



# Howe Robinson Partners

**Prepared for: LNG Shipping  
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HOWE ROBINSON  
P A R T N E R S





## Overall view - Growing liquidity

Cargoes and vessel fixtures

- 20 exporting countries, 42 importing countries
- Production end 2018 – 314 m.tonnes on capacity around 380 m.tonnes
- Capacity to grow approx. 56 mtpa to end 2022
- Growth continues - large volumes will be seen both in Atlantic, Middle East and Australia
- Overall Asia accounts for around 75% of LNG demand
- China: domestic supply & pipeline flows insufficient for demand growth, LNG imports and domestic production to continue to grow strongly particularly in view of changing energy policy
- Asian demand to continue from new and existing players
- 16 projects to be potentially confirmed with FID by end 2019 bringing 184 million tonnes of additional capacity for 2023 – Arctic LNG 2 and Global Venture just two of these



## Potential growth in LNG exports 2022 – 2030 - overview

- Political implications on development of potential shale gas projects could be significant
- This would lead to implication on tonne mile demand
- Number of future US Gulf shale gas projects could remain low
- Other areas of the world to be developed such as Mozambique and Qatar which between them could add a further 60 million tonnes plus by 2027
- Price will be key for the new projects
- Portfolio players continuing to play major part in growth of the industry
- Lower cost scenario dampening arbitrage as supply remains plentiful
- Panama canal constraints



## Overall market view of LNG projects and potential projects to 2030

- Current projects under FID will deliver production between 2019 and 2024
- Projects awaiting FID will deliver realistically 2024 onwards
- Prospective projects are only likely to deliver in period 2026 - 2030
- Growth in demand for LNG anticipated on average around 6% p.a. Demand will be driven by a number of factors
  - Price of LNG
  - Economic growth
  - Ability to import LNG
  - Competition against other fuels such as coal and renewables
  - Pipeline gas – particularly in Europe and China
  - Alternative source of supply
  - Political
  - ‘Greenification’
- Development of existing infrastructure in importers such as India



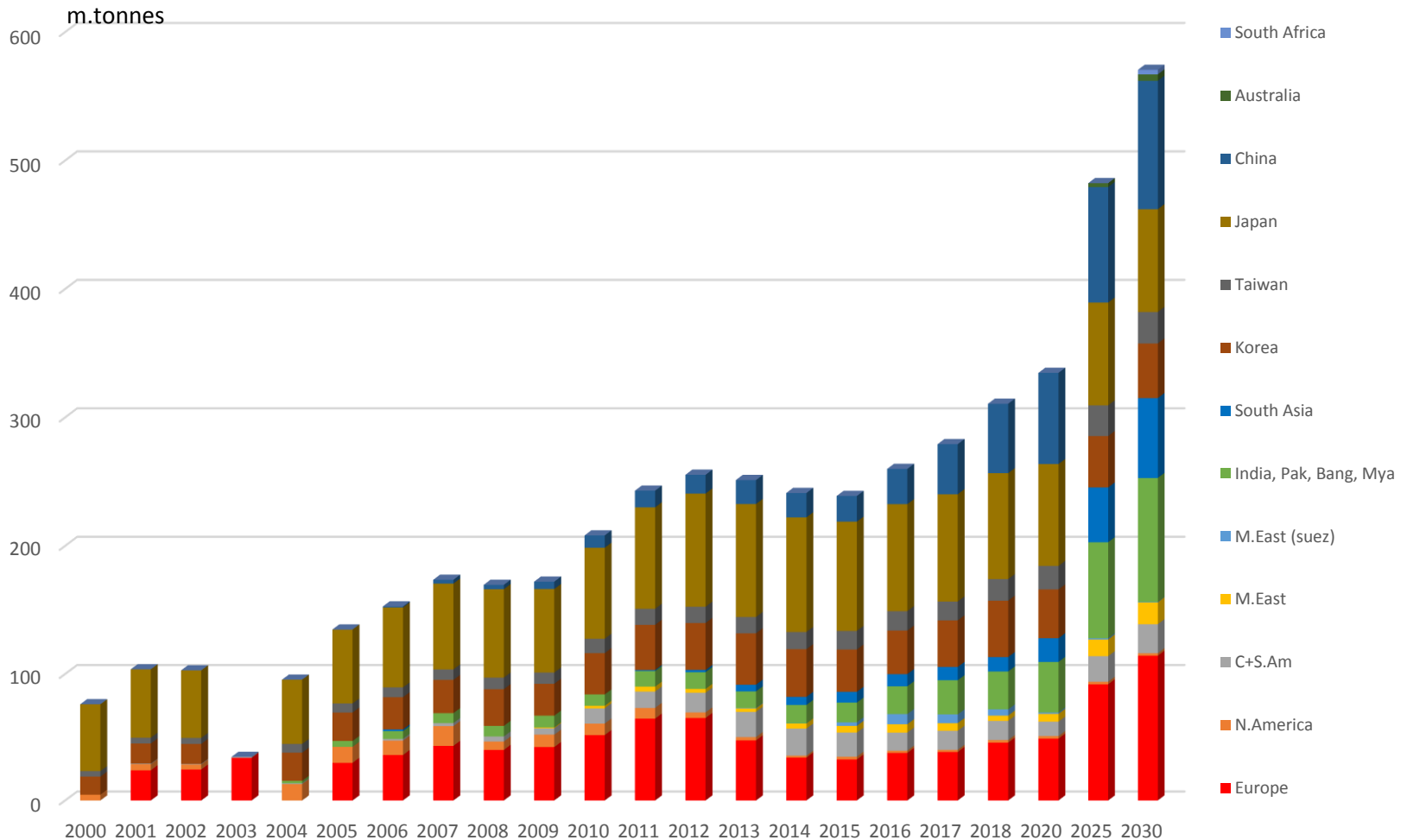
## Potential supply and demand growth by 2030

