



Energy Shipping in a Disruptive World

The Maritime Standard Tanker Conference, Dubai

October 2018

1. Plus ça change?
2. Oil Demand in the 21st Century
3. The Great Reversal

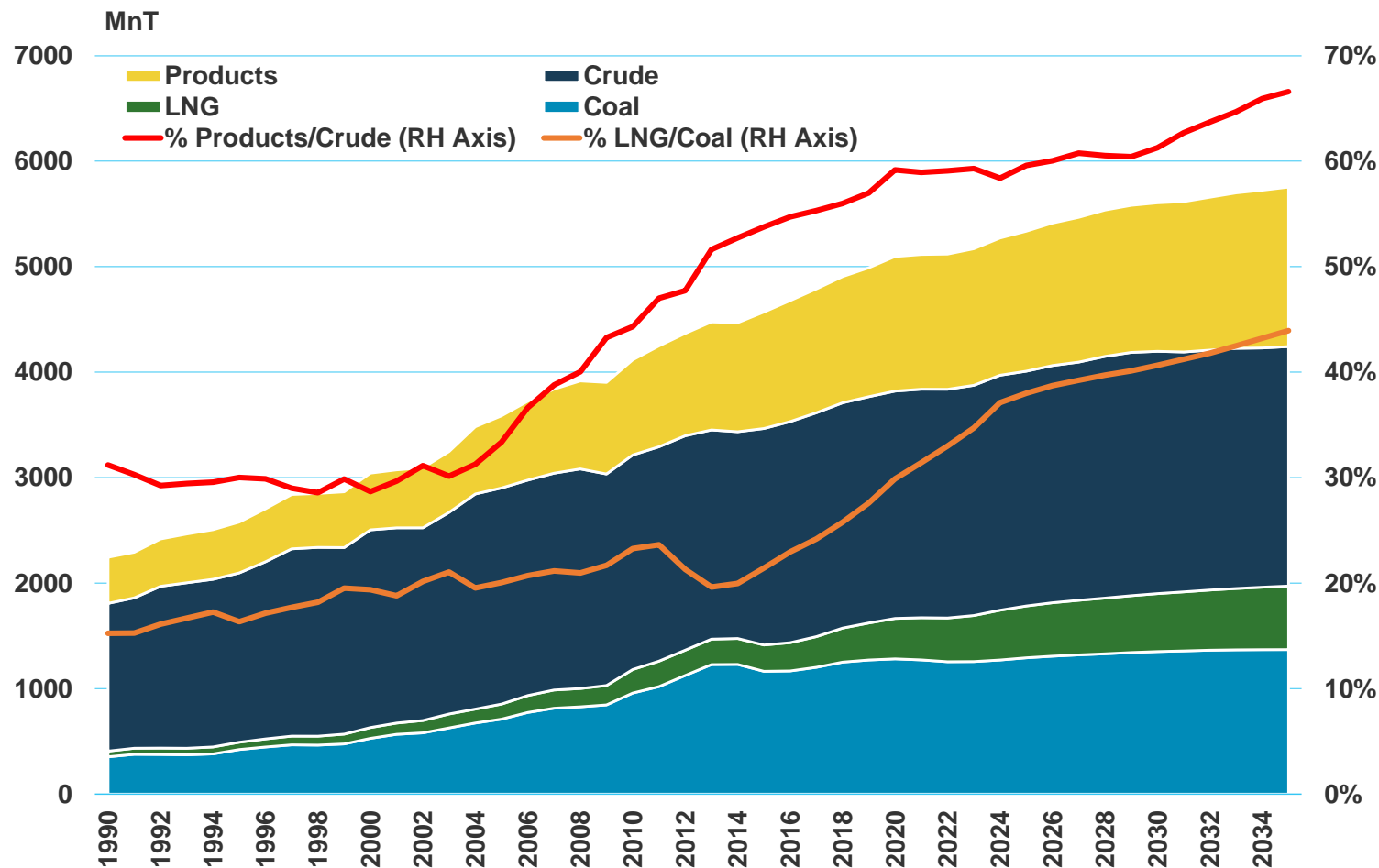
Tim Smith

Director, Oil and Tanker Markets

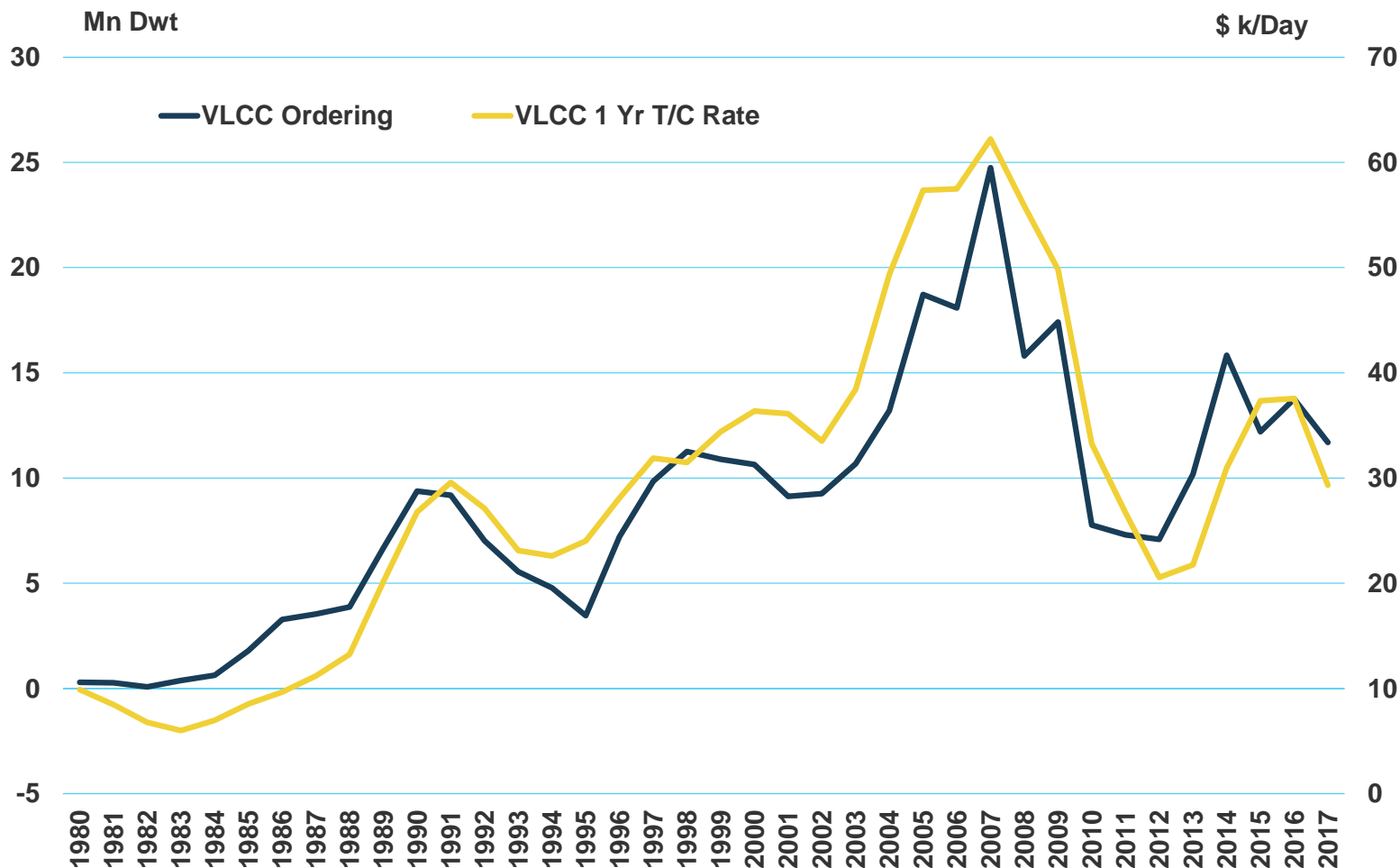
tim.smith@msiltd.com

+ 44 (0)207 940 0078

1. Plus ça change?

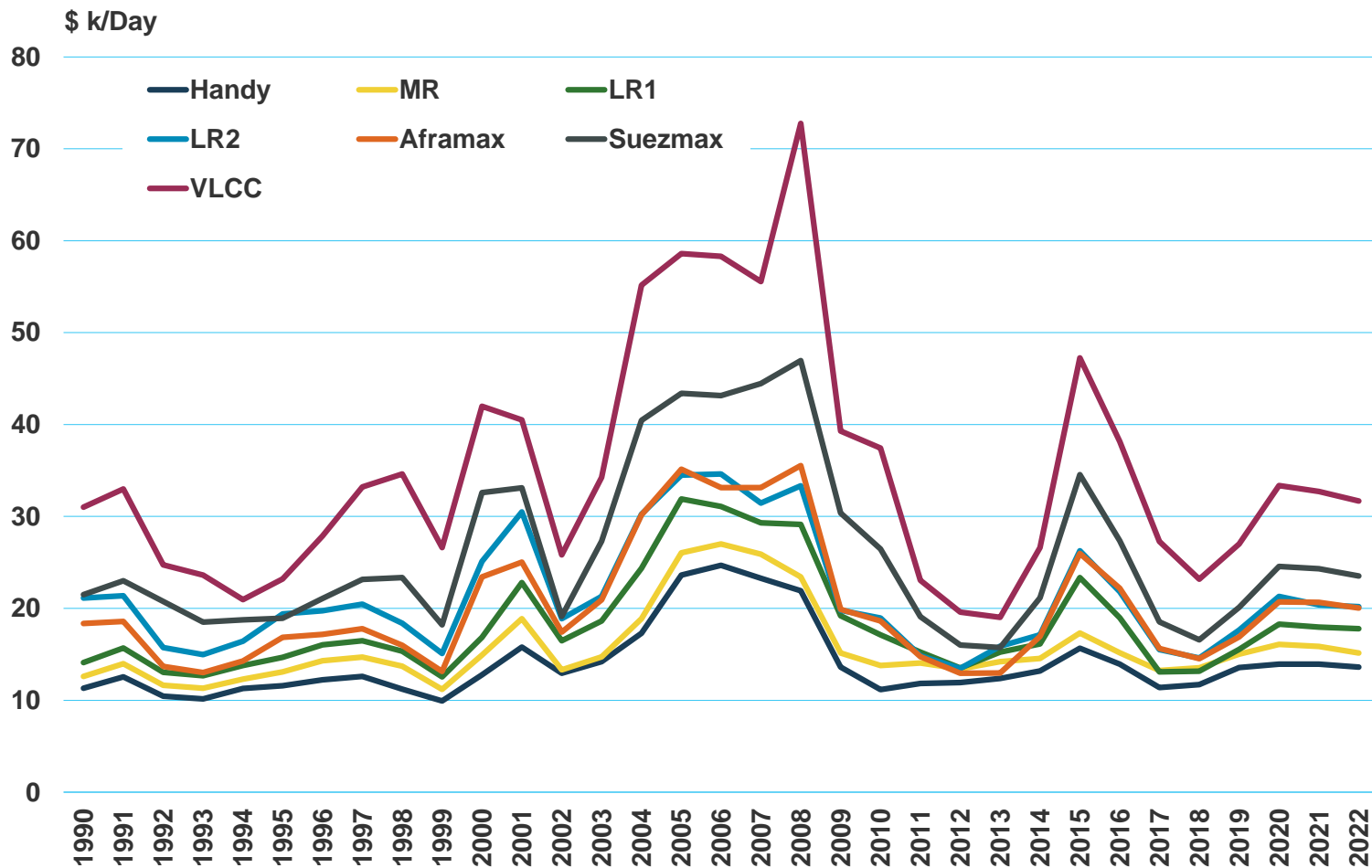


- Seaborne cargo of hydrocarbon energy for transportation and power generation is changing
