The changing landscape in newbuilding orders

Ted Petropoulos – September 2023
Nafs

The global problem of climate change will require major shifts in mentality, priorities, investment, choice and use of technology and fuel and a much more flexible state of decision making, as well as a change in stakeholders' conduct and commitment.

The shipping industry is facing a major challenge in reducing its greenhouse gas emissions and complying with the International Maritime Organization's (IMO) ambitious targets set for 2030 and 2050. One of the key strategies to achieve this goal, is to adopt alternative fuels that can lower the carbon intensity of maritime transport. However, this also requires significant investment in new ships, infrastructure, and technology, as well as changes in regulations, policies, and market conditions.

In this article, we will analyse the current trends and developments in the global orderbook, with a focus on the adoption of alternative fuels and the comparison between the leading shipowning countries, primarily China and Greece.

Alternative fuels gaining traction

According to Clarkson's Research, alternative fuels accounted for 49.5% of the global orderbook by gross tonnage (GT) in the first half of 2023, up from 42.1% in the first half of 2022. This indicates a growing interest and demand for ships that can run on low-carbon or zero-carbon fuels, such as liquefied natural gas (LNG), liquefied petroleum gas (LPG), methanol, ammonia, hydrogen, biofuels, ethane, batteries etc.

The current fleet of ships powered by alternative fuels is still relatively small, representing only 5.7% of the world fleet by GT as of August 2023 (Clarkson's Research). However, this share is expected to increase in the coming years, as the current orderbook represents 13% of the total fleet by GT of which 49.5% as stated above are alternative fuel powered ships.

Among the different types of alternative fuels, LNG has the largest market share, with 37.6% of the total orderbook by GT, followed by methanol with 6.8%, LPG with 1.8%, ethane with 0.6%, and hydrogen with 15 orders. Battery and hybrid propulsion systems have also gained popularity, especially for smaller vessels, with 278 orders as of the first half of 2023 (Table 1). The remaining orders span over different types of dual fueled vessels.

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Table 1

Orders per type of alternative fuel

as of end Jul 2023 (No. Orders and GT)

	No. Orders	GT
LNG	870	77,953,818
Methanol	145	14,072,223
LPG	81	3,684,672
Battery/Hybrid	279	3,148,564
Ethane	24	1,150,995
Hydrogen	15	305,820

Source: Clarkson's Petrofin Research © - Sep 2023

Another trend that reflects the uncertainty and complexity of the energy transition is the optionality of some orders, which combine different types of alternative fuels or allow for future retrofitting. For example, some orders are LNG capable and ammonia ready, meaning that they can run on either fuel or switch to ammonia in the future. According to Clarkson's Research 7.5% of the orderbook by GT is classified as alternative fuel ready and 11.9% SOx Scrubber fitted.

A share of the orderbook, more specifically 11.9%, consists of ships that are fitted with scrubbers, which are devices that remove sulphur oxides from the exhaust gas and enable compliance with the IMO's sulphur cap regulation that came into force in 2020. Although Scrubbers capture sulphur/nitrogen oxides and particulate matter, they do not reduce greenhouse gas emissions and some studies even suggest (CE Delft consultancy) that use of scrubbers boost carbon emissions by even 3% due to increased fuel consumption. Cargo emission capturing technology is being developed but is still at very early stages. Nevertheless, ships that are scrubber fitted are allowed to continue using cheaper high-sulphur fuel oil instead of low-sulphur fuel oil or marine gas oil.

Scrapping rates remain low

Despite the increasing pressure to decarbonise and modernise the fleet, scrapping rates remain low in most segments of the shipping market. According to Clarkson's Research, only 4.2 million GT of ships were scrapped in the first half of 2023, down from 5.3 million GT in the same period of 2022 (Table 2).

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Table 2

Comparison between 1st Half 2022 and 1st Half 2023

Alternative fuel orderook and Demolition Rate of Growth (million GT)

	1H-2022	1H-2023	Rate of growth
Alternative fuel orderbook	73.6	101.9	**38.5%**
Demolition	5.3	4.2	**-20.8%**

Source: Clarkson's *Petrofin Research © - Sep 2023*

The main reasons for the low scrapping activity are the relatively high freight rates and charter rates in most sectors, driven by rising demand for seaborne trade amid the recovery from the COVID-19 pandemic, as well as supply chain disruptions and some port congestion. These factors have increased the profitability and utilisation of older ships, reducing the incentive to scrap them. However, some segments have seen higher scrapping rates than others, such as dry bulk carriers and container ships, which have been affected by oversupply and low demand in previous years. It should be noted that candidates for scrapping are likely to have been amortised and therefore being able to remain profitable at lower charter rates.

Higher scrapping is expected, however, as a result of the environmental regulations from 1/1/2024 and an increasing preference by charterers for eco vessels.

China vs Greece: a comparison

China and Greece are two of the leading shipowning countries in the world, but they have different profiles and strategies when it comes to their fleets and orderbooks.

According to Clarkson’s Research, China overtook Greece as the largest shipowner by GT in August 2023, with a fleet of 249.2 million GT (15.9 percent of the world fleet), slightly ahead of Greece's 249 million GT (15.8 percent of the world fleet). However, Greece still holds the largest share of deadweight tonnage

(DWT), which measures the cargo carrying capacity of ships, with 18% of the world fleet, followed by China with 17%.

China's fleet has been growing rapidly since 2015, driven by its expansion of dry bulk and container imports and exports, as well as its ambition to become a major maritime power. China has also been more active in the newbuilding market, with an orderbook of 34.1 million GT (13.7% of its fleet), significantly more than that of Greece's 20 million GT (8% of its fleet). China is investing heavily into the renewal of its fleet, as opposed to Greece that is taking a more conservative approach highlighting Owners' ambivalence towards new technologies.

More specifically, in terms of new technologies, 34% of the Chinese orderbook is alternative or dual fueled, covering at least 8 different types of fuel or combination of fuels, headed by LNG/VLS IFO and followed by Methanol/VLS IFO. The Greek alternative fuel orderbook stands at 39% of its total, but it only spreads mainly over 2 categories with the most popular being LNG/VLS IFO followed by LNG/VLS MDO.

Conclusion

The global orderbook for new ships shows a clear trend towards the adoption of alternative fuels as a way to reduce emissions and comply with the IMO's targets. However, there are also significant variations and challenges in terms of the types, shares, and readiness of alternative fuels among different countries and segments.

China and Greece are two examples of leading shipowning countries that have different profiles and strategies when it comes to their fleets and orderbooks. China has overtaken Greece as the largest shipowner by GT, but Greece still holds the largest share by DWT. China has also been more active and ambitious in ordering new ships powered by alternative fuels, especially LNG, Methanol and battery/hybrid systems, while Greece has been more cautious and pragmatic, preferring LNG systems.

The changing landscape in newbuilding orders reflects the complexity and uncertainty of the energy transition in the shipping industry, as well as the opportunities and challenges that lie ahead for shipowners, shipbuilders, regulators, and stakeholders.