- Current GiiGNL statistics puts operational status around 80% for 2018
- Operational outtages leads to lower operational status
- Post 2025 new developments have been added on a “realistic” basis
- Product supply for 2025 could outstrip demand although on current views, supply v demand for 2030 will be much closer
- Only one Chinese contract signed currently from the US Gulf
- New projects still awaiting FID could be severely affected by lack of Chinese purchasers
- Low price gas scenario both in east and west making development of projects difficult



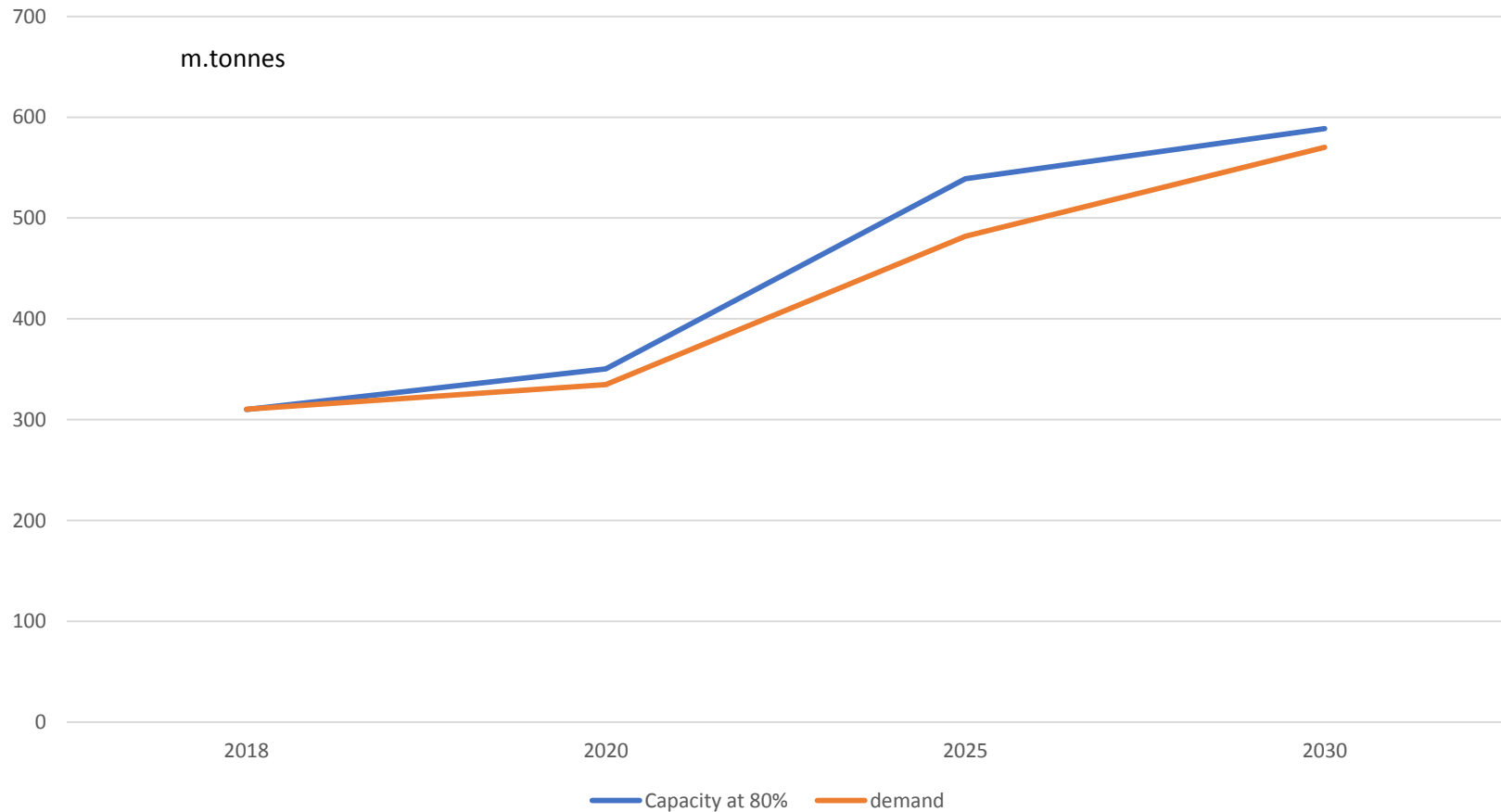
## Potential demand growth for LNG to 2030 by country