- Increasing proportion pre-processed (refinery/LNG train), requiring more sophisticated shipping (LNG/coated oil tankers vs. bulkers/uncoated oil tankers)



- 3-year moving averages of VLCC ordering and 1 Yr T/C earnings
- 40 years of pro-cyclical ordering means tanker fleets converge towards cargo trends and freight markets deviate from a stable earnings profile

Long-term trends in cargo types aren't reflected in tanker earnings



- Pro-cyclical ordering drives the long-term volatility in tanker market earnings
- Tanker markets remain very highly correlated across segments and markets
- From 1990-2017, correlation in Handysize and VLCC is +87%, whilst MR:LR2 is +91%

2. Oil Demand in the 21st Century

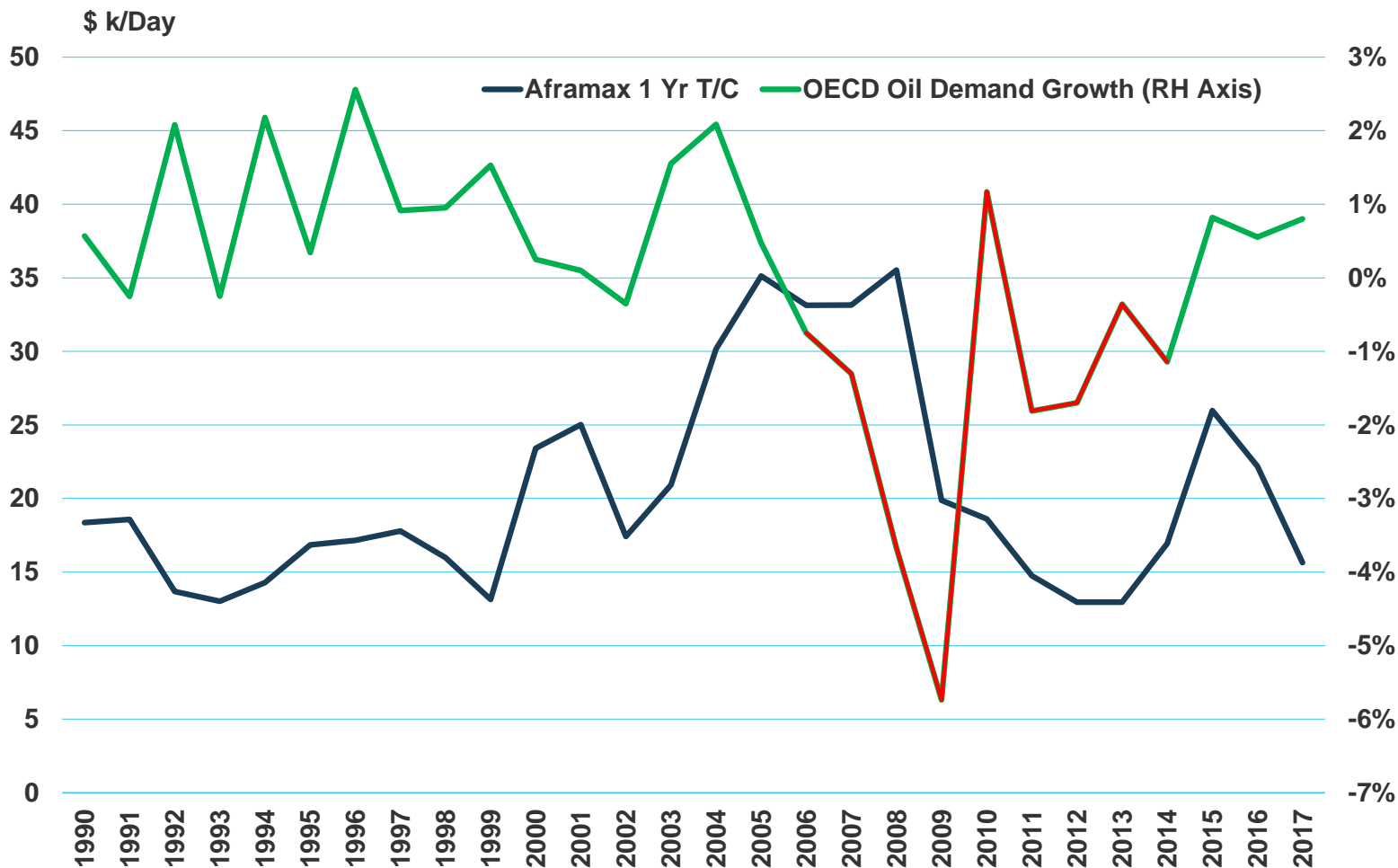
Drivers to 2040

- **Transportation demand for oil will be suppressed by increased efficiency and electrification**
- **Oil demand will increasingly be driven by freight transport, aviation and petrochemicals**
- **Global vehicle kilometres/passenger fleet likely to double over next 20 years (BP/IEA)**

