



Latest Developments in the Global LNG Market

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Introduction

- LNG today
 - Demand vs. Supply
- The next few years – towards a buyer's market?
- The US and its impact on LNG
- Demand – where does it all go?
 - Role of LNG in Europe
- Conclusions



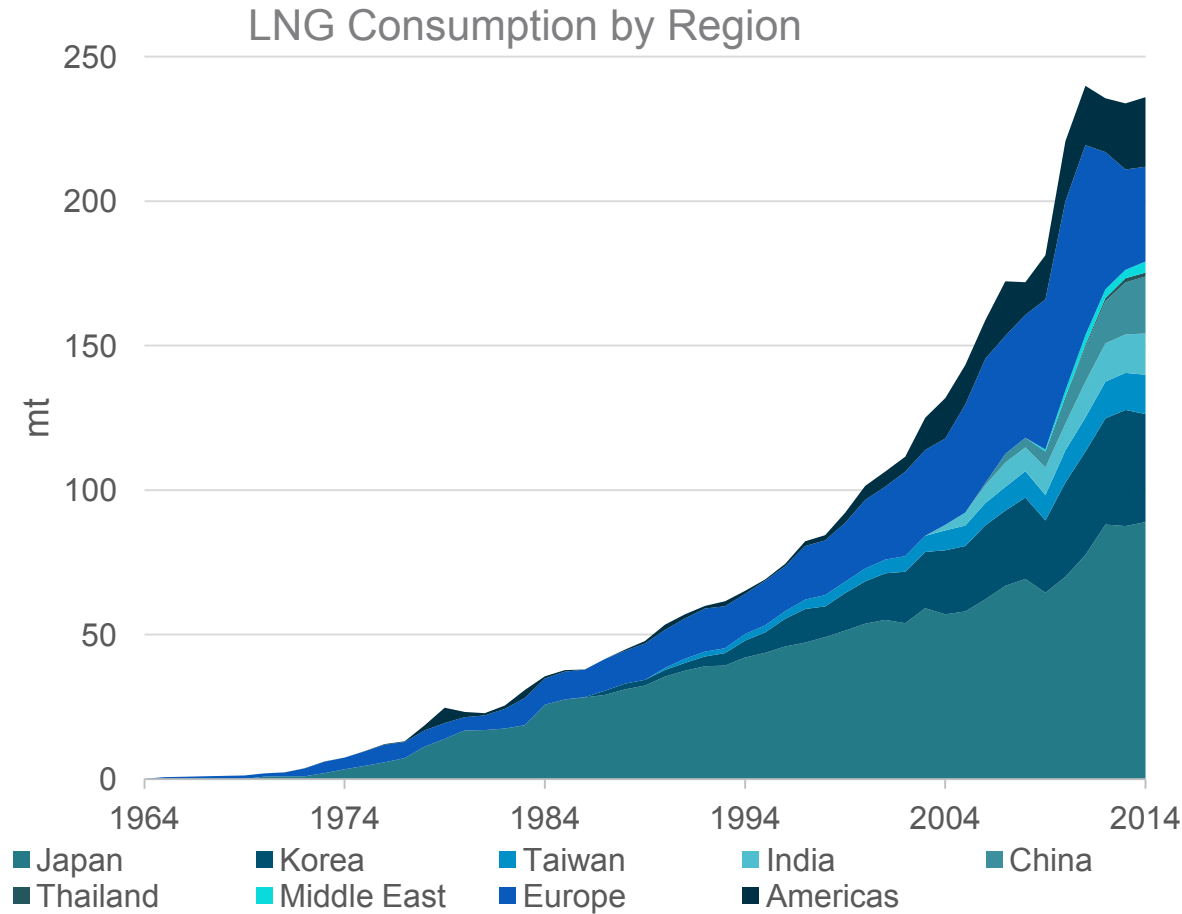
Introduction

- Established 29 years ago, Gas Strategies is a leading commercial advisor in global gas and LNG
- We have worked with virtually every LNG export project in the world
- We support effective project structuring, financing (we have acted as lenders' market and commercial advisor on ~80% of the world's project financed LNG projects), operationalizing and ongoing contract management
- Our perspective is on the full lifecycle of LNG contracts