This has been based on production at 80% of operational capacity



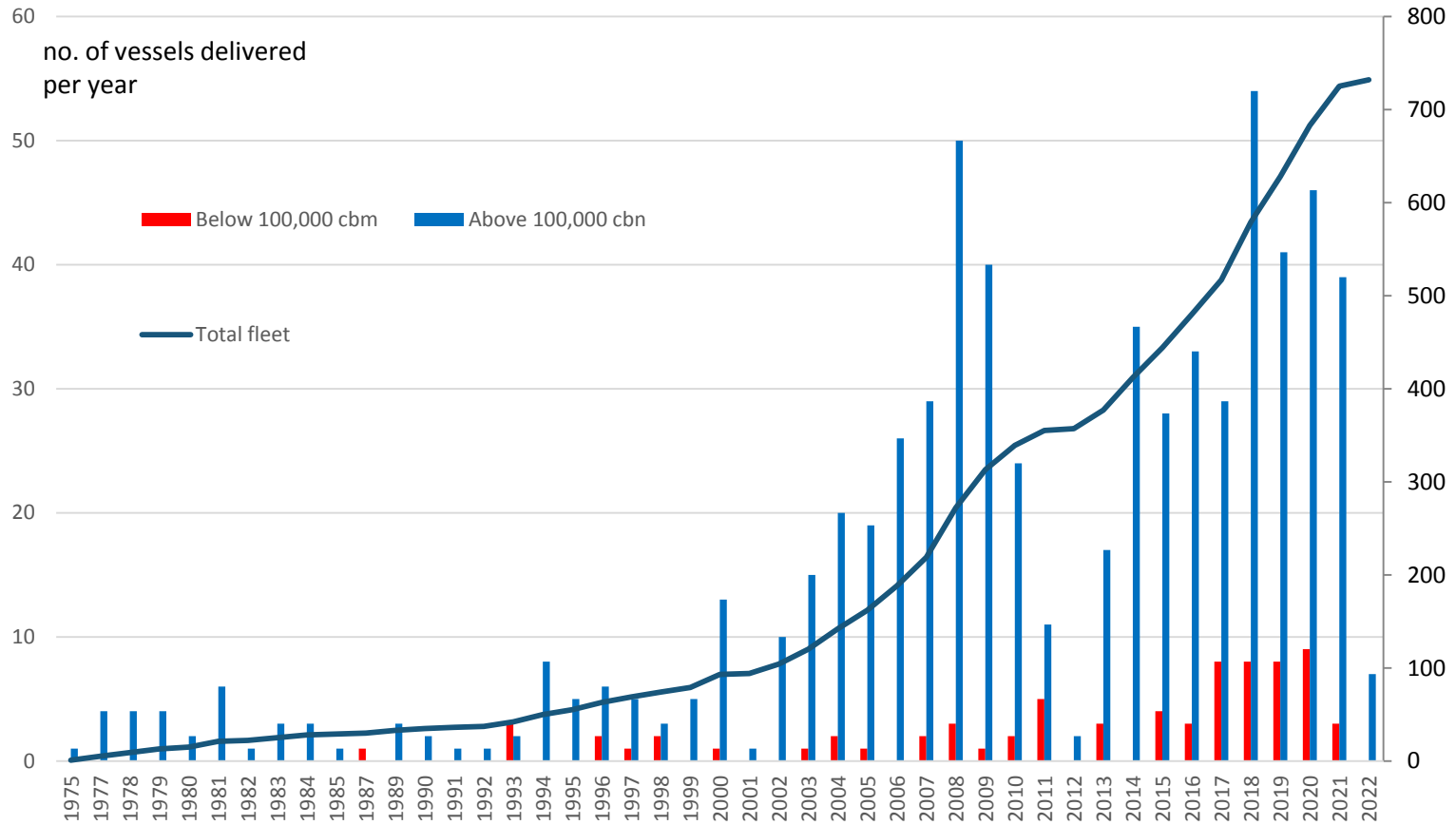


## Supply v demand balance for LNG 2018 - 2030





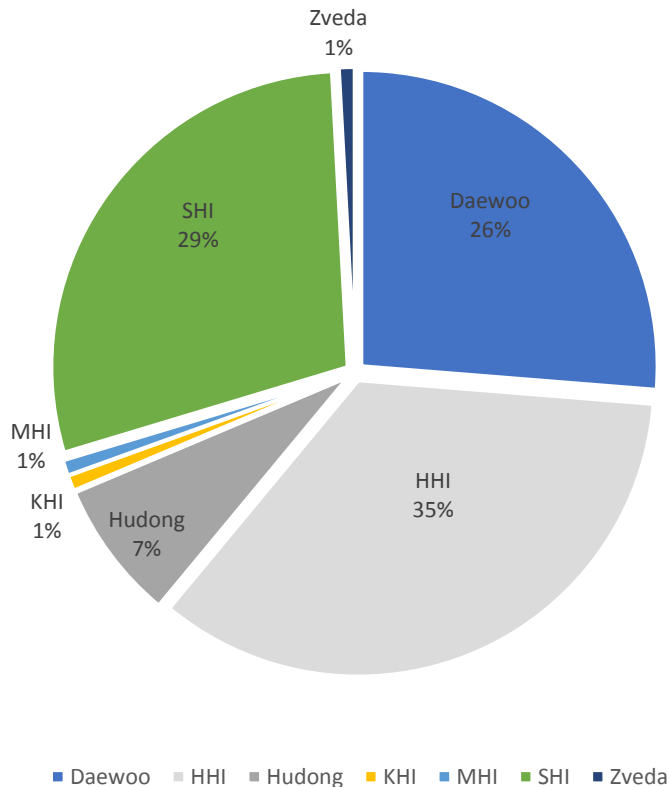
## Growth in LNG Fleet – confirmed order book







