



Session 2: The role of LNG in the face of global gas market changes and the energy transition

June 23rd 2022



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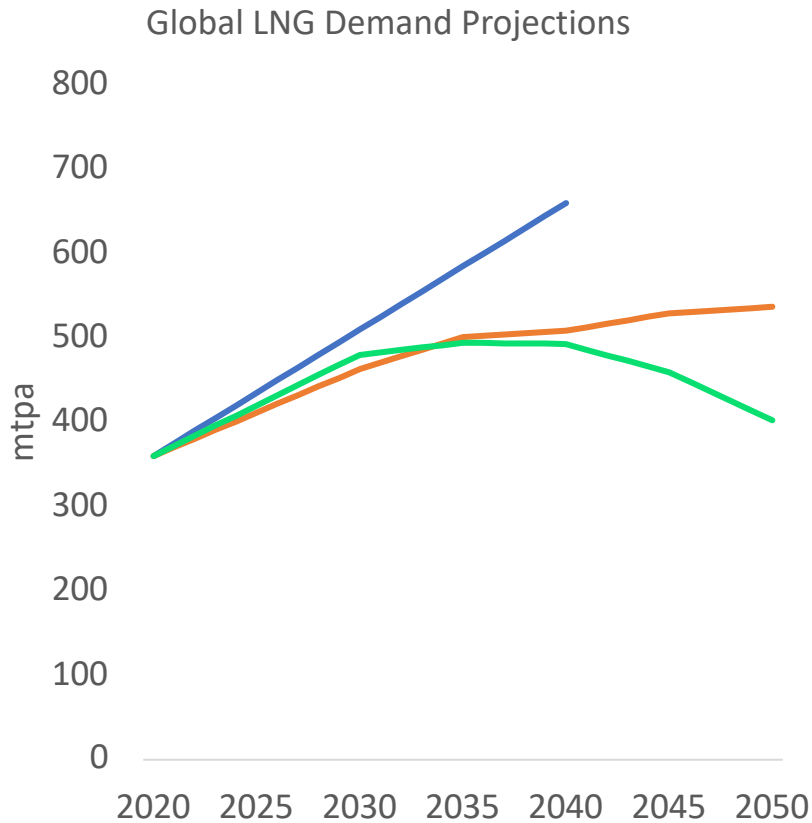
Introduction

What is Specialised Working Group 1 in context of LNGnet?

“The global LNG market in the context of the energy transition – possible developments”

- Framing Study
 - Three working meetings
 - Multiple Case Studies
 - Final Report (soon)
-
- Scope and approach has been highly dynamic and evolved as policy, political and market environment has changed
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- Today I will share some of the work undertaken and the conclusions reached

Role of LNG can be baselined against a range of third party scenarios



Shell (2022)