Overview of the global LNG market

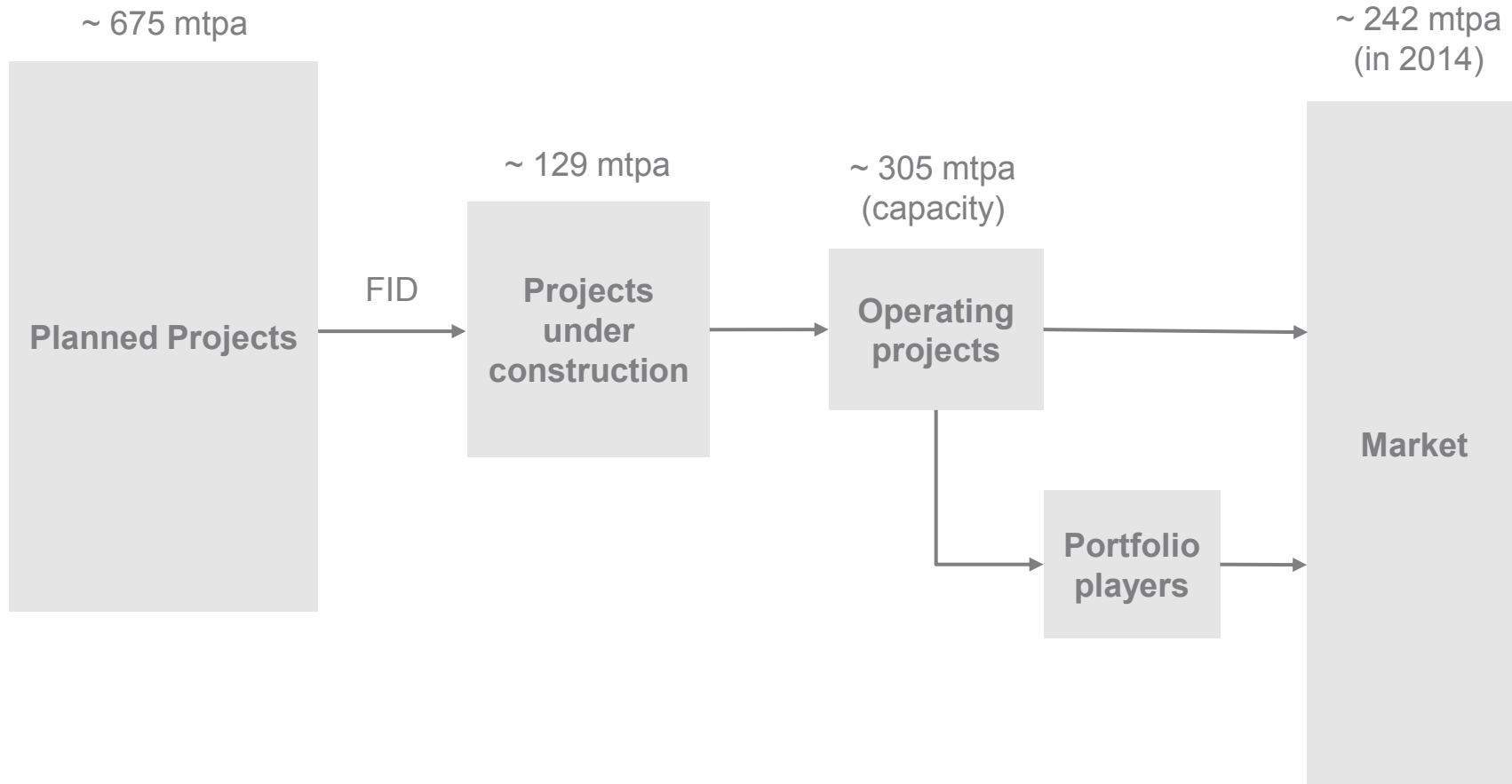
- World LNG output ~ 242 mtpa: about 10% of gas trade
- Asian markets make up 74% of the total, with Japan the largest single market
- Key driver for growth is gas markets with limited access to indigenous gas or pipeline imports (e.g. Asia) or where indigenous gas resource is insufficient or declining (S. America, Europe, S.E. Asia)
- Nearly all LNG is primarily sold on LT contracts (20 years), but about a quarter is retraded on shorter term and spot deals