## LNG shipyards

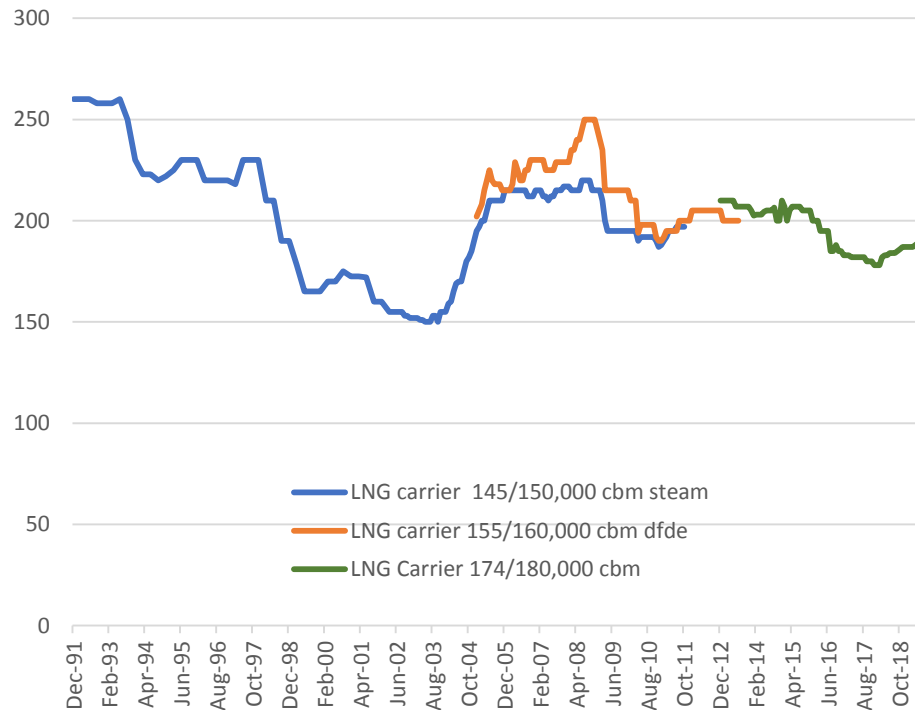


### Yard share of orderbook

- Chart excludes smaller ships [ $<100,000\text{cbm}$ ]
- 118 vessels on order over 100,000 cbm
- Yard capacity in Korea of 70 plus vessels p.a. but with merger of HHI and DSME ?
- 1 yard in China for Chinese contracts—Hudong capacity 4 vessels expanding to 12 p.a. in 2025
- Japanese yards for Japanese owners and less competitive with less competitive technology



## LNG yard status



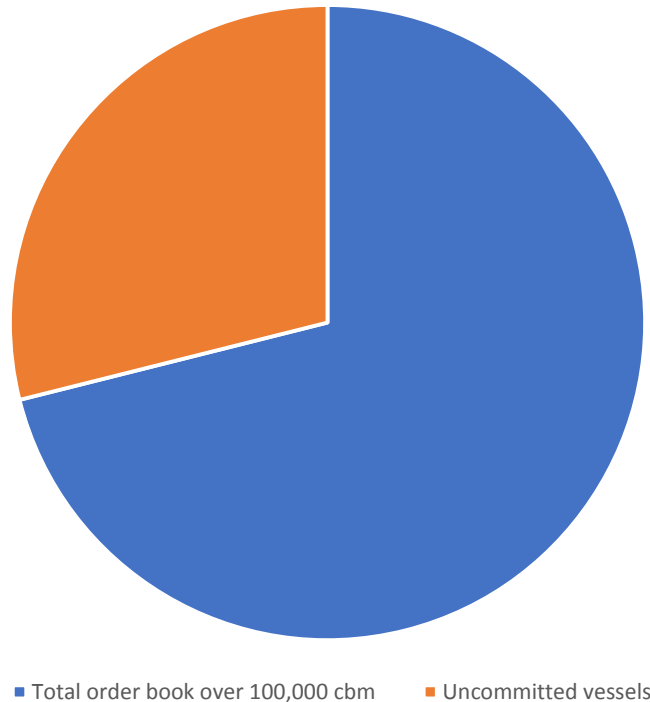
- 2022 looking more open as a number of options being held by projects but not being confirmed .....yet
- Yard capacity due to lack of orders in other sectors has increased
- Average of 22/25 vessels p.a. in each of 3 main Korean yards
- Lead time for LNG carriers 27/36 months
- Number of uncommitted vessels could lead to hold on short term ordering
- Low recent prices resulted in speculative new builds
- Yard prices slowly increasing
- Positive outlook for new LNG products could lead to further new buildings



