



Challenges and Changes

Mike Rowley - Senior Advisor

MOL (Europe Africa) Ltd

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2019 Global Backdrop

- **Cautious approach necessary in coming years**
 - Turbulence in Global Economy
 - Impact of ongoing China – US Trade Dispute
 - Uncertainty over Brexit Impact/Delay
- **Challenging projects more complex**
 - Pricing and commercial terms
 - Requires proper Organizational structure and processes to ensure success
 - Technology advancements
 - Environmental and climate change impact/concerns
- **Finance arrangement for new projects more complex to deliver**
 - May require new partnerships/ JVs to share risk and capitol allocation
 - More careful screening required to increase chance of success and best use of capitol allocation to capture maximum return on investment

Market Overview



MOL Market Position in LNG Shipping



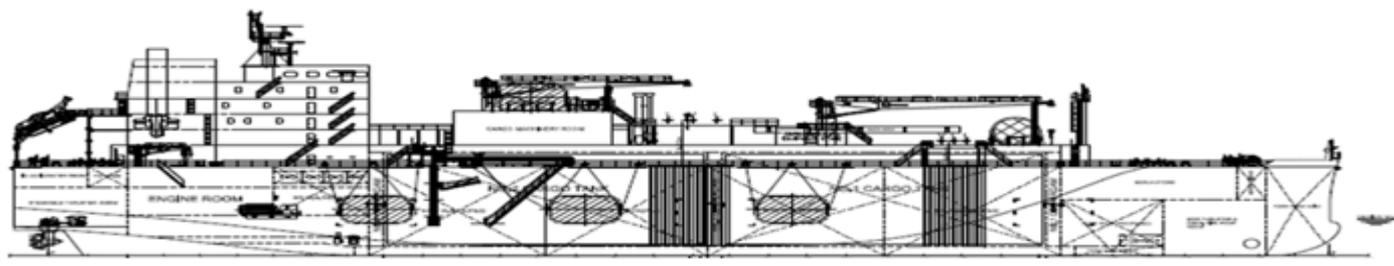
MOL's LNG Carriers

	In Operation	On Order	Total
Number of LNG Carriers MOL has Owner Share	85	14	99
Number of LNG Carriers MOL involved in ship management	60	15	75
World Total	538	135	673

LNGBV Projects

Name	Owner	Charterer	Containment System	Capacity	Delivery
Gas Agility	MOL	TOTAL Marine Fuels	Mark-III Flex (Membrane)	18,600 <u>Cu.m</u>	Q1-2020
TBC	MOL	Pavilion Gas	Mark-III Flex (Membrane)	12,000 <u>Cu.m</u>	Q1-2021

- Both LNG bunker vessels are fitted with two cargo tanks with Mark-III Flex containment system
- Gas Agility is on long term charter with TOTAL Marine Fuels, with intention to supply LNG as marine fuel for customers in northern Europe. Vessel is currently under construction at Hudong Shipyard, China
- The second LNGBV is on long term charter with Pavilion Gas at Singapore, and will be utilised for supplying LNG as fuel whilst operated from Singapore. Vessel is currently under construction at Sembcorp Marine Shipyard, Singapore