Source: GIIGNL, Gas Strategies



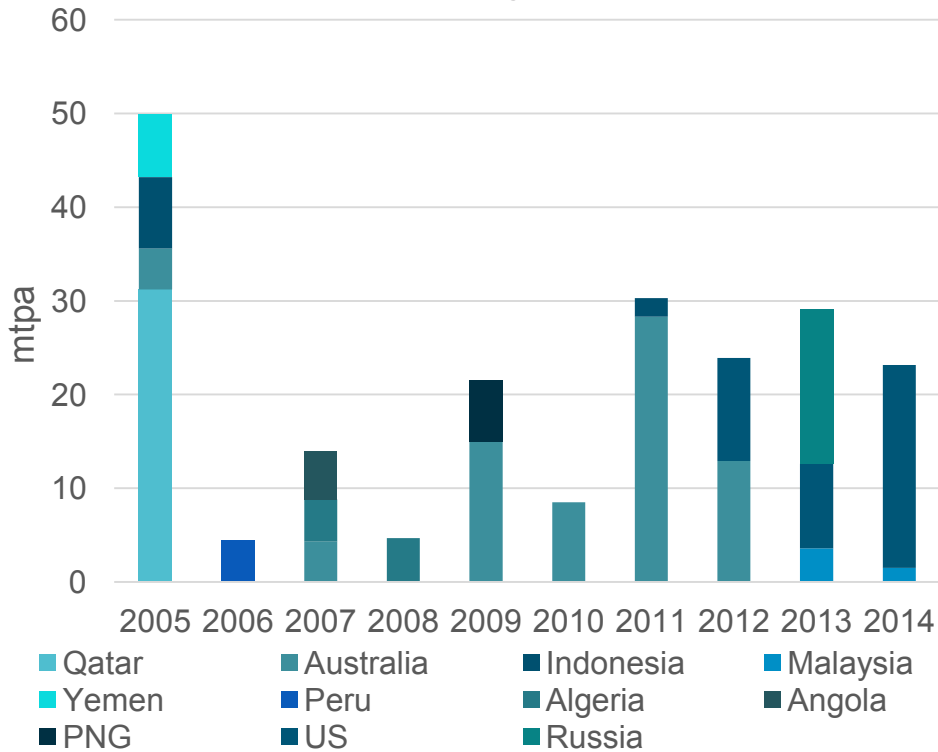
Structure of the LNG market



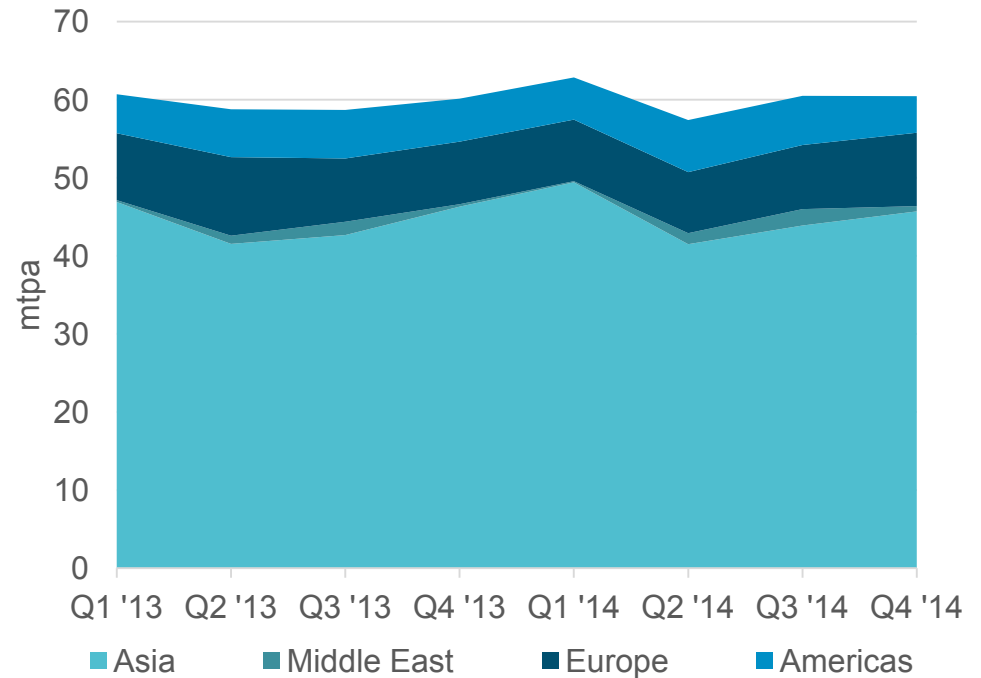


Historical & Current Supply / Demand situation

LNG Project FIDs



LNG Quarterly Imports by Region



Source: Gas Strategies

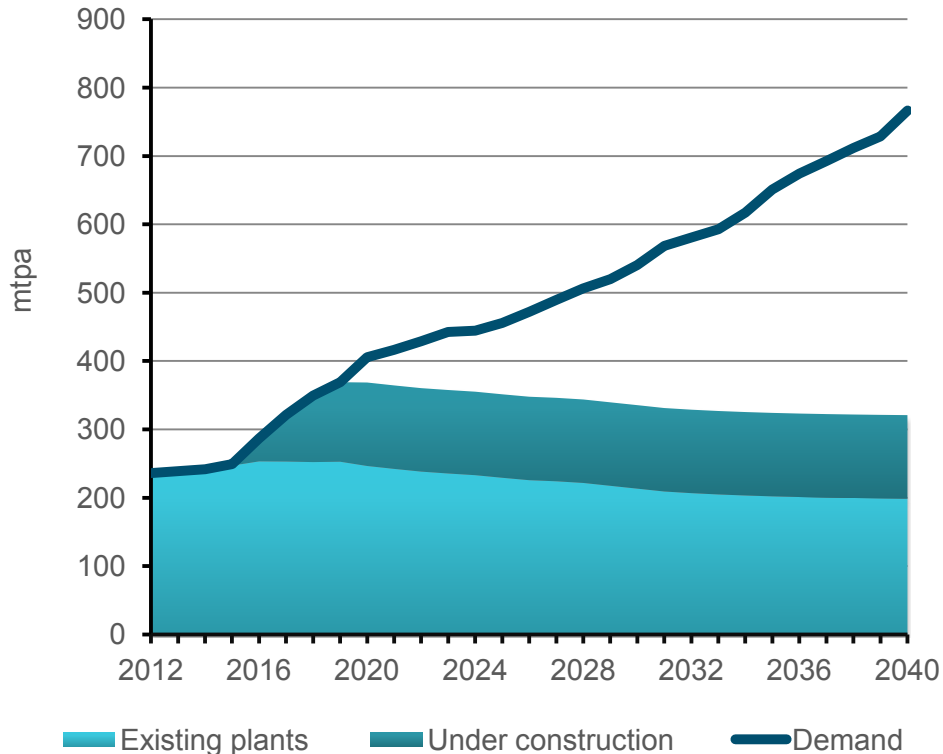
- Supply mix in 2014:
- Qatar: 32%, Malaysia: 10%, Australia: 9.7%, Nigeria: 8%, Indonesia: 7.4%, Trinidad: 6%, Algeria: 5.3%, Russia: 4.4%
- 2014 FIDs: Malaysia FLNG (1.7 mtpa), Cameron LNG (12 mtpa), Freeport LNG (8 mtpa), Cove Point (5.8 mtpa)