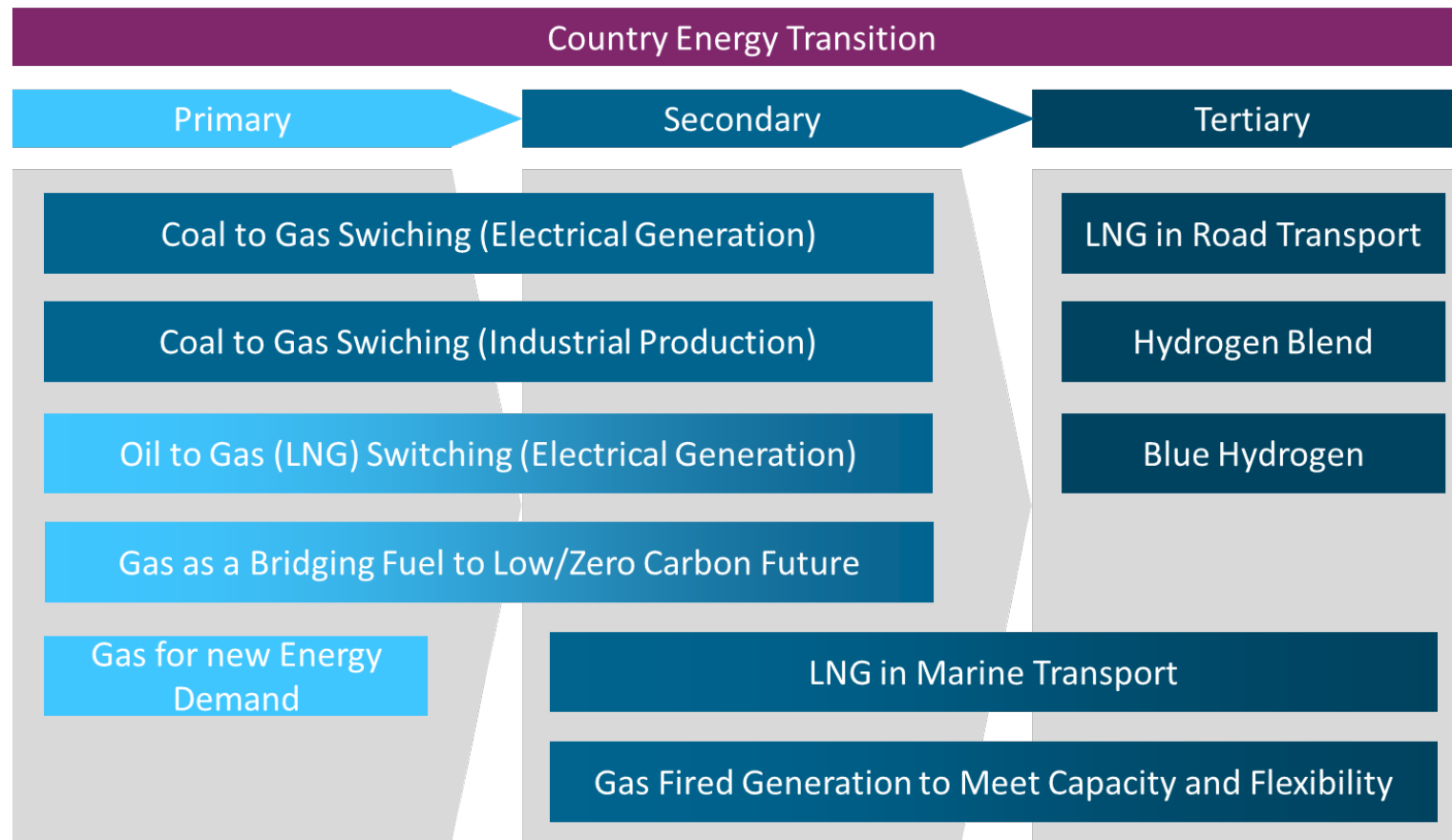
IEA AP (2021)

IEA SD (2021)

- There is a significant range of LNG demand forecasts – understating ‘the truth’ is impossible
- But useful to understand which markets are sensitive to growth / decline based on their energy economy and policy situation
- How will individual country LNG consumption patterns develop?

