



GREEN SHIPPING AND SUSTAINABLE FINANCE: STRONGER TOGETHER

ACTIONABLE INSIGHTS FOR A DECARBONIZING WORLD

GREEN SHIPPING AND SUSTAINABLE FINANCE: STRONGER TOGETHER

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EXECUTIVE SUMMARY

The race is on for the maritime shipping sector's transition to net