Source: Gas Strategies



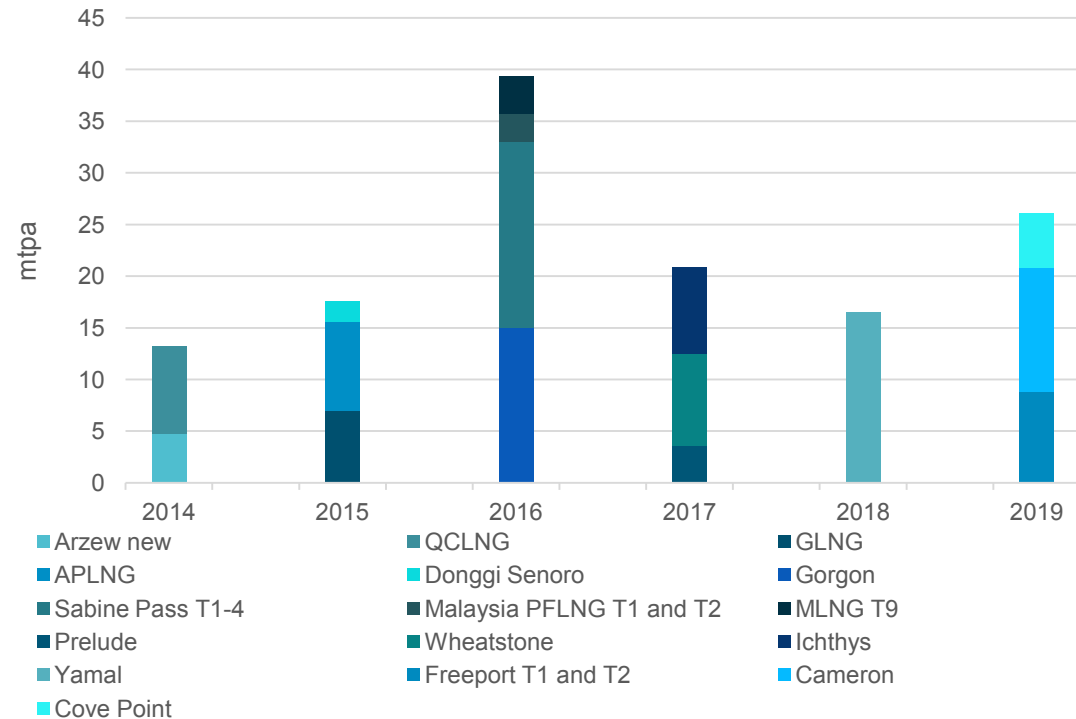
Supply | Now & Going Forward

Projected LNG Supply



Source: Gas Strategies

Volume of under-construction plants will see surge of new supply



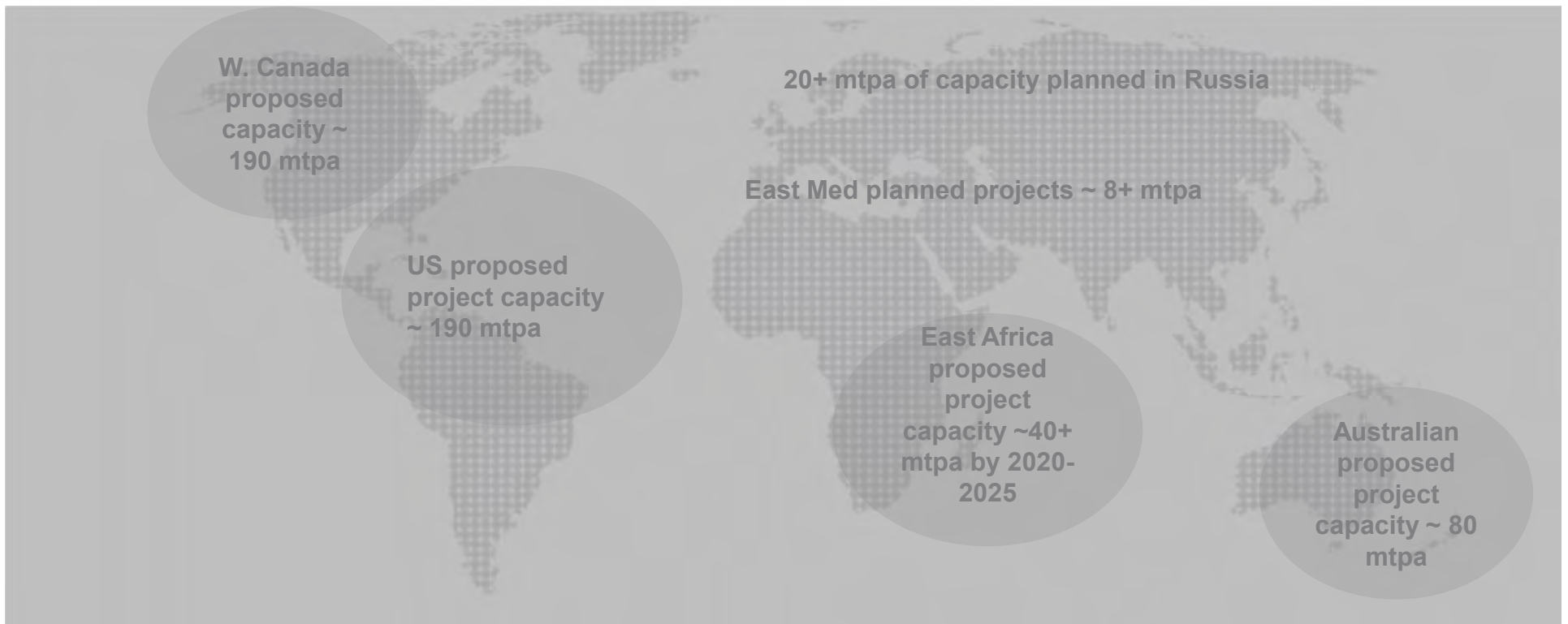
Source: Gas Strategies

- 129.2 mtpa of new capacity under construction: Asia Pacific: 82 mtpa, US: 47 mtpa
- Capacity under construction 53.3% of current output of ca. 242 mtpa. Around 675 mtpa of planned pre-FID projects, the majority in US/Canada
- Difficulty of new projects in securing long-term contracts not only a function of the number of competing projects. Asian buyers have been on a buying spree: 113.5 mtpa (incl. US deals) in the last three years