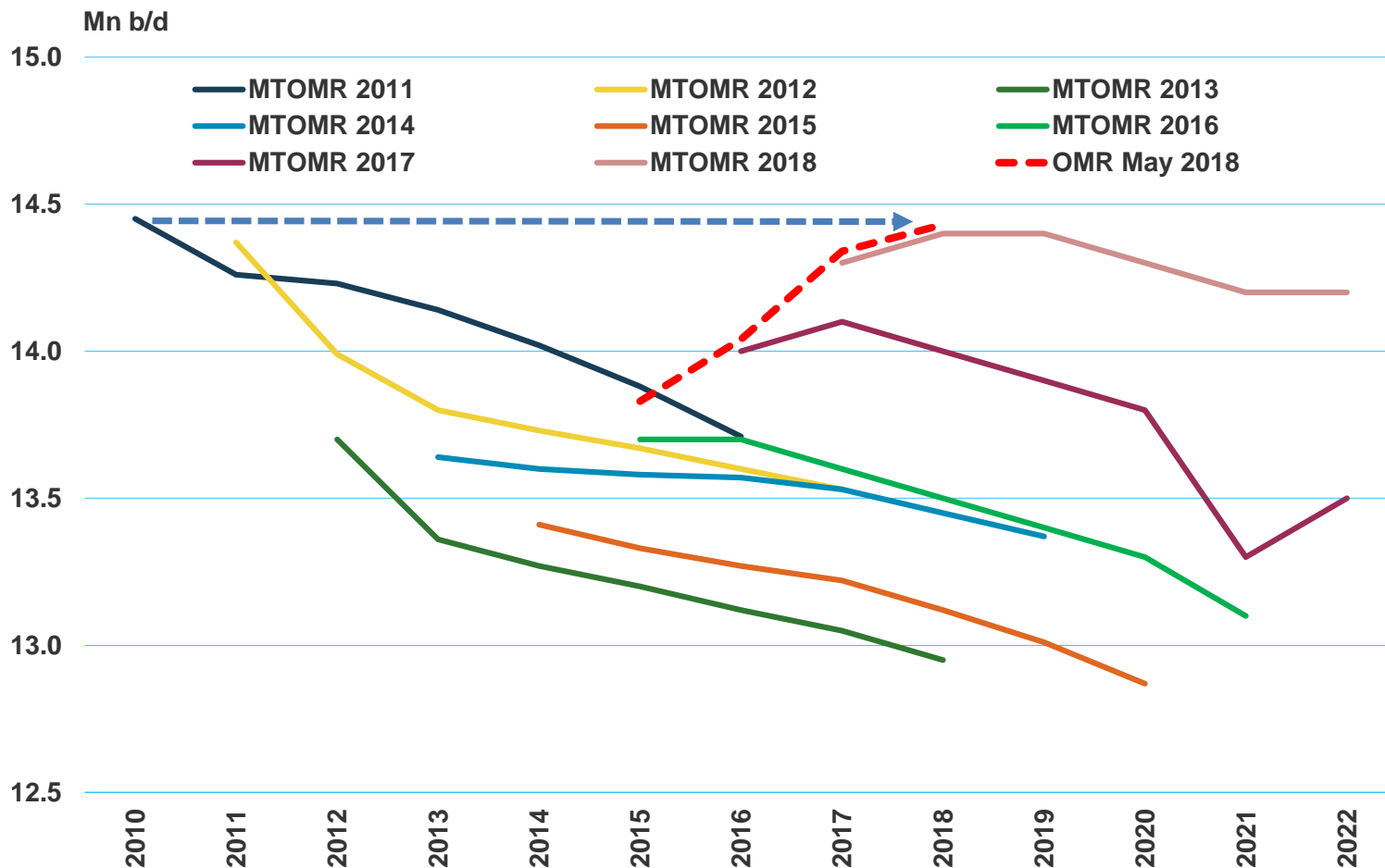
Electrification and Efficiency

- **Electric vehicles now comprise about 1.5% of global passenger car fleet**
- **Vehicle electrification benefits from political and public backing, supports emission reductions, improves energy security and has technological momentum**
- **Most electric vehicles likely to be hybrid – constraints on battery technology, required resources (lithium, cobalt) and infrastructure**
- **Therefore important to distinguish between number of ‘electric’ vehicles and the amount of transport activity powered by electricity**
- **Views on oil demand peaking around 2040 more dependent on increased engine efficiency than electric vehicle penetration**
- **Efficiency gains aren’t new, nor is falling oil demand**

