

# **Tackling sustainability in shipping – the current position**

**By Ted Petropoulos**

**Shipping Finance**

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2023 witnessed considerable and rapid changes in the process towards the regulatory compliance by 2030. Sustainability has firmly lodged itself at the centre of any discussion concerning the shipping and ship finance industries. This is manifested by the International Maritime Organisation's (IMO) ambitious targets set for 2030 and 2050 aiming to lower the carbon intensity of maritime transport. A significant investment in new ships, infrastructure and technology as well as changes in regulations, policies and market conditions are, therefore, required.

An analysis of the current state of fleet development and finance would facilitate a deeper understanding of the multitude of issues entangled in the shift towards more sustainable operations. This article will look into the current trends in the global orderbook, encompassing the adoption of alternative fuels and exploring how different stakeholders in both the banking and shipping sectors are involved in compliance with the new regulations.

## **1. Fleet development**

### Alternative fuels

The main characteristic of the global fleet development in the last two years has been the expanding orderbook of alternative fuelled vessels. According to Table 1, a historically vast selection of engine propulsion types / fuels can be seen, which, undoubtedly, has never existed before.

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**Table 1**

## Orders per type of alternative fuel

*as of end Oct 2023 (No. Orders and GT)*

	No. Orders	GT
LNG	895	80,980,039
Methanol	189	17,362,858
LPG	84	3,619,292
Battery/Hybrid	278	3,254,214
Ethane	37	1,811,154
Hydrogen	18	451,261
Nuclear	7	331,080
Biofuel	13	71,007
Ammonia	2	55,294

Source: Clarkson's Petrofin Research © - Nov 2023

The current fleet of ships powered by alternative fuels is still relatively small, representing only 5.9% of the world fleet by GT as of October 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 orderbook, 49.1% are alternative fuel powered ships. In comparison, alternative fuels accounted for 43.8% in the same period of 2022. This indicates a continued 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. It should be noted that to fulfil net zero carbon by 2050, LNG, LPG, biofuels and other CO<sub>2</sub> producing fuels will have to be replaced by them.

Among the different types of alternative fuels, LNG has the largest market share, with 38% of the total orderbook by GT, followed by methanol with 8%, LPG with 2%, ethane with 1%, and hydrogen with 18 orders. Battery and hybrid propulsion systems have also gained popularity, especially for smaller vessels, with 278 orders (Table 1). The remaining orders span over different types of dual fuelled vessels.

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.

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Cargo emission capturing technology is being developed but is still at very early stages. According to Clarkson's, 13.2% of the orderbook by GT is classified as alternative fuel ready and 22.0% SOx Scrubber fitted. 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.

#### Competing nations

In the race towards sustainability the leading ship-owning nations have not missed out. When looking into the global orderbook (Table 2), we note that Japan and China have been competing for the first place in GT terms (Japan: 23.3m GT; China: 23.0m GT). Their respective alternative newbuilding orders account for 42% and 27% of their total orderbooks. Japan, once again, is taking the lead in upgrading their fleet and advancing towards more sustainable operations. Interesting to note that in DWT terms Japan remains in the first place and is followed by Greece and China in the second and the third place respectively.

The Greek orderbook comes third as of end of October 2023. It should be noted, however, that Greek orders have jumped from a yoy growth rate of -5% in January 2023 to +34% in October 2023 compared to the same period in 2022. Furthermore, the dual fuelled vessels stand at a significant 38% of the total Greek orderbook. Moreover, Greece holds the first position in terms of average vessel size on order: Greece at 58.5k GT, Japan at 42.4k GT and China at 28.8k GT (Clarkson's), suggesting that very large fleet owners are upgrading their fleets being the ones that have the resources to undergo "trial and error" purchases and retrofits compared to smaller ones.