Supply | Going Forward

Unconstrained planned LNG volumes

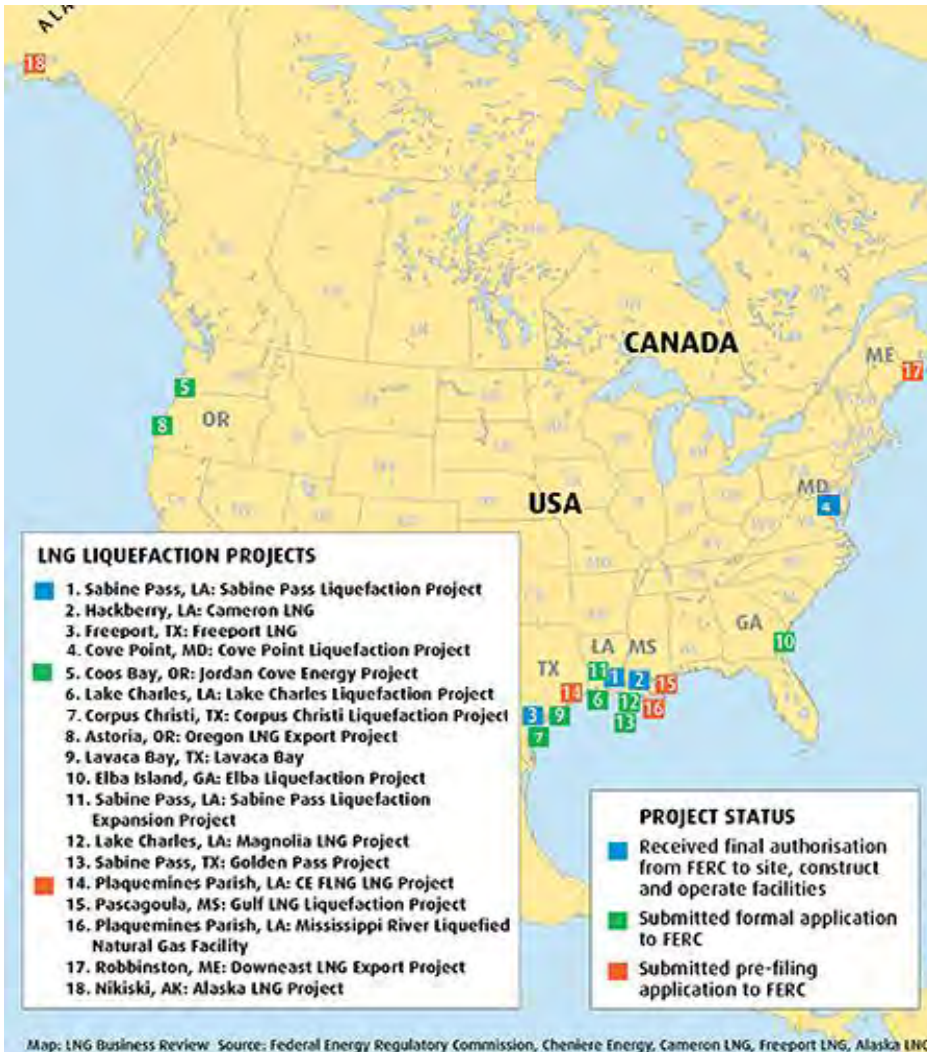


- Additional supply potential in West Africa and South East Asia



Supply | A focus on the US

Commercially Advanced US LNG Projects



US LNG projects with FID

Project	FID Volumes (mtpa)	Buyers & Volumes
Cameron LNG	12.0	Mitsubishi 4.0 Mitsui 4.0 GDF 4.0
Cove Point	5.3	Gail 2.3 Sumitomo 2.3
Freeport LNG T1-2	8.8	Osaka Gas 2.2 Chubu Electric 2.2 BP 4.4
Sabine Pass T1-4	20.0	BG 5.5 Gail 3.5 GNF 3.5 KOGAS 3.5 CMI up to 2.0
Total	46.1	