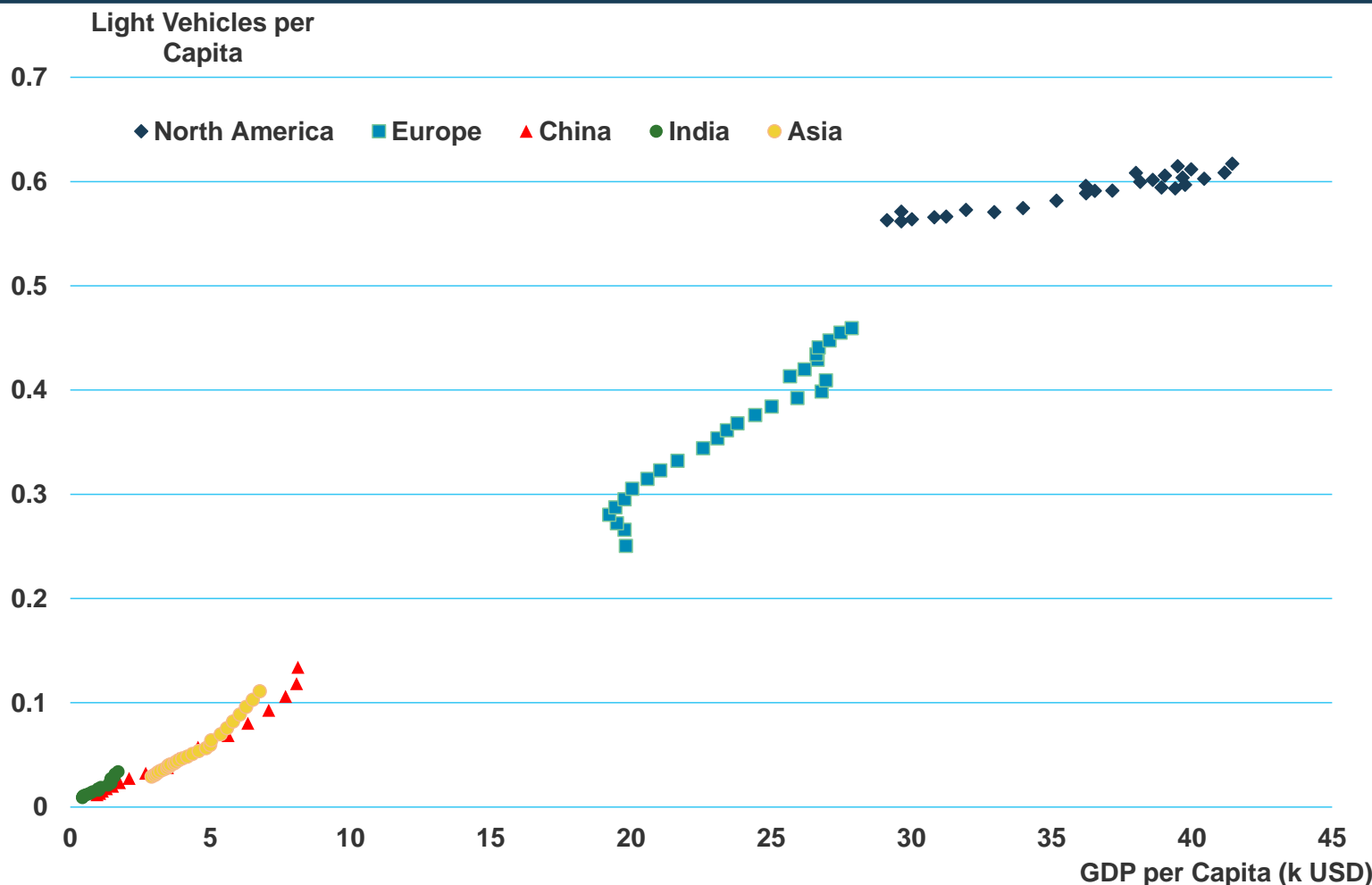
Declining Oil Demand is not a New Thing



- In the decade 2005-2015, OECD oil demand fell by about 5 Mn b/d (= 1 x India)
- It is still about 9% below the 2005 'peak' despite three years of positive growth
- The tanker market felt the effects of this, but has also adapted to evolving conditions



