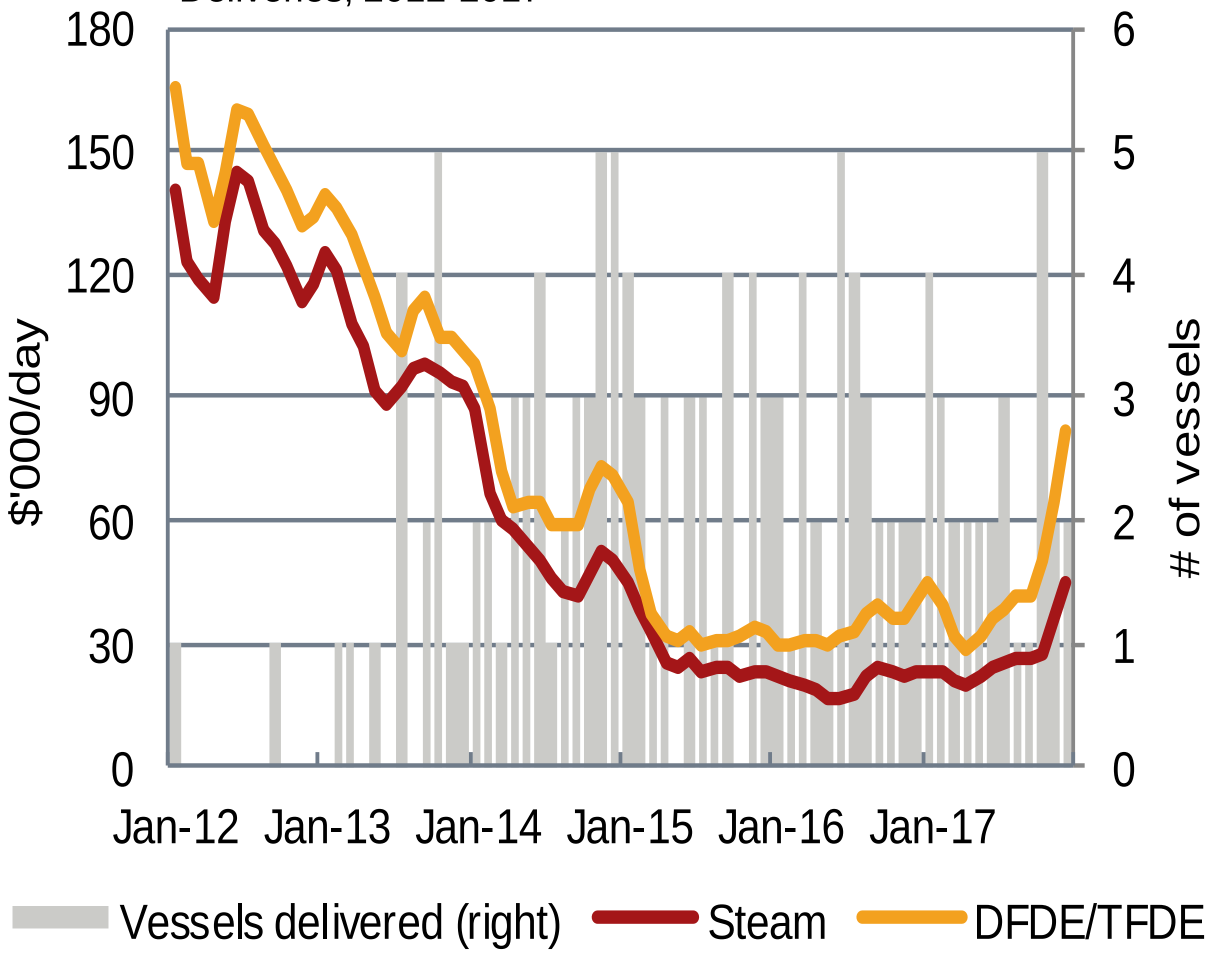
Source: IHS, IGU, Public Announcements

- 45 MTPA was constructed in 2017 and reached 851MTPA.
- FSRUs have played a larger role in allowing new markets to access LNG supply.