Source: Gas Strategies

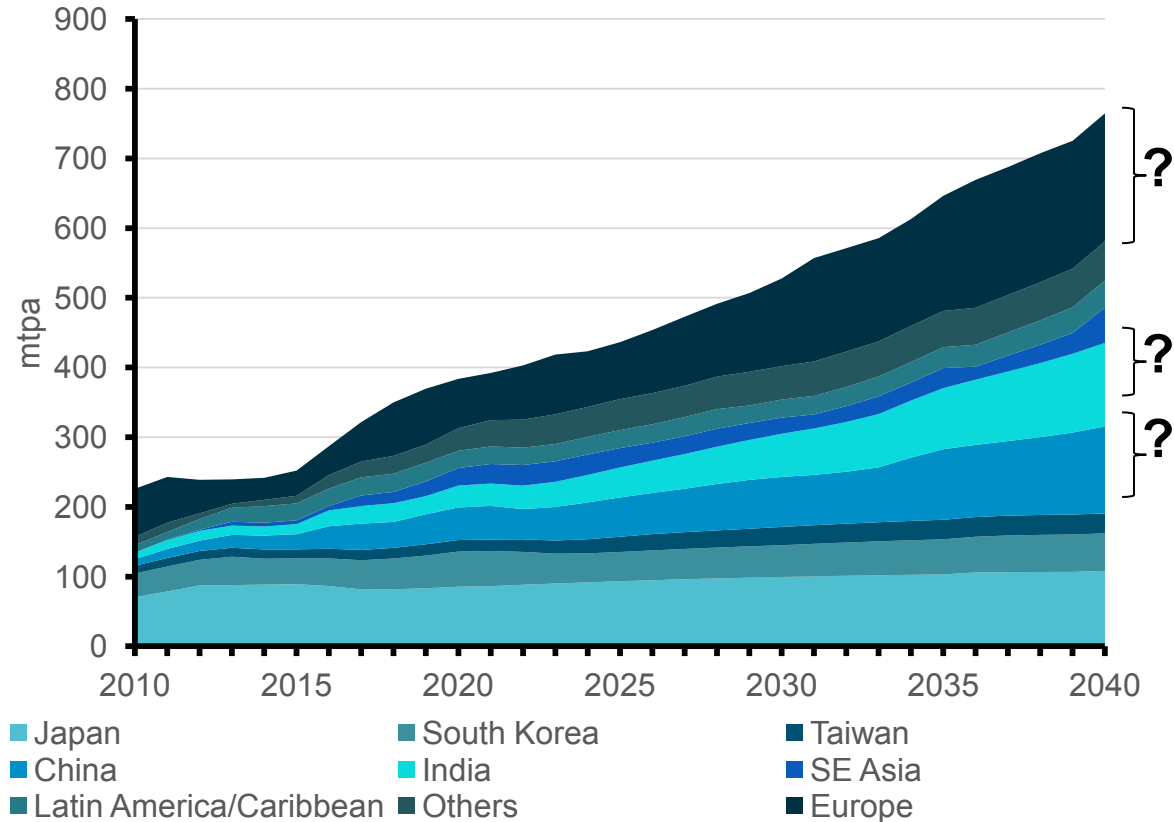
- 46.1 mtpa under construction
- 192.3 mtpa planned
- Potential further projects include:
 - Sabine Pass T5-6 (9 mtpa)
 - Corpus Christi (13.5 mtpa)
 - Freeport LNG T3 (4.4 mtpa)
 - Elba Island (2.7 mtpa)
 - Jordan Cove (6 mtpa)
 - Lake Charles (15 mtpa)
 - Magnolia LNG (8 mtpa)
 - ...



Demand | Now & Going Forward

- Fundamentals support growth in LNG:
 - Energy market growth and coal-to-gas switching in Asia
 - Decline in indigenous production in Europe will create demand for new supply at least part of which will be optimally met by LNG
 - Decline in supply proximate to the main demand centres in South East Asia as older reserves are depleted
 - Continued development of new markets as in the case of Kuwait and Dubai in the Middle East and Brazil, Chile, Uruguay and Argentina in South America
- Risks:
 - Shale in China
 - Renewables
 - Coal pricing
 - Nuclear
 - Geopolitics
 - European Economic Recovery

Demand-Pull or Supply-Push?