## LNG order book – over 100,000 cbm

40+ Uncommitted vessels

### Order book of 118 vessels



- More flexibility and fluidity
- New Owners from tanker sector but with considerable shipping experience
- Increasing short term market as production grows – around 15% of market
- Portfolio companies moving away from ownership towards chartering
- Shorter term periods for charter.
- 7 years is the new long term. Some Charters are as low as 3 years with options
- Financing is key

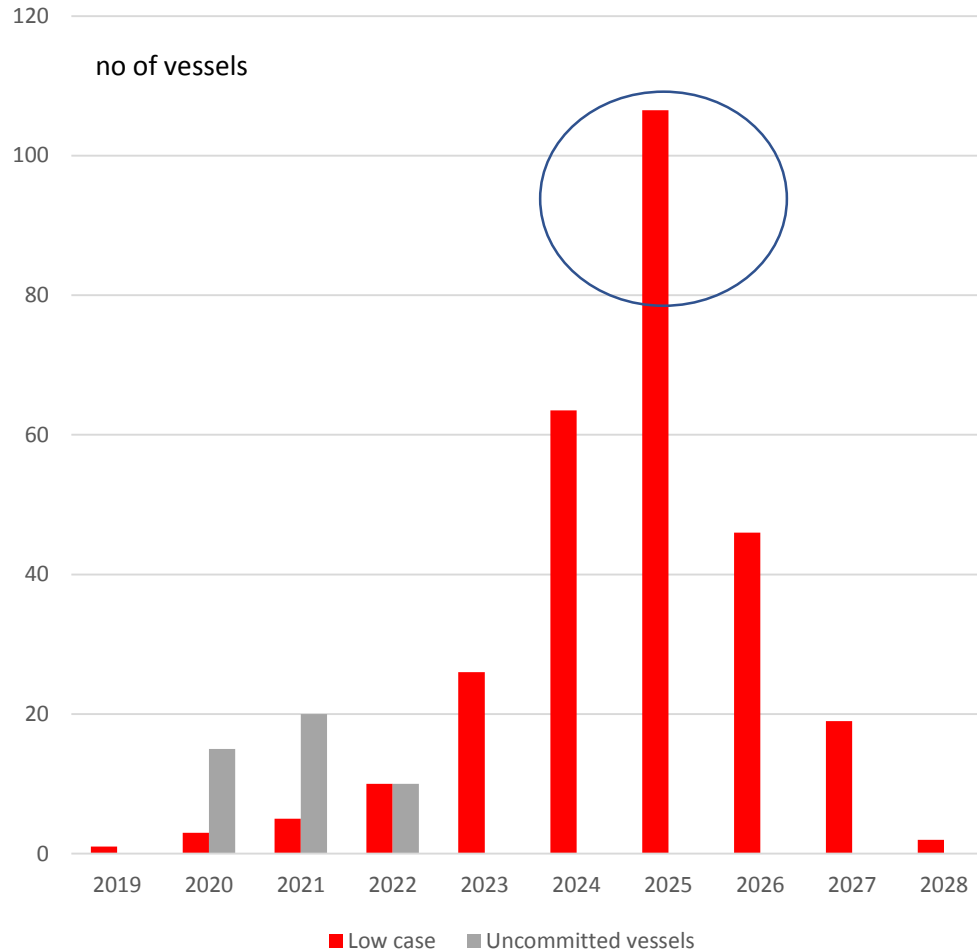


## LNGC - Supply and demand going forward

- Current order book will more than sufficiently cover short term demand expectations
- Projects currently under development have ordered their vessels
- Delays in taking final investment decisions have meant projects have been delayed past the 2022 period and now more likely to begin operation, if approved, into 2023 or more realistically 2024
- Fleet may be in excess until end 2022
- Orders today, being taken only for 2H 2022 with a number of options being held for projects currently under development
- Chinese demand