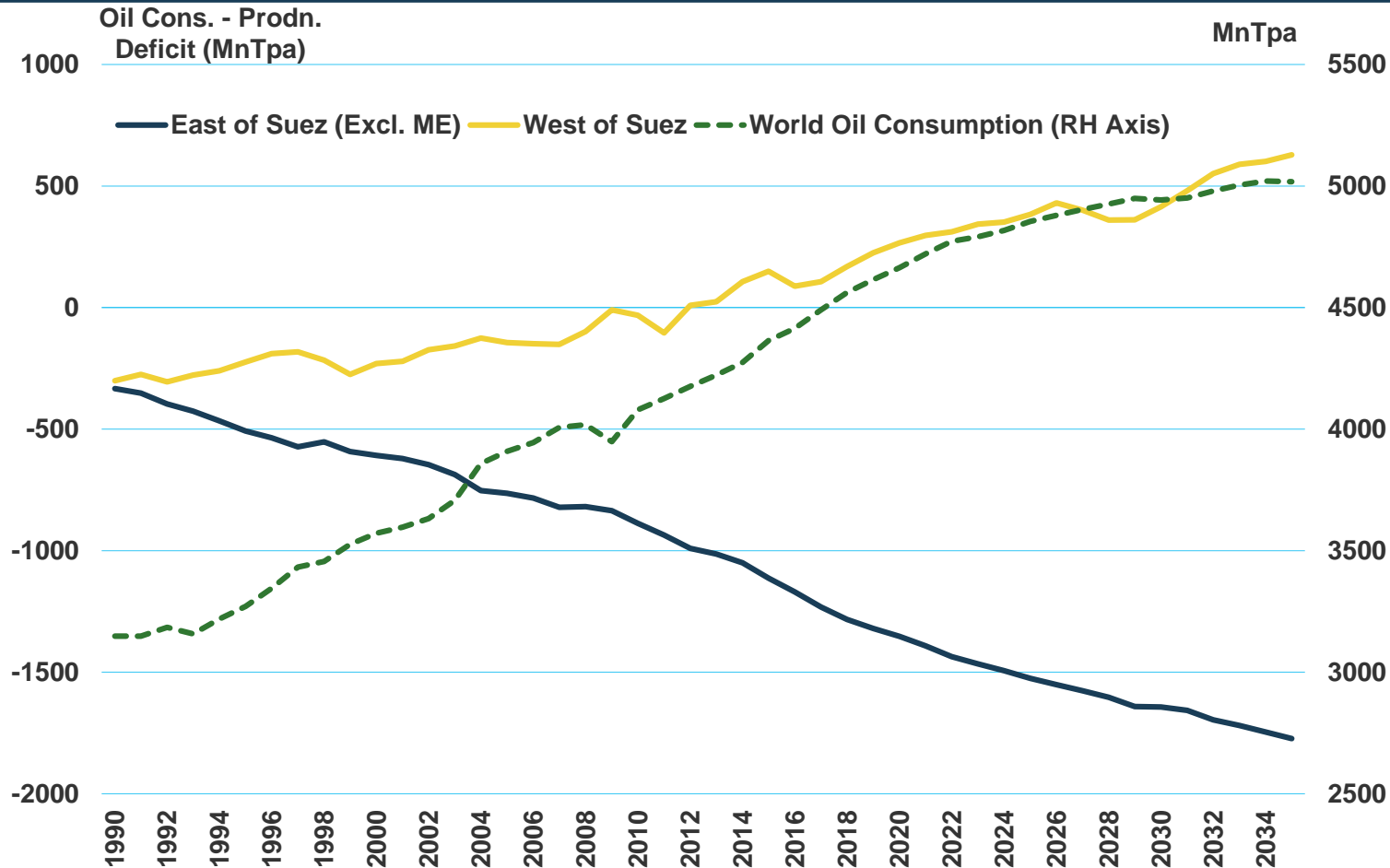
- The assumed peak in OECD demand appears to have shaped a narrative of permanent decline, which has proved inaccurate in recent years, as shown for OECD Europe (IEA Medium-term forecasts)
- Non-OECD demand will remain the driver of future growth, but don't discount OECD



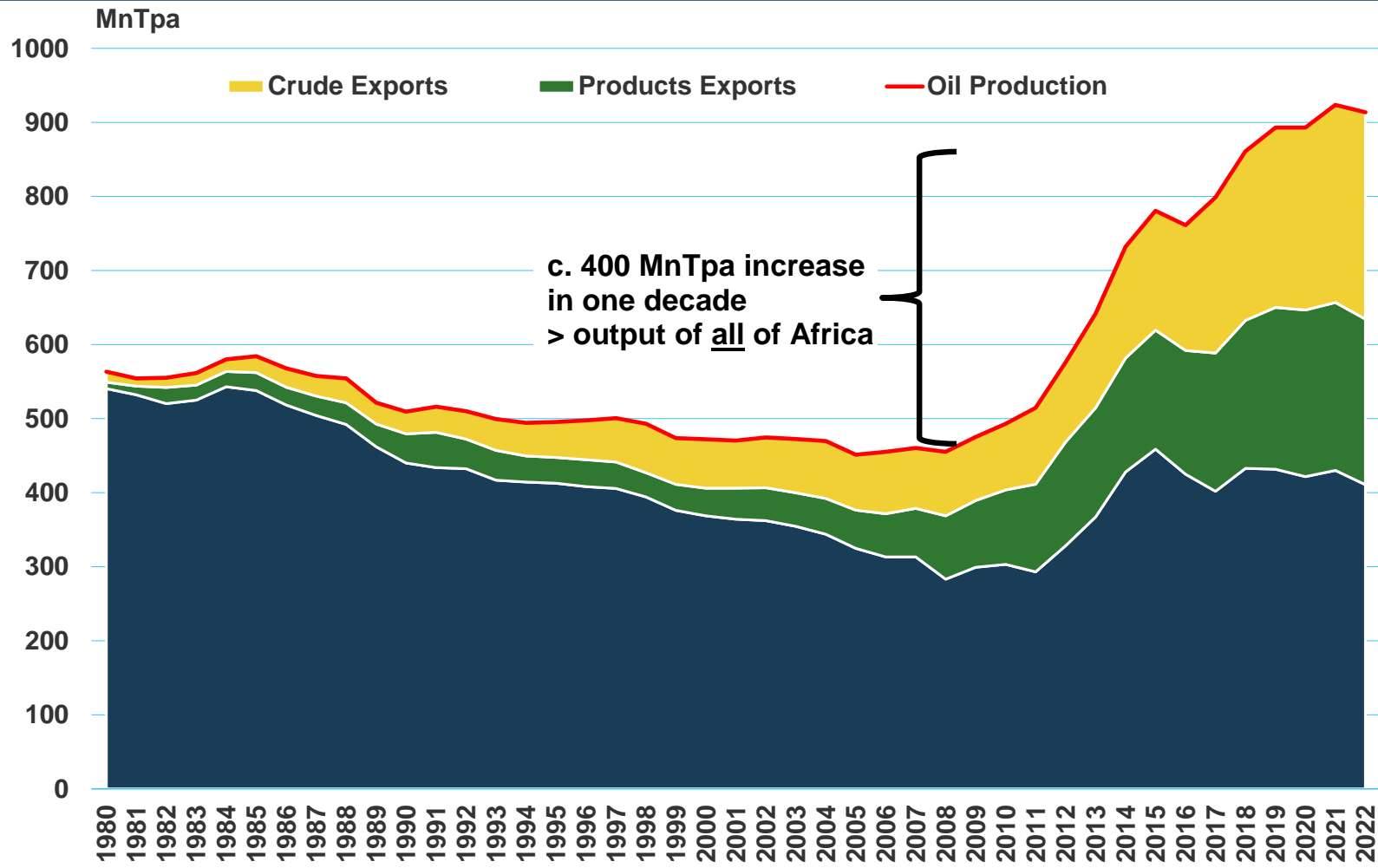
- Vehicle electrification is growing rapidly in China – about 50% of new registrations were electric in 2017
- Global mobility has a lot of runway left: South Asia and Africa alone comprise c. 40% of the world population