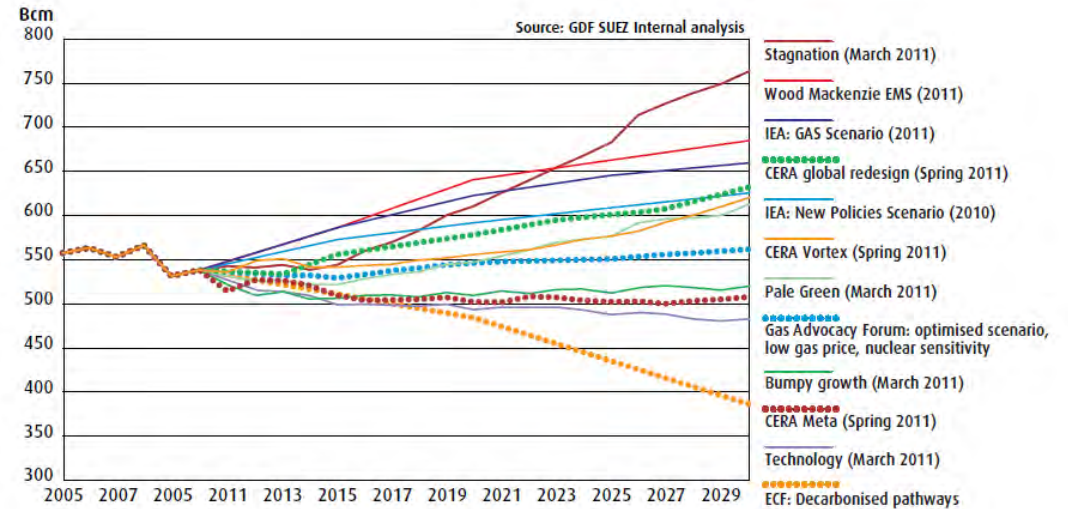
Source: Gas Strategies



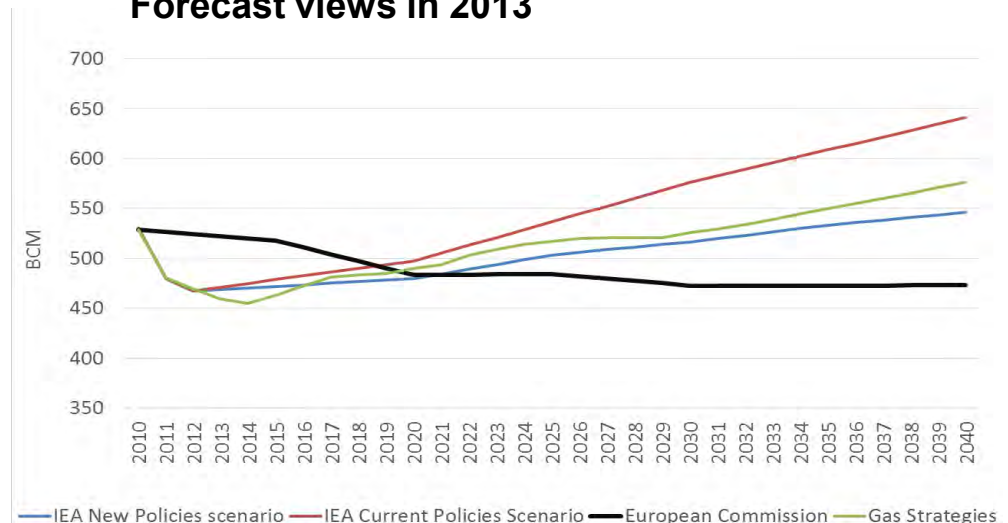
Focus on Europe – Demand Forecasters remain uncertain.....

Forecasts are *always* wrong but European gas demand forecasting remains particularly challenging

Forecast views in 2011



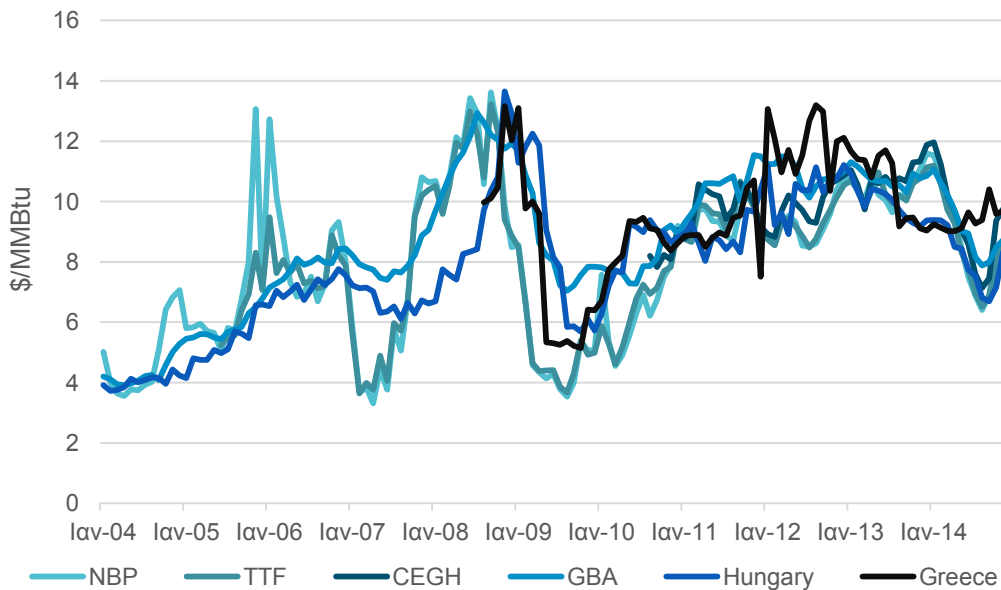
Forecast views in 2013





A focus on Europe

European Gas Pricing



Source: Comext, Gas Strategies

Map of European gas infrastructure



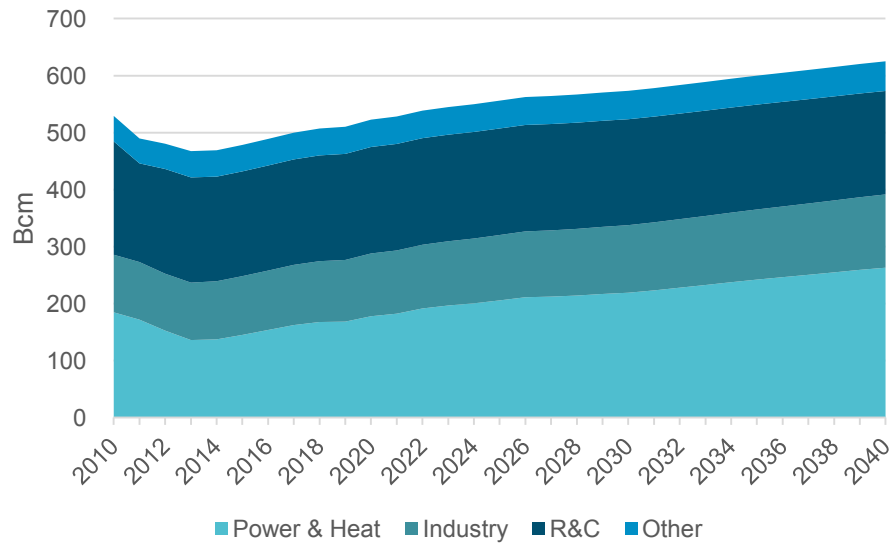
Source: Gas Strategies

- High degree of pipeline connectivity between countries in NW Europe vs. gas markets in SE Europe. This has contributed to a persistence of differing pricing structures between the two areas