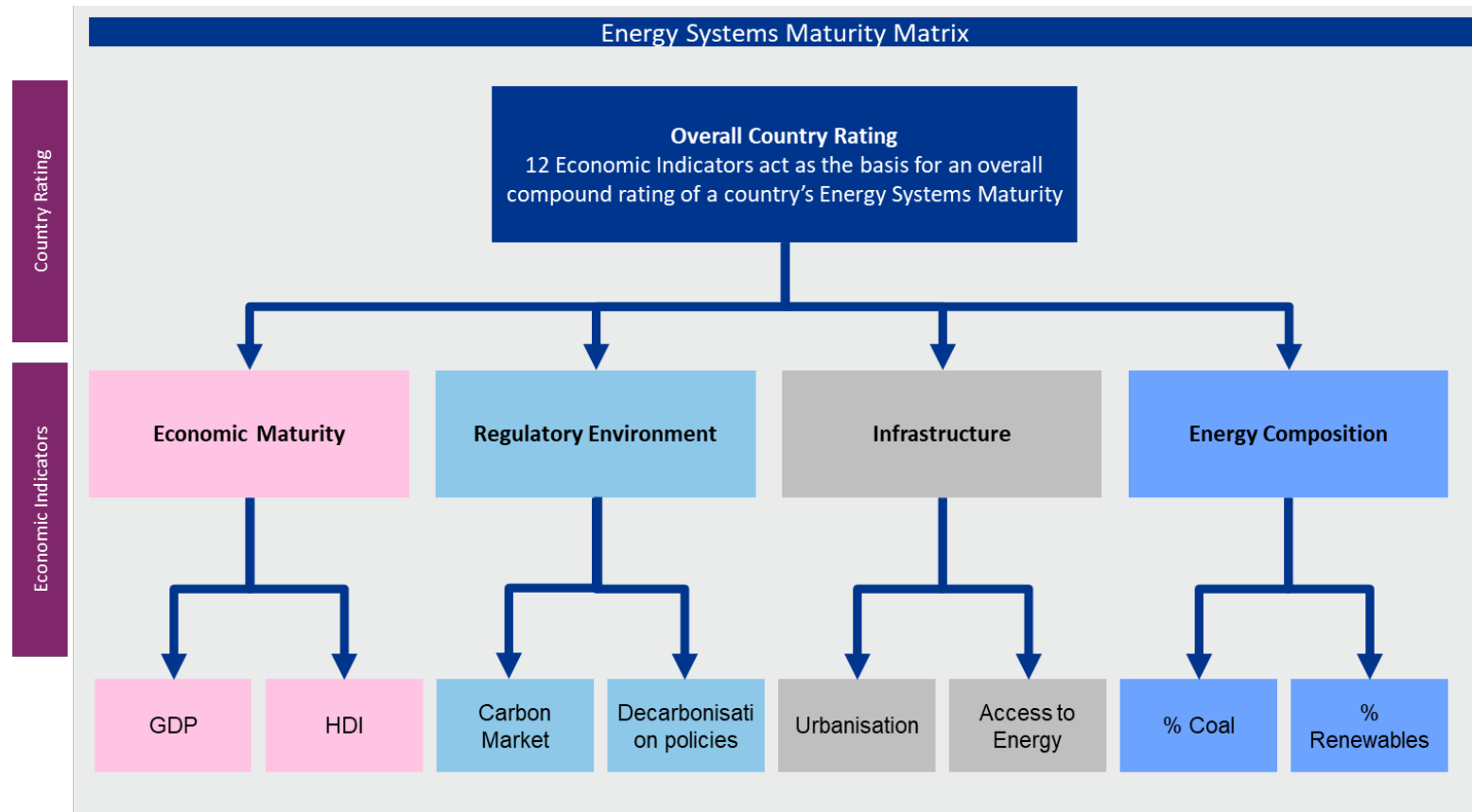
Use of gas is different in different economies

Energy Systems Maturity provides a means of identifying potential roles for LNG in energy transition



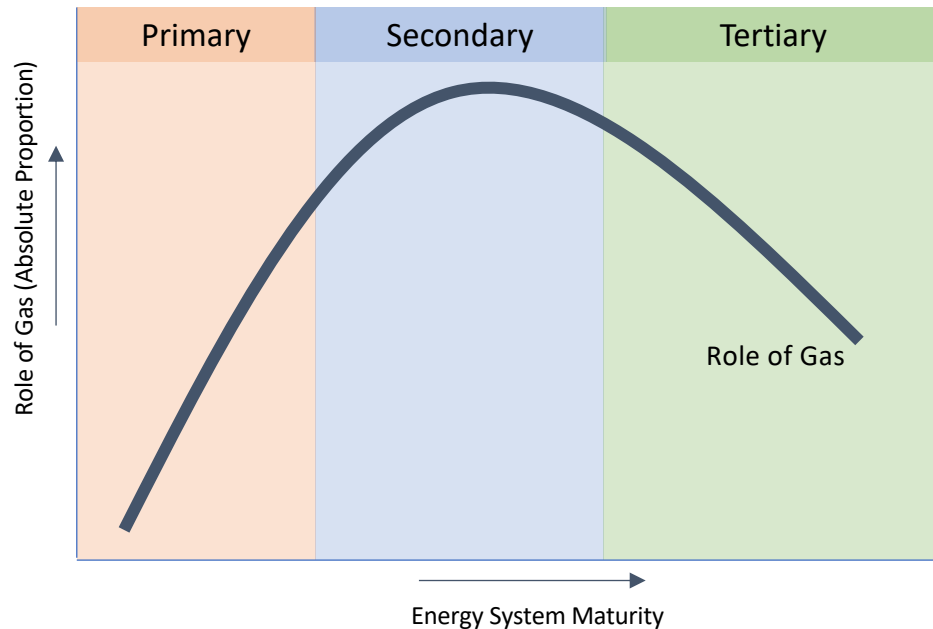
Energy System Maturity framework approach