Offshore other Business Sectors – Snapshot

FPSO

Sub-Sea

FSRU / FSU

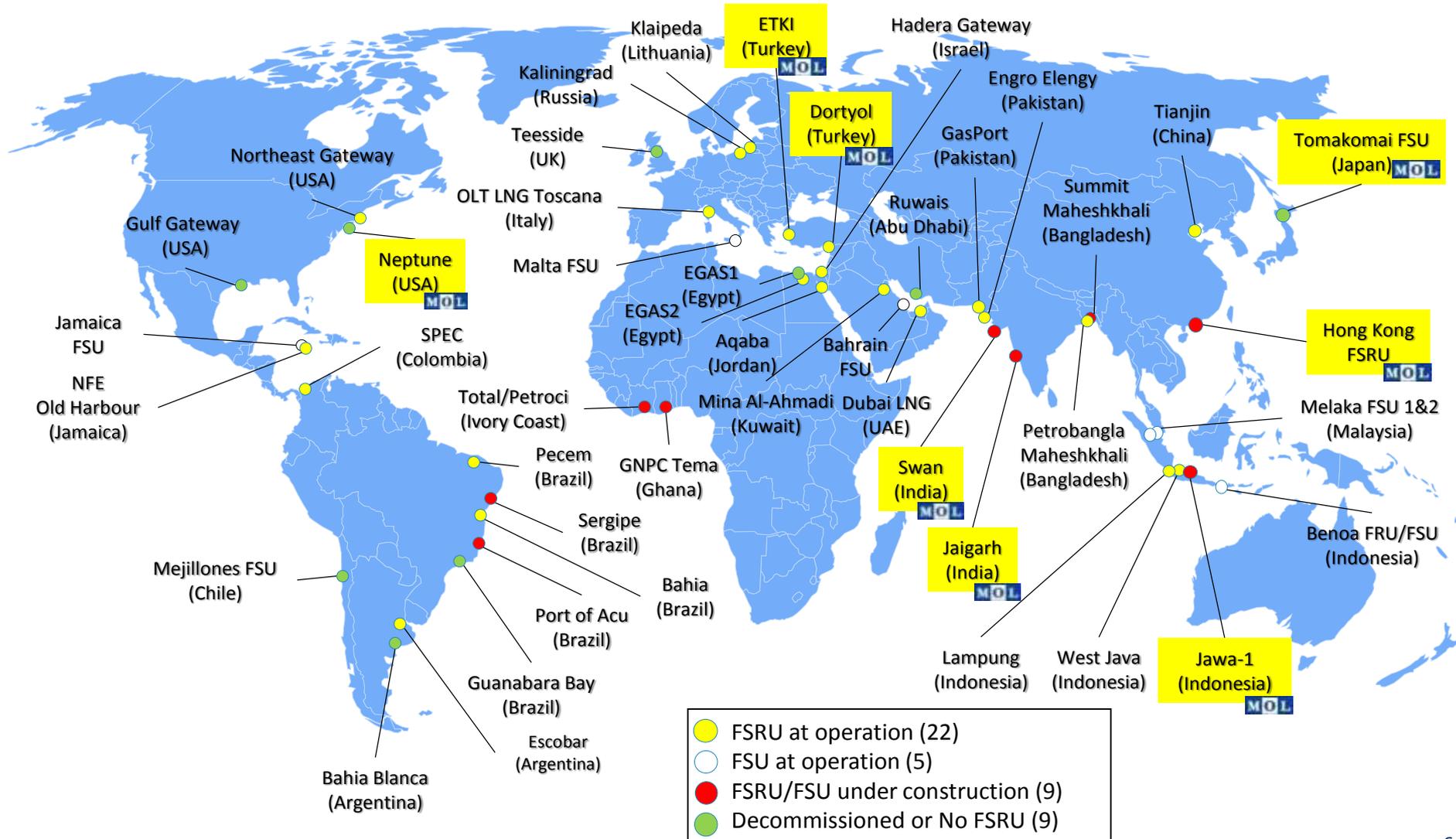
FLNG

Offshore Power

1. Gas / LNG

2. Wind

Market Overview – FSRUs/FSUs worldwide

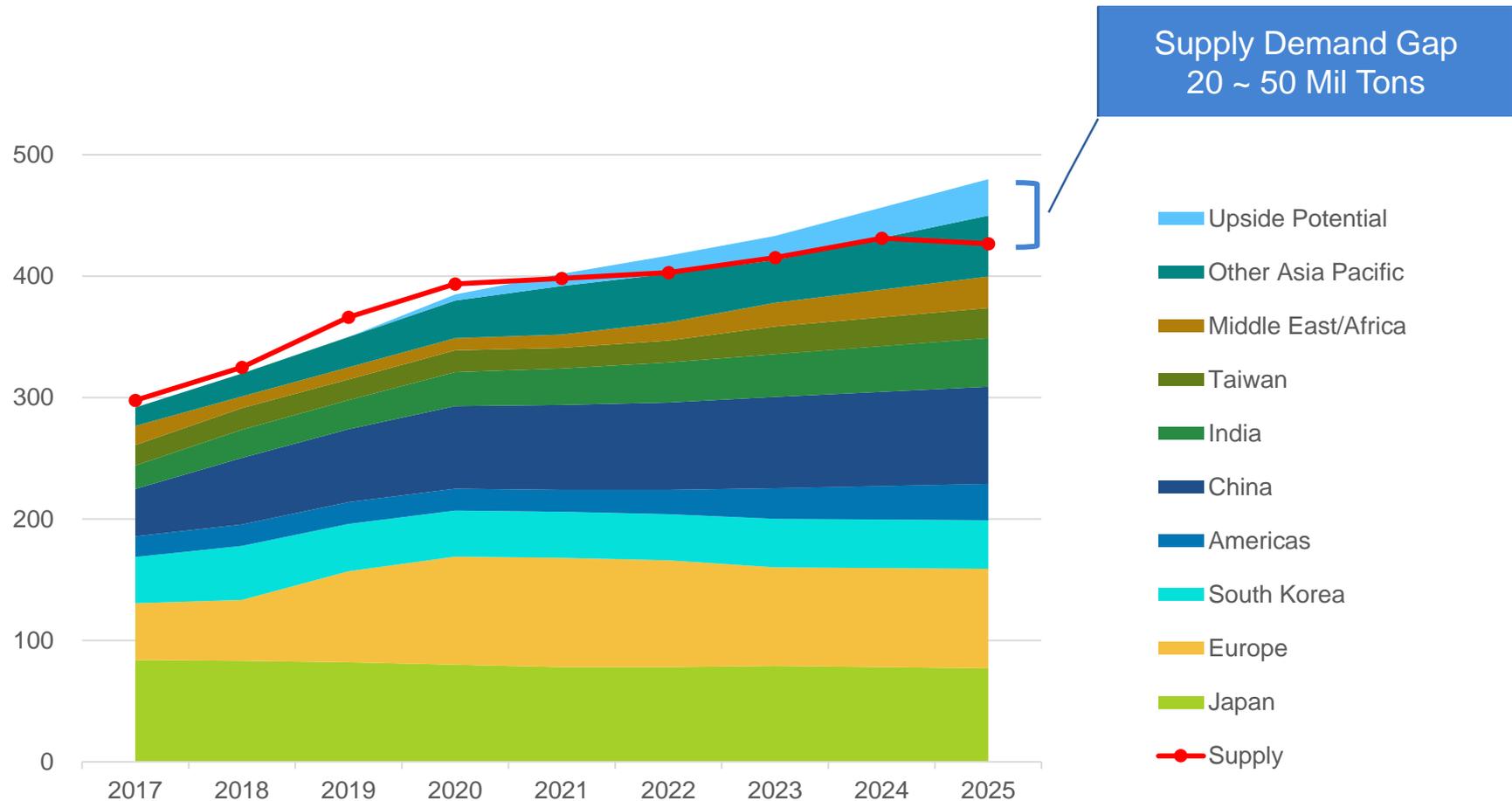


Long-Term LNG Supply and Demand Outlook

LNG Supply & Demand Outlook (Base Case)



Oversupply to disappear by 2022. The continuous growth of demand will cause **50 Mil Tons of supply demand gap** as of 2025.