FSRU CHALLENGER – Courtesy MOL

Shipping

Average LNG Spot Charter Rates versus Vessel Deliveries, 2012-2017

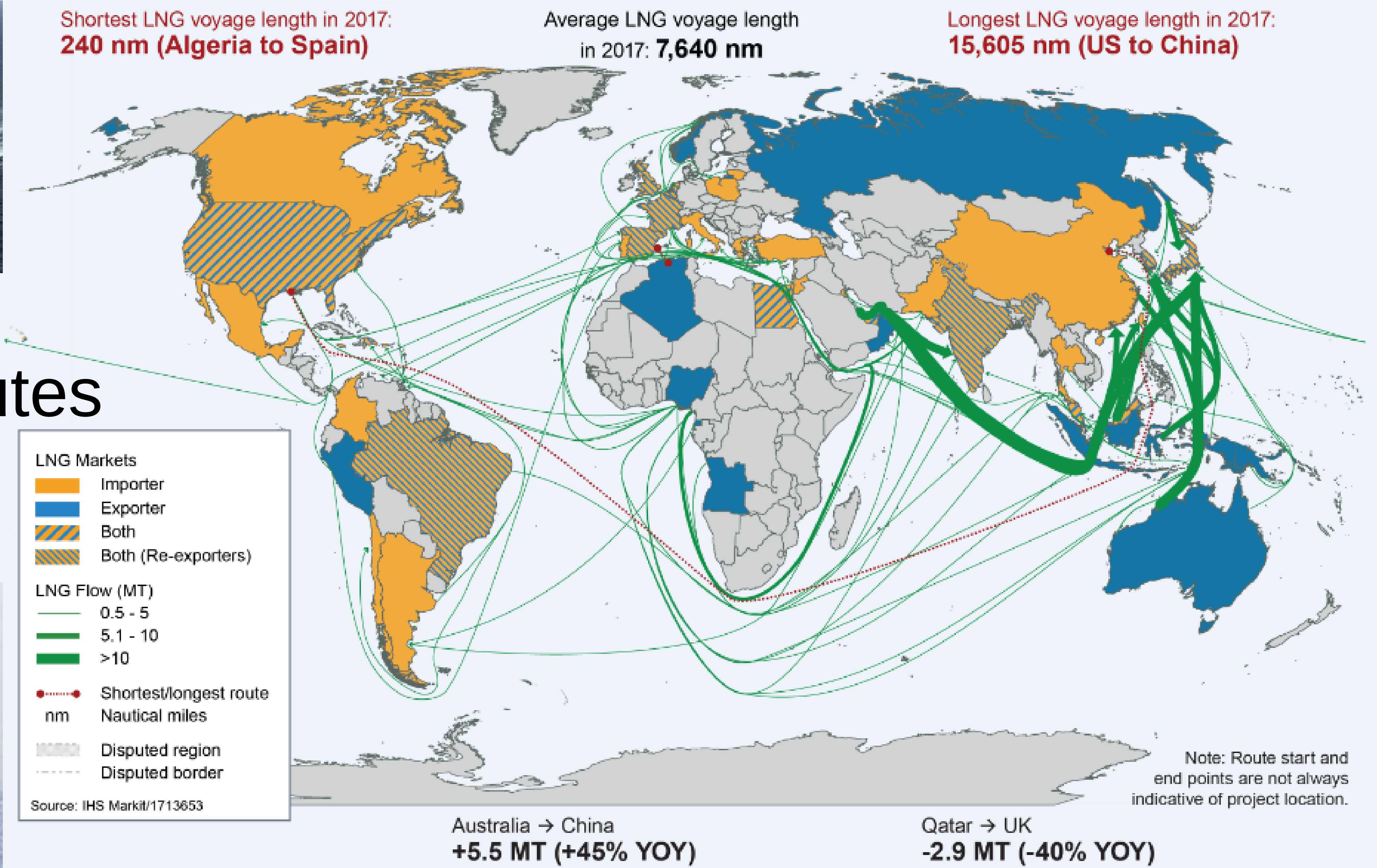


Source: HIS Markit

- Global fleet added 24 vessels to reach 434
- Order book grew by 14, 4 of which were FSRUs.
- Charter rates averaged near-term low of $27k/day for ST and $44k/day for TFDE & DFDE.