A number of different indicators were used to assess LNG importing counties' status



The Key Hypotheses of the Energy System Maturity Framework

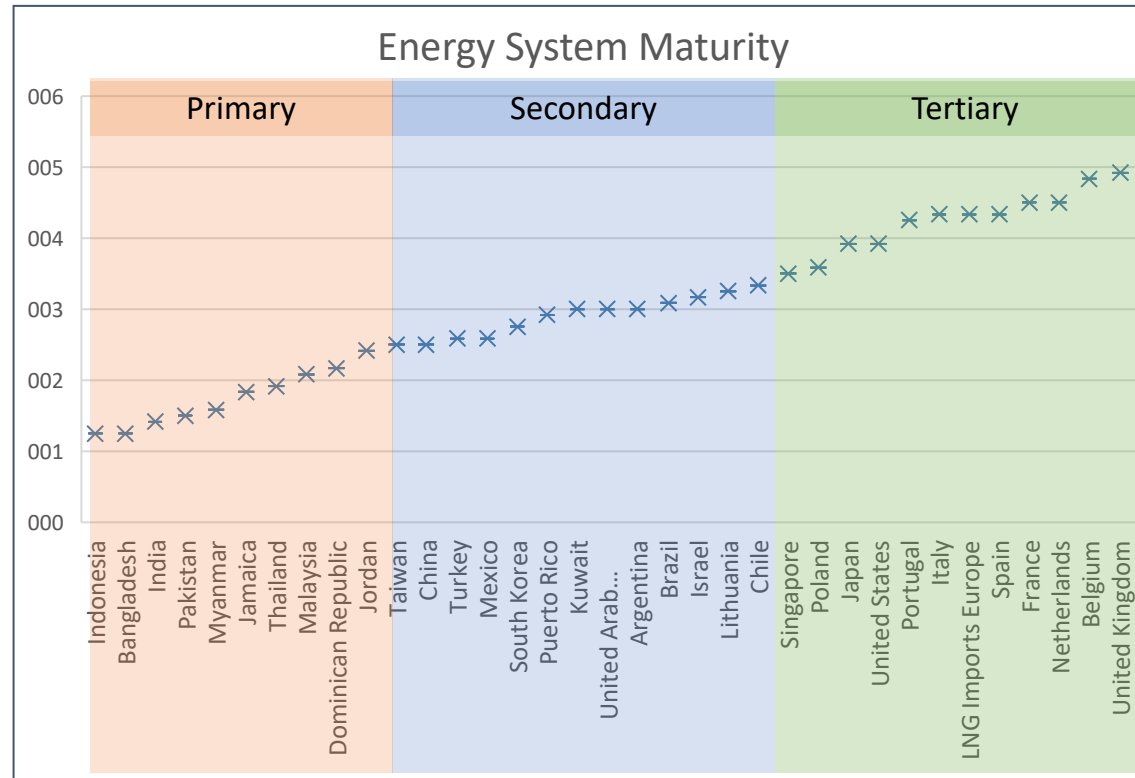
The ESM produce two major hypotheses on the role of gas



- There are two central hypotheses produced from the Energy System Maturity framework:
 1. The size of the role of gas changes with the maturity of the domestic energy system.
 - The transition between primary and secondary maturity sees an increase in the role of gas
 - The transition between the secondary and tertiary maturity sees a reduction in the role of gas
 2. The role (applications) of gas changes with the maturity of the domestic energy system
 - The transition between primary and secondary maturity sees gas used for additional energy needs and gas load power
 - The transition between secondary and tertiary sees applications focused on flexibility and decarbonisation

Categorising countries into the Energy Maturity

The results of initial country categorisation across the three ESM stages



- For this purpose, four categories of economic indicators were collected to create a 5-point compound rating for the energy transition progress of individual countries. These include economic maturity, regulatory environment, infrastructure and country energy composition
- Regulatory factors were weighted twice as impactful as they have been report to represent the biggest drivers of LNG growth