## Potential supply v demand for additional LNG carriers 2020 to 2029

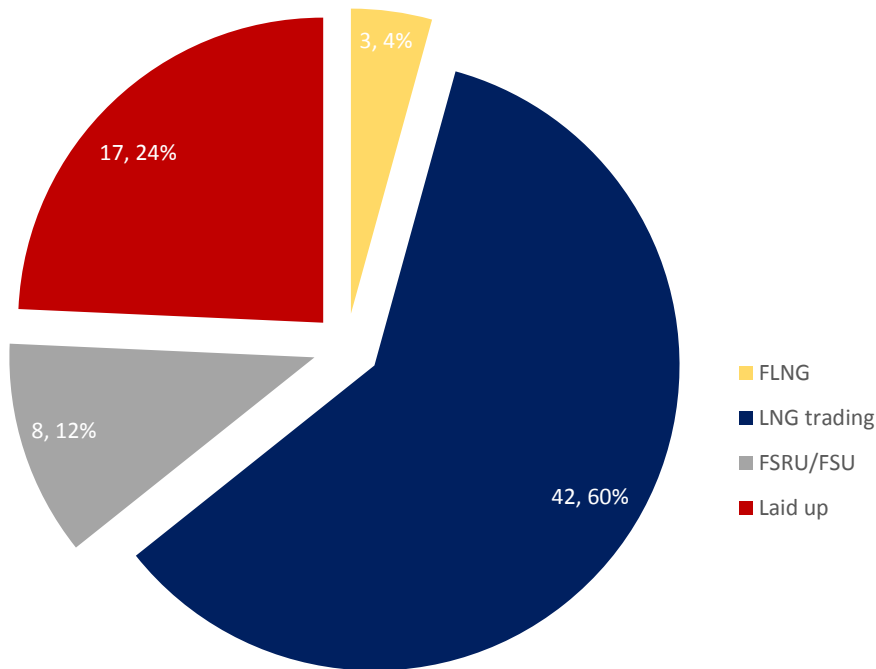


- The graph shows some surplus of LNG shipping in the period 2019 to 2022, compared to demand for additional tonnage – however any surplus is removed during 2023
- 2025 figures are based on current estimates of when FIDs are likely to take place – these could be pushed out into 2026-2029
- Demand tails away towards the end of the decade due to the uncertainty of projects currently under discussion