**Table 2**

**Top competing nations orderbook**

*as of end Oct 2023 ( in GT)*

	Japan	China	Greece
<b>Total orderbook</b>	23,635,828	23,038,140	21,820,432
<b>Total Alternative fuel orderbook</b>	9,848,391	6,127,748	8,297,401
<b>% of Alternative fuel Orderbook</b>	42%	27%	38%

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## Demolition

Despite the increasing pressure to decarbonise and modernise the fleet, scrapping rates remain low in most segments of the shipping market. Only 5.9 million GT of ships were scrapped as of October 2023, down from 6.6 million GT in the same period of 2022.

The main reasons for the low scrapping activity are the relatively high freight rates and charter rates in most sectors, driven by continued rising demand for seaborne trade as well as increased in tonne-mile distances 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 to increase however, as a result of the environmental regulations from 1/1/2024 and an increasing preference by stakeholders for eco vessels.

## The role of key stakeholders

Shipowners are the primary drivers being the ones who own and operate the vessels that emit global greenhouse gases (GHGs) and bearing the brunt of the high cost of investing in such new vessels. They have a direct interest in reducing their fuel emissions in order to comply with regulations, meet the increasing demand for green finance as well as the customer demand for greener shipping (charterers, end-users) and further enhance their reputation. They can access various sources of financing to support their sustainability efforts, such as green loans, green bonds, sustainability-linked loans or blended finance.

Other important players are the charterers whose preference for energy efficient ships is increasing. As a result, and considering the cost of such vessels, there are on-going discussions regarding the participation of charterers in the form of higher rates when utilising them in order to encourage such investments by shipowners. This is already reflected in the development of a two-tier market where eco dual-fuelled and other energy efficient vessels are preferred and provided with higher rates than conventional technology.

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## 2. Green Finance

Finance providers are adopting key strategies to participate in reducing GHGs in the projects they finance.

Banks, leasing companies and alternative funds have a significant influence on the sustainability agenda. They also have a fiduciary duty to manage their risks and returns as well as a social responsibility to contribute to the global climate goals. In order to encourage and attract shipowners to adopt more sustainable practices, they use different mechanisms and incentives, such as offering lower interest rates, adjusting loan margins, providing higher LTV finance, increasing the amortization period setting, environmental criteria or joining industry initiatives etc.

Banks came together through the Poseidon Principles to provide a global framework that assesses how ship financing aligns with the global climate goals. The principles are based on four core commitments: assessment, accountability, enforcement and transparency. Thus, the banks that adopt the Poseidon Principles are required to measure and disclose the carbon intensity of their shipping portfolios as well as to work towards reducing it over time. There are currently 34 signatories jointly representing approximately \$200bn in shipping finance and more and more banks are working towards joining this global framework (PoseidonPrinciples.org). It should be noted that of the 34 financial institutions, 9 are Japanese and only 1 is Chinese.

Although there are no Greek banks in the Poseidon Principles yet, there are already three major banks providing sustainability linked loans (Table 3). Additionally, green loans are issued if the deal involves an eco-vessel. This will assist in alleviating the remainder of Greek owners' scepticism towards the use of new fuels and investment in new technologies.

**Table 3: Greek bank sustainability finance involvement**

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Bank	Sustainability Linked Loans	Remarks
Piraeus Bank	YES	negotiable; margin improvement of about 10 basis points based on meeting KPI criteria
National Bank of Greece	YES	margin improvement re basis points based on KPI criteria
Eurobank	YES	negotiable; margin improvement of about 5 basis points based on meeting KPI criteria
Alpha Bank	NO	no sustainability linked loans yet - expected to provide soon with margin improvement via meeting KPI criteria
Bank of Cyprus	NO	no sustainability linked loans yet
Astrobank	NO	no sustainability linked loans yet
Hellenic Bank	NO	no sustainability linked loans yet
Astrobank	NO	no sustainability linked loans yet
Pancreta Bank	NO	no sustainability linked loans yet

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## Conclusion

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.

All stakeholders are needed to row in unison towards the goal of meeting the emission targets. As is the case, the individual interests of stakeholders vary and it is vital for all to adopt a cooperative and constructive approach. In addition, governments and other regulatory bodies need to consult with the industry prior to enacting new regulations in order to ensure a harmonious and practically feasible transition.