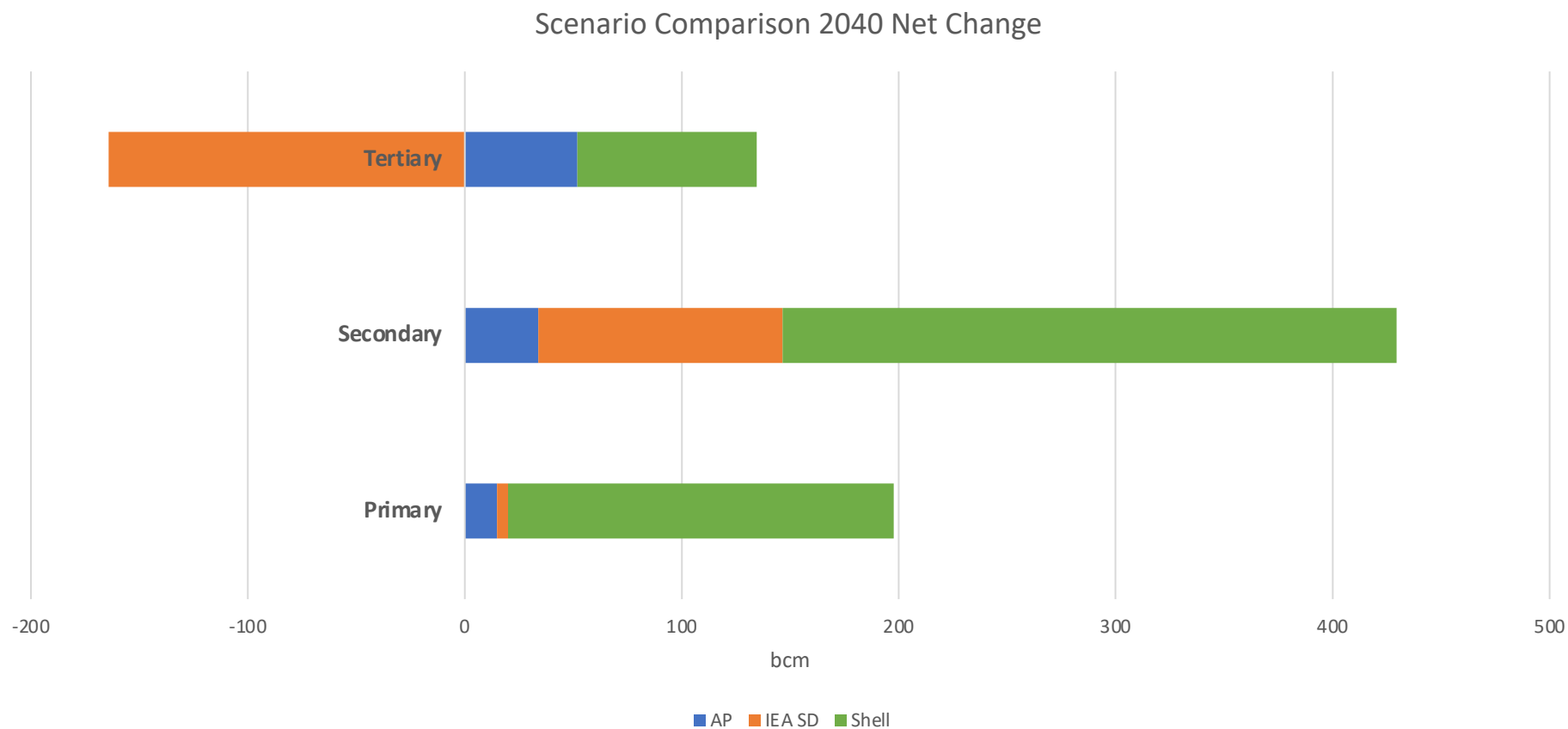
We used Case Studies to explore different considerations in a range of markets

- Japan: how the role of LNG may evolve in a mature consumer within an advanced economy
- India: a huge potential LNG market with significant economic growth projected, a high usage of coal and relatively low energy system maturity
- South Africa: not yet an LNG consumer but with in-progress projects. How could LNG fit?
- The impact of competitive forces such as Hydrogen, CCUS and electrification