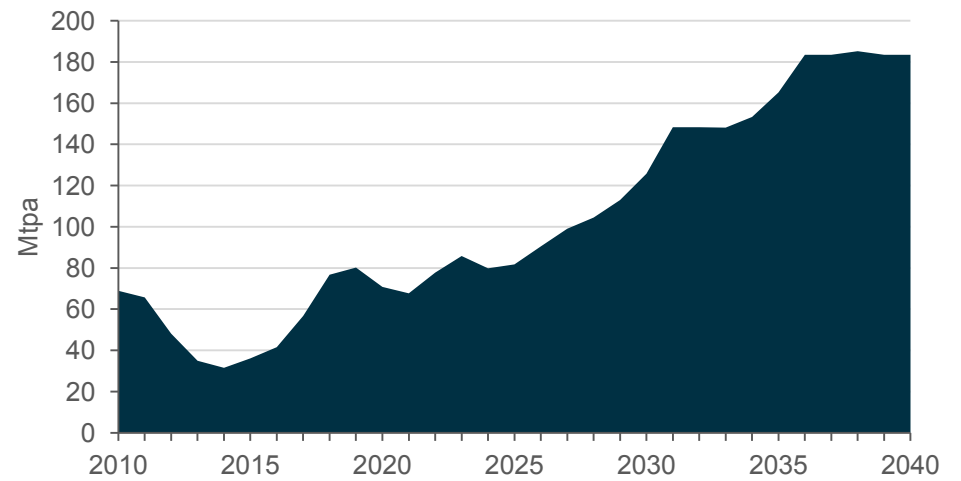
Demand | A focus on Europe

European Gas Demand including Turkey



Source: Gas Strategies

European LNG Demand

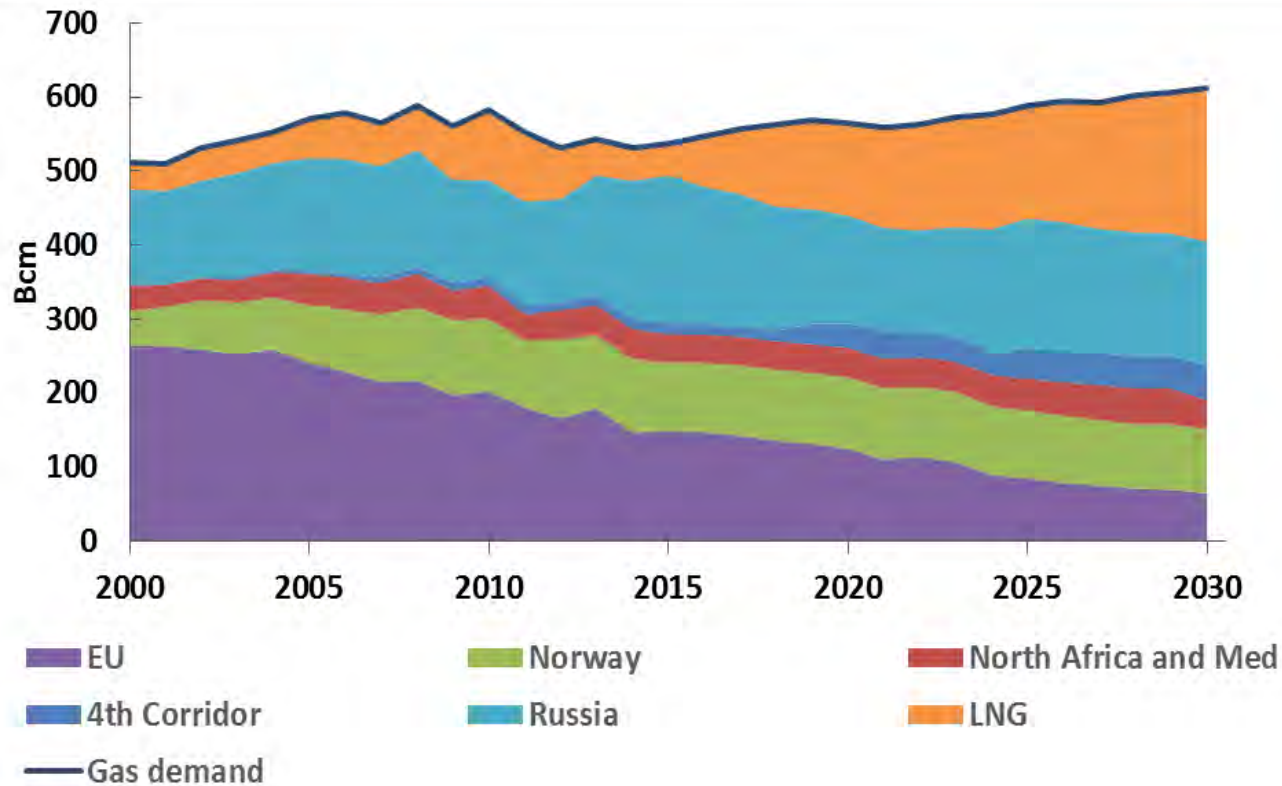


Source: Gas Strategies



Potential outlook for gas supply mix to Europe – LNG plays an increasing role

Historical and projected European (including Turkey) gas supply by source



Source: Eurostat, Gazprom, Gas Strategies Analysis



Thoughts & Conclusions

- LNG market has been flat but significant new supply coming soon (Australia first, then US)
- Market set to move from short to long – challenging to market long-term LNG
- Many more projects under development than the market can bear (especially in North America)
- US projects present different business model, financing challenge and risk allocation
- Future demand may be less certain than previously but latent potential remains
- Europe acts as swing market but is likely to absorb significant volumes of LNG over the coming decades