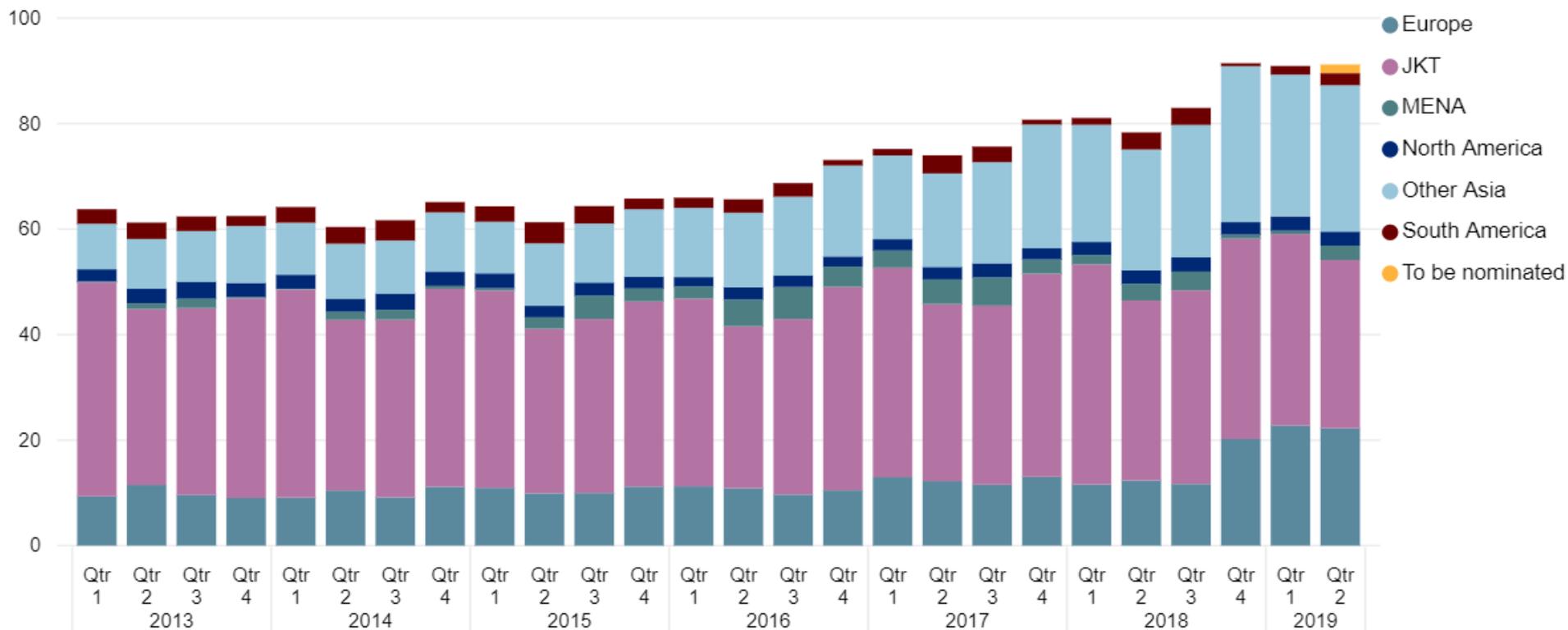
(Source: ENR based on Wood Mackenzie, IHS, Poten and Andy Flower)

Areas of growth

Other Asia, including China, and recently Europe are increasing import volume.

LNG Import Volume (2013-2019)

(Million Ton)



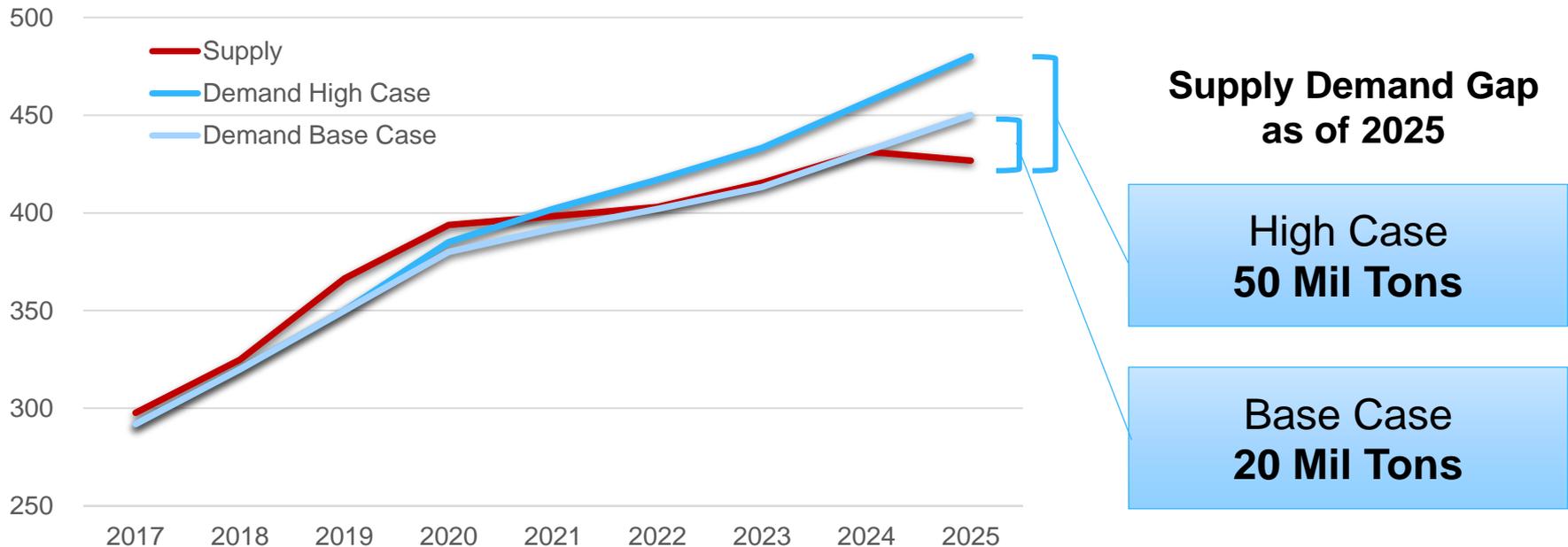
Cargo movement forecast

② Base Case (450 Mil Tons in 2025)