- We will hear more about these from our panellists shortly

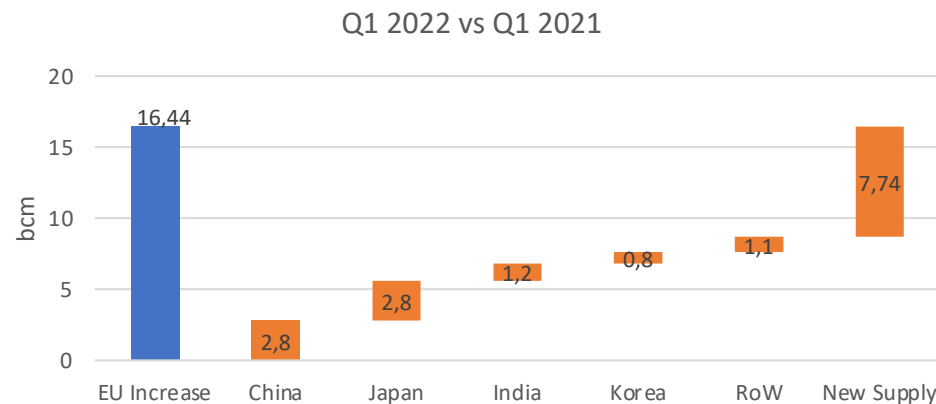
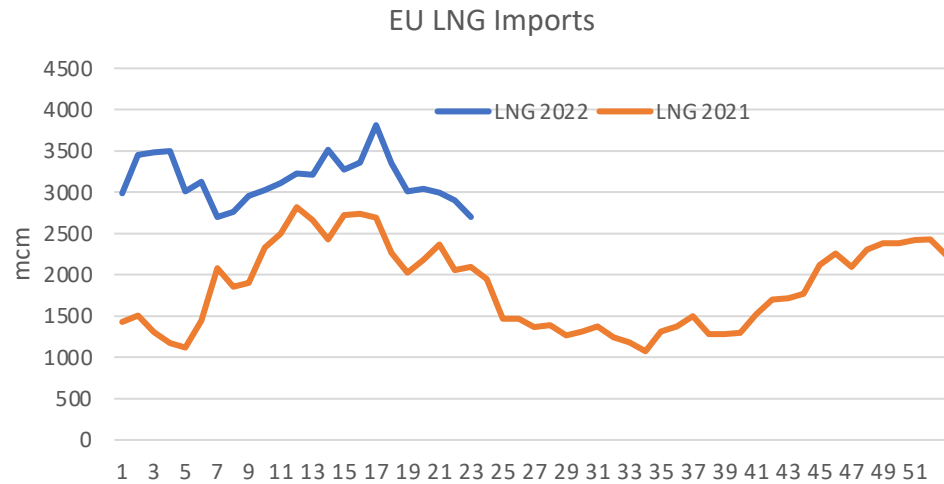
Summary of trajectories of current importers based on cases

Scenario comparison suggests that those countries defined as “Secondary” (including China) in the ESM see growth in all 2040 scenarios