Shipping Routes

Major LNG Shipping Routes, 2017



Looking Ahead

The LNG Industry in Years Ahead

✓How Will LNG Markets Balance in 2018?

✓Will LNG Contracting and Liquefaction FIDs Take Shape This Year?

✓Could Demand in Mature Asian Markets Surprise to the Upside Again?

✓What Strategies Will Be Used to Address Emerging Markets?

✓What New Markets Will Begin Imports in 2018?

✓Will the Global LNG Market Move More Toward Commoditization or Consolidation?

✓・・・・・・

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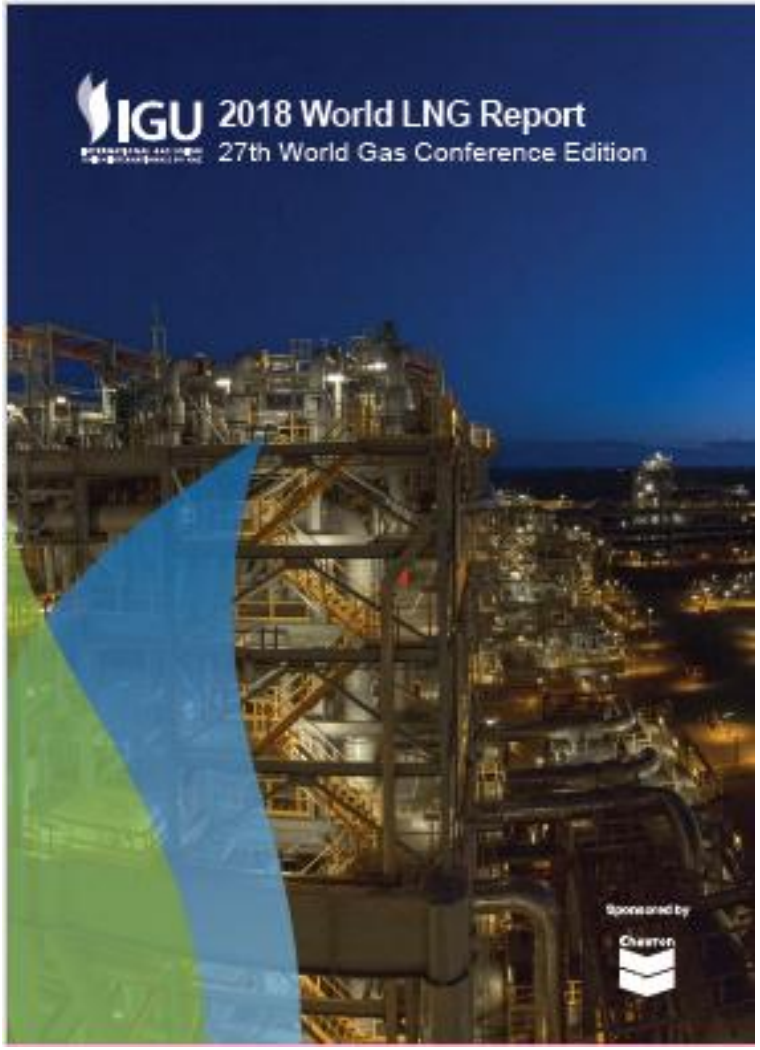

Members of World LNG Report Task Force 2018

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- American Gas Association , USA
- Anadarko, USA
- Bureau Veritas, France
- Enagás, Spain
- ENH, Cameroon
- Gas Natural Fenosa, Spain
- GIIGNL, France
- KOGAS, South Korea
- Osaka Gas, Japan
- Toho Gas, Japan

Consultant – IHS Market

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Thank you

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