## Fleet replacement

- 79 vessels built pre 2000 of which 9 are below 100,000 cbm

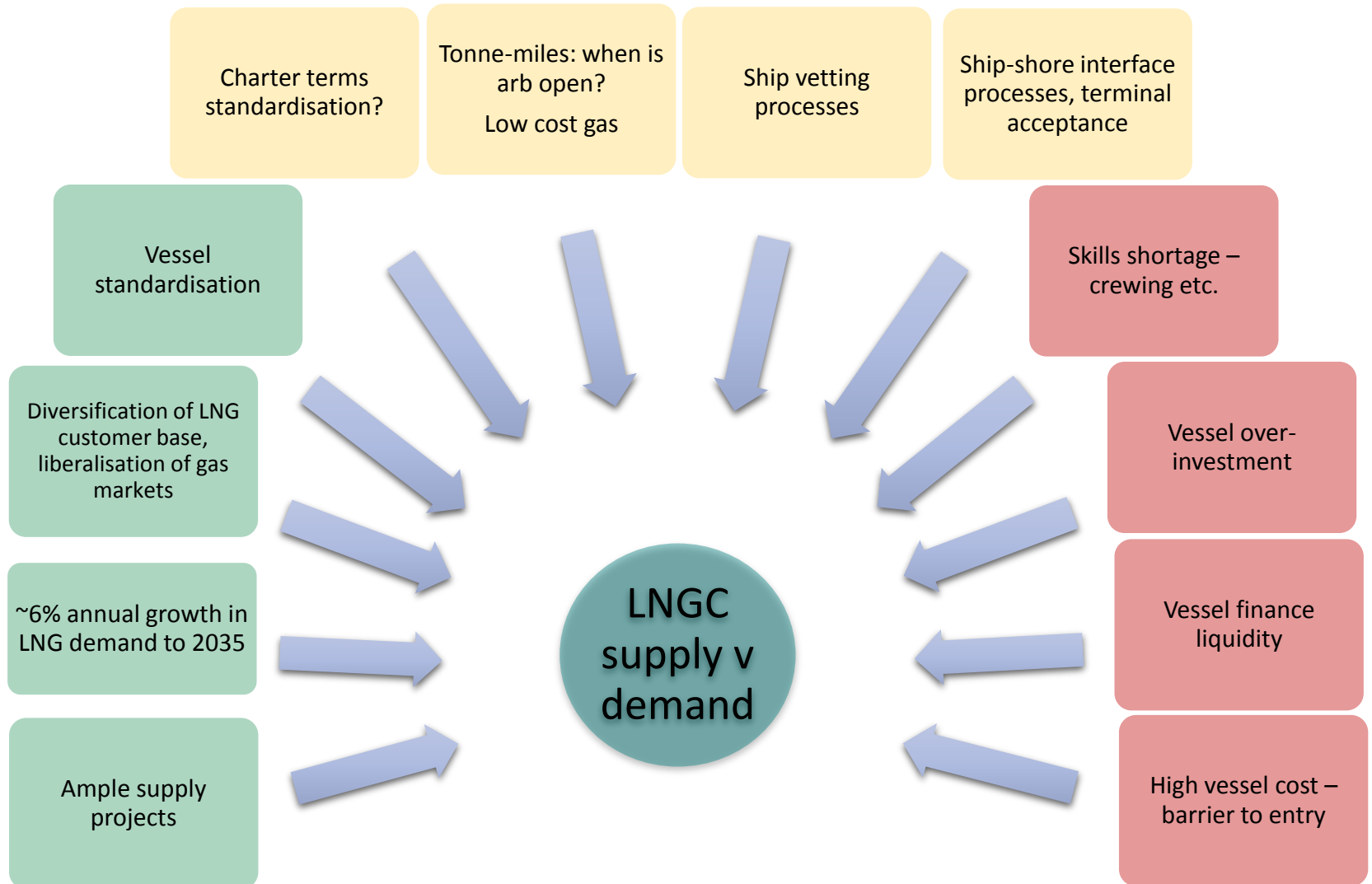


- Majority are still trading
  - Large number already laid up - 11 are in the hands of one owner
  - Alternative markets – FSRU/FSU/FLNG
  - Like for like unlikely
  - Advantages with cost on existing trades
- 
- Now power ships could be the answer! MOL has just established jv with Karpowership



# LNGC Growth Outlook

Fundamental drivers





## In conclusion .....

- Continued growth of LNG market as number of projects in planning continues to increase – 2 FIDs within the last month
- Demand is anticipated to absorb this increase in new production although there could be some small imbalance between supply and demand towards the middle of the decade
- Whilst LNGC demand will be slightly in surplus to 2022, further new buildings will be required to meet growth in additional production of LNG from 2023
- Considerable number of projects planned, but post 2025 difficult to anticipate
- Current trade war between China and USA not helping for new start up facilities being planned hence...
- Development of new facilities in the USA to be limited in the short term to portfolio players who are able to use alternative supplies to China
- Pricing of LNG carriers to remain competitive with yards currently able to meet demand
- Little scrapping of LNG carriers as value seen beyond end of the “chartering” ability as FSUs – however, at some stage there will be fleet removal but the number of vessels replacing will be smaller as vessel capacity has increased





# THANKYOU

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Produced by Howe Robinson Partners LNG department

## LNG Team

Howe Robinson Partners (UK) Ltd., 40 Gracechurch Street EC3V 0BT, United Kingdom +44 20 3857 2574  
[LNG@howerob.com](mailto:LNG@howerob.com)  
[www.howerobinson.com](http://www.howerobinson.com)

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