3. The Great Reversal

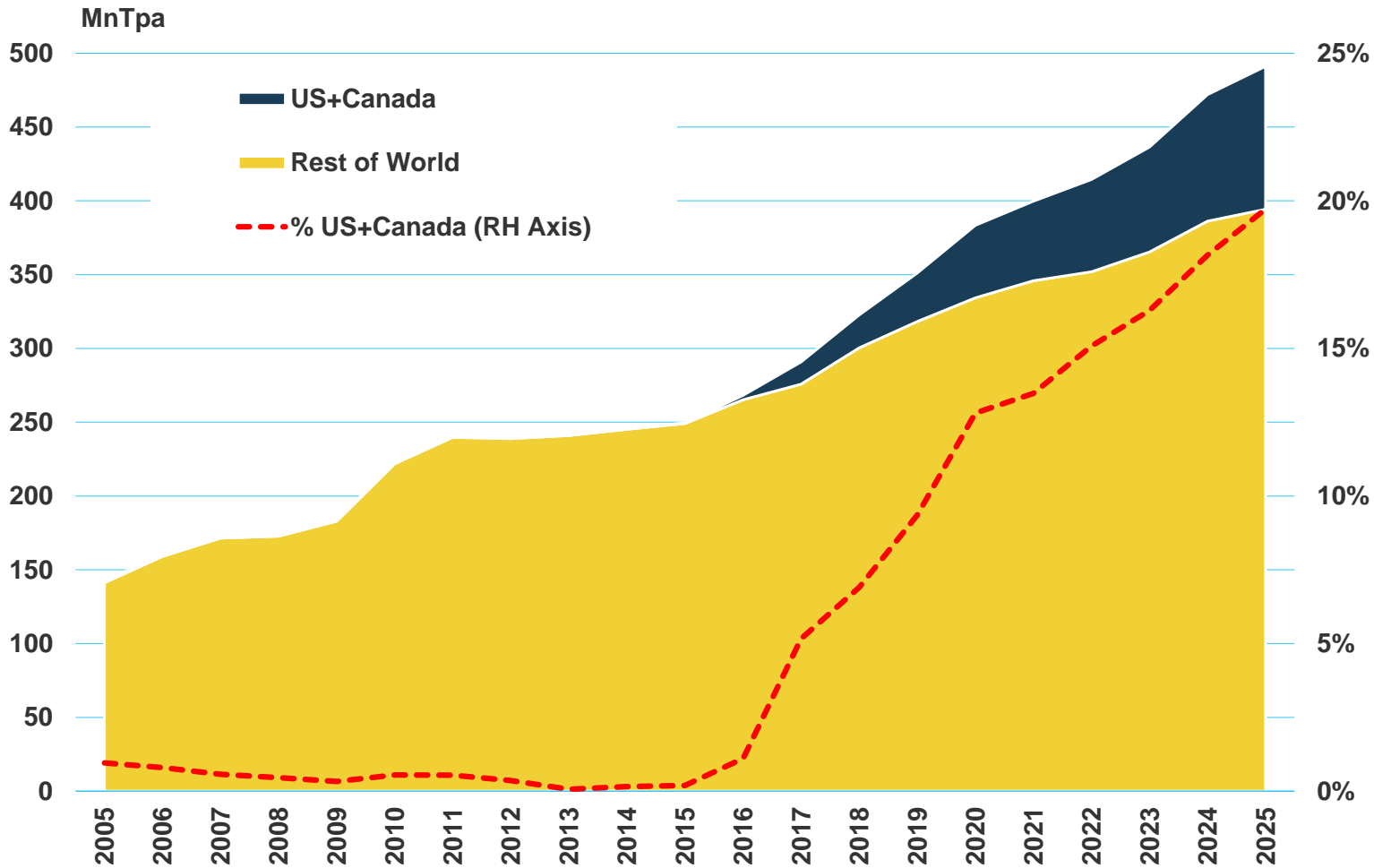
We are in the middle of a 'Great Reversal'