- Based on updated MOL LNG demand forecast

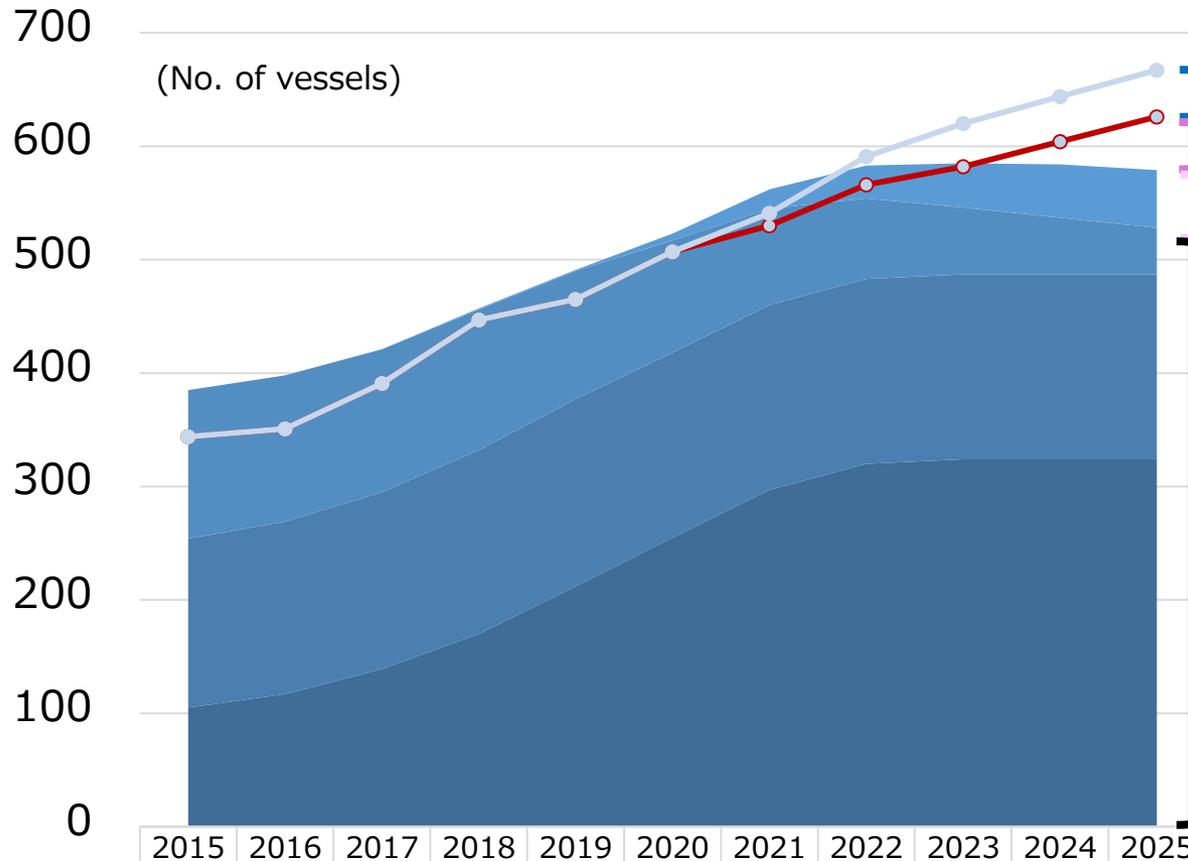
③ High Case (480 Mil Tons in 2025)

- Adding 30MT on Base Case



3. Long-Term LNG Vessel Supply and Demand Outlook

Vessel Supply/Demand Long Term Outlook



Demand for new-builds

High Case
Additional
41

Base Case
57
based on retirement at 30yo

Replace (Potential)
51
based on retirement at 20yo

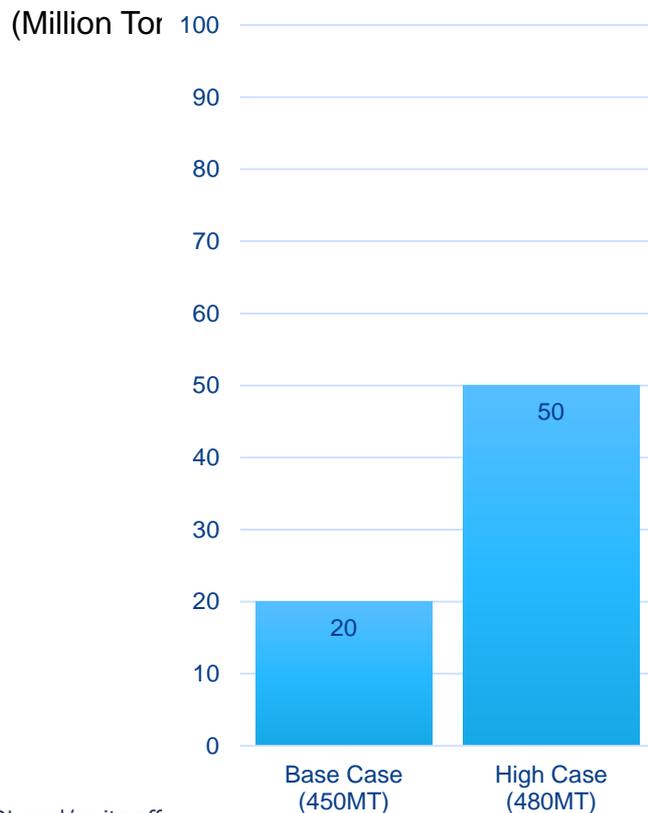
Firm Number of Vessels
520

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Replacement (Possible)	0	0	0	1	1	6	17	29	39	47	51
Steam(120k-140k)	131	129	126	124	113	99	85	71	59	50	41
Steam(140k-)/AST/SSD	149	152	156	162	165	163	163	163	163	163	163
MEGI/X-DF/DFDE	105	117	139	170	212	255	297	320	324	324	324
Vessel Demand: Base Case	344	351	391	447	465	507	530	566	582	604	626
Ton miles upside	344	351	391	447	465	507	541	591	620	644	667

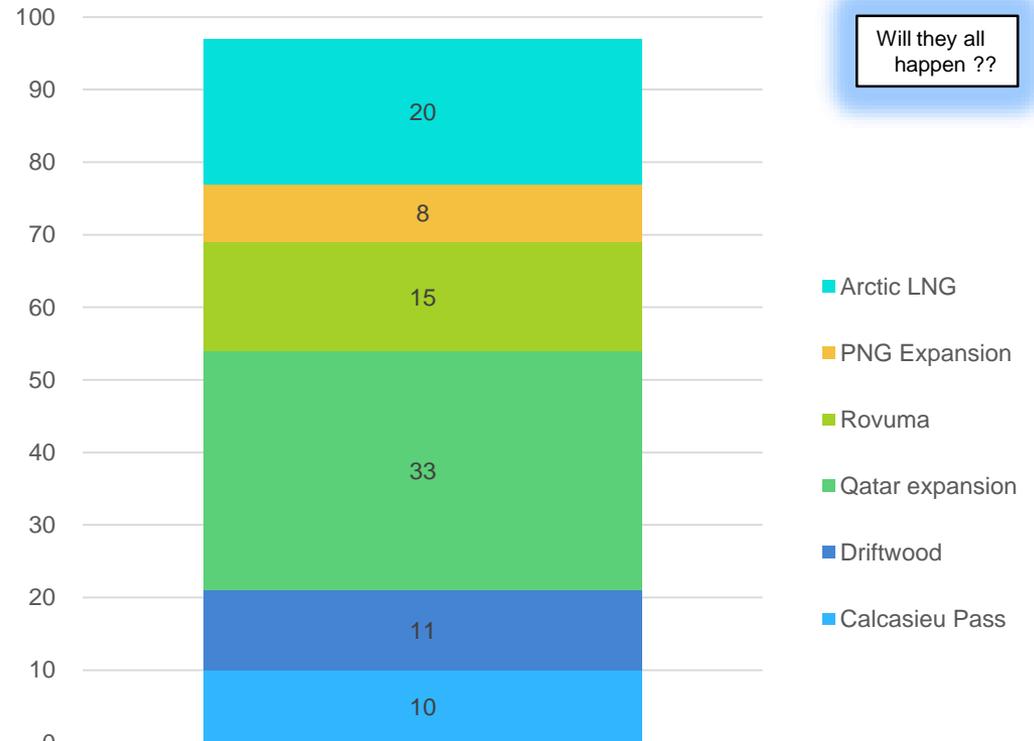
Which planned project will fill the gap?

- Supply and demand gap will occur unless new projects start operation.

Supply & demand gap as of 2025



Supply Capacity from new-FID projects



Challenges Ahead



Key Area's of Focus

- **Changing Business Environment**
 - Fast changing – increasing competition
- **Changing Commercial Operational Environment**
 - More complexity – more demanding customers – more for less
- **Organizational Structures and Processes**
 - Needs to be efficient ,dynamic and reactive
- **Resource and Technology**
 - Global , best in class and skilled up

Changing Business Environment

- **Changing business model –shorter contract terms**
 - More demanding customers chasing tighter earnings in competitive business environment
- Many new owners ordering on speculation - risk takers
 - Putting pressure on price and risk against shorter contract terms
- **Emergence of more LNG Traders leading to more operational challenges**
 - Competitively priced LNG causing more flexibility in destinations and drive to improve profitably for Traders as well as traditional Portfolio Players
 - No longer point to point business as in the past
- **Resultant downward pressure on Opex to enable competitive pricing for new projects as well as to meet company earnings targets**
 - Strong competition requires MOL to be “best in class “ as vessel operator
- **Selection of Projects will need to be focused to ensure success**
 - flawless implementation and execution to secure investment and ensure uninterrupted cash flow

Changing Commercial Operational Environment

- **More onerous TCP terms**
 - Need to be familiar with key commercial terms
 - Alert to Performance warranty issues – may lead to large claims by charterers
 - Requires accurate record keeping on voyage summary logs/noon reports
 - Bunker claims management
 - Introduction of new Low Sulphur regulations Jan 2020 likely to increase claims value
- **Changing trading patterns /multiple change of orders**
 - Commercial implications with B/Ls and LOI's
 - Higher chance of discharging into FSRU terminals
 - Slow discharge – e.g. Panama
- **Fleet reliability and uptime**
 - Again more pressure in competitive environment with demanding customers
 - close communication between office and vessel essential

Organizational Structure and Process

- **Deploy Global presence to ensure organization structured and positioned to take advantage of our resources and skill sets to effectively compete with our Peers**
 - Dedicated business units deployed in markets to best capture targeted projects with correct resources to act quickly and efficiently both for Conventional and Offshore projects
 - Gather and quickly disseminate intelligence and empowered with authority to engage with targeted opportunities
 - Equally important to support project implementation and flawless execution on daily basis to provide seamless face to customers in each market
- **Efficient processes required for project capture, execution and ongoing support throughout project lifecycles**
 - Build on effective business data platforms to more efficiently disseminate information and drive effective and efficient strategy development
 - More synergies and resource movement between technical managers to align and improve standards and experience share on new vessel technologies
 - Need to develop effective and consistent project management processes to improve execution, implementation and cost efficiencies for future projects.

Resource and Technology

- **Essential Owners deploy sufficient qualified resources through project lifecycle**
 - Both for project capture as well as execution and implementation to deliver company growth plan
 - Properly deployed in key markets to ensure coverage with key customer opportunities as well as touch points for ongoing operations
 - Ensure resources with necessary skills in place as we move into more expensive offshore projects requiring leading edge new technology
- **Collaborate with Yards/Engineering houses to identify/develop next generation technologies**
 - Ensure new assets are best in class to capture optimum performance and competitiveness
 - Keep ahead of ever increasing environmental pressures to ensure new technologies are constantly applied
 - Again essential to ensure resources with necessary skill sets in place to keep pace with next generation technologies

Summary and Conclusion

- **Global down cycle and economic uncertainties will continue to overshadow the business growth in the LNG and Offshore sector for the foreseeable future**
- **Competitive environment to continue for coming years so essential correct resources are deployed globally to effectively engage with key customers to secure new business.**
- **Continuing need to execute existing contracts flawlessly to meet customers expectations and meet company revenue targets**
- **Imperative to deliver consistent quality service to be partner of choice for new business**
 - Drive efficiencies across the organization to meet expected revenues and help succeed in capturing new business
- **Skill up to meet new technologies required for new projects**
 - e.g. - Artic LNG 2 and new wave of non- traditional Offshore projects



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