The ultimate disruptor

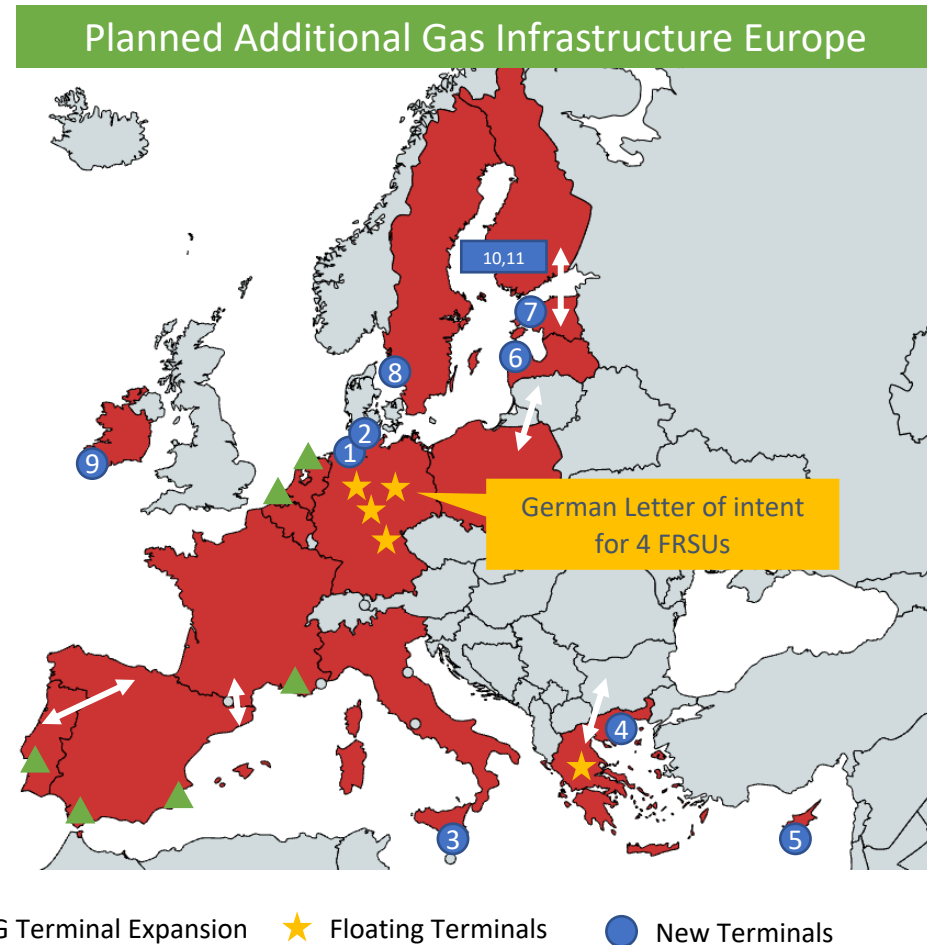
European Russian relationship breakdown has lead to huge increase in LNG demand in Europe



- Significant increase of LNG imports in Europe as security of supply considerations take precedent
- Likely to sustain given scarcity of alternative options for gas in Europe
- Also seeing acceleration of energy transition measures but role of LNG likely to increase in short / medium term

Europe is building LNG import infrastructure to facilitate increased imports

No.	Infrastructure	Location	Status
1	New Terminal	Wilhelmshaven (DL)	Approved
2	New Terminal	Brunsbüttel (DL)	Approved
3	New Terminal	Porto Empedocle (IT)	Approved
4	New Terminal	Alexandropolis (GR)	Under Construction
5	New Terminal	Vasilikos (CY)	Approved
6	New Terminal	Riga LNG (LAT)	Approved
7	New Terminal	Tallin (EST)	Approved
8	New Terminal	Gothenburg (SWE)	Approved
9	New Terminal	Shannon/Cork (IRE)	Approved
10	New Terminal	Hamina-Korka (FIN)	Under Construction
11	New Terminal	Rauma (FIN)	Under Construction



What is the impact on the future role of LNG globally?

Does the current focus on Security of (LNG) Supply in Europe impact the trajectories?

- What will be the impact on demand for LNG in Europe? – how much and for how long
- Supply – where do new volumes come from?
- Price – Do sustained high prices dampen demand in certain markets? Which ones?
 - Could it prevent LNG development in new markets?
 - Is the place of coal sustained for longer in certain markets?
 - Will it accelerate ‘next generation’ solutions and see gas ‘missed out’ as bridging fuel of energy transition? Where?
- Policy – acceleration of energy transition in Europe? Does this mean more rapid deceleration of gas demand after a period of time? Risk of stranded assets? Impact on climate commitments?
- Impact on investment decisions: if LNG needs to have a larger role in the short term and more CAPEX must be committed, what do new LNG projects need to look like to be sustainable? (see later work in LNGnet)
- Markets: is Europe the global sink now or more like another premium market in competition with Asia? What does that mean for how global gas markets work?

Conclusions

- Under all energy transition scenarios LNG continues to play a role, especially in markets in the secondary and primary categories of Energy System Maturity
- In more mature markets, gas demand is expected to peak soon and its role to become more niche
- The development of certain competing and enabling technologies – like hydrogen and CCUS – are integral to the future development of natural gas and LNG markets
- The changed energy relationship between Europe and Russia is disrupting the trajectories we might have expected – with Europe likely a strong demand market for LNG in the short and medium term
- This will drive more investment in LNG as well as acceleration decarbonisation initiatives in Europe



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Peter Thompson

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