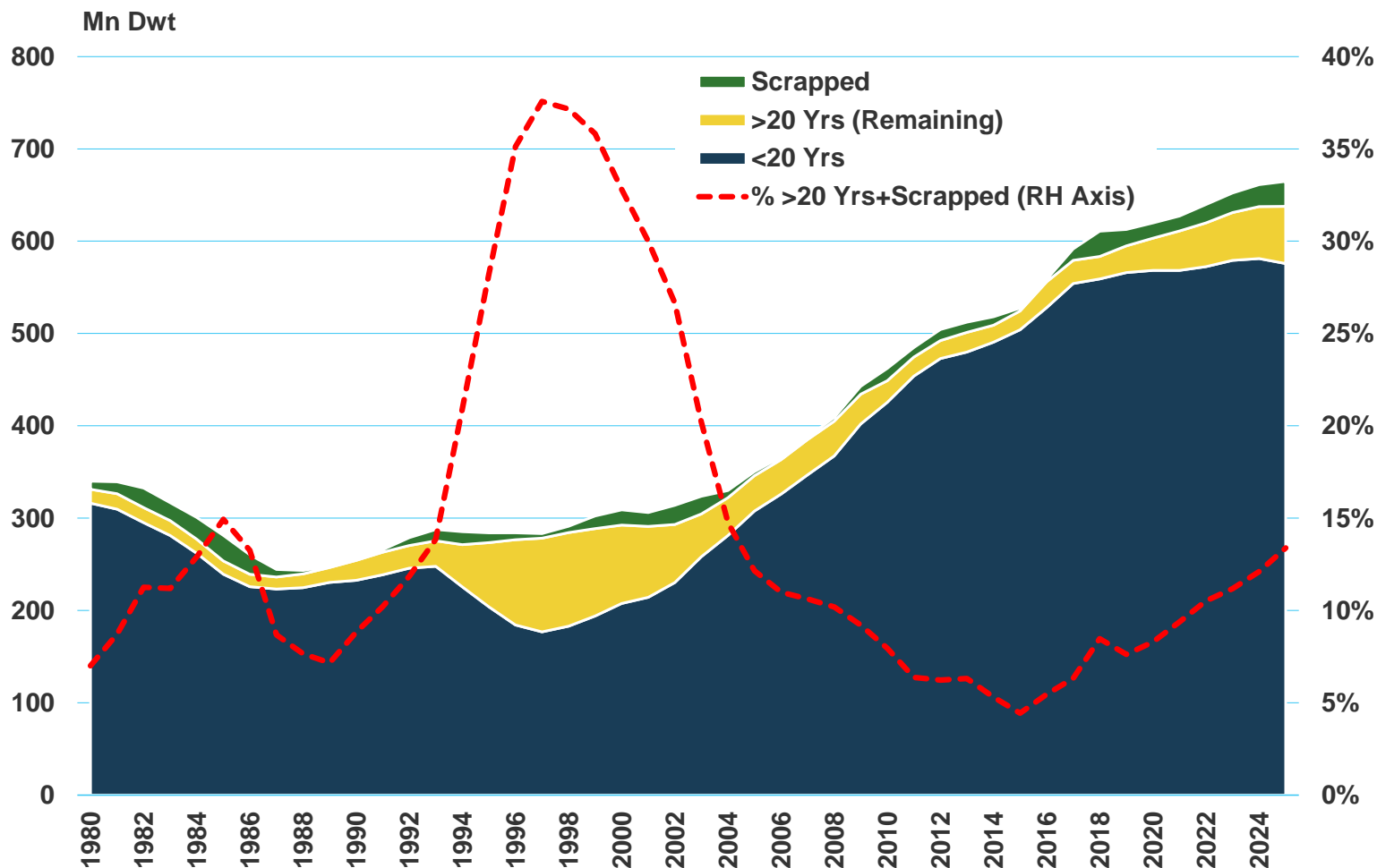
- Oil demand growth is not the only point – it is the magnitude of deficit/surplus in oil production and consumption that matters for tanker trade
- The deficit West of Suez is now a surplus, and is driving a reversal in net crude flows as American production continues to grow



- After years of stagnation in North American (US+Canada) production, the shale boom upended the global oil market
- The scale of the increase dramatically reversed US orientation as an oil importer, whilst changing the dynamic of global supply, with OPEC no longer the world's only 'residual' producer



- **By 2025, 20% of global LNG cargoes will emanate from North America**



- 20 years of aggressive tanker fleet expansion (doubled capacity) and modernisation is coming to a halt
- Nearly all medium-term growth coming from ageing tonnage with flat sub-20 year old fleet

- **There are a range of perceived threats to the long-term viability of the tanker industry, particularly long-term oil demand**
- **Reduced intensity of oil use as a transport fuel is inevitable and will intensify**
- **This is often portrayed as disruptive, but in reality the market has lived with similar issues for some time**
- **Disruption is happening now as the market experiences tectonic shifts in oil production**
- **In fact the biggest threat to tanker market prosperity has proven to be the tanker industry itself**
- **The negative narrative for long-term oil demand growth could/should act as a deterrent for capital investment in oil and related industries**
- **Long-term constraint on capital could provide the tanker market with improved ordering discipline**
- **There is also clear industrial logic for consolidation**
- **Combined these factors will be constructive for tanker markets in the long-term**

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Maritime Strategies International Ltd

24 Southwark Bridge Road
London SE1 9HF
United Kingdom

Tel: +44 (0)207 940 0070

Email: info@msiltd.com
www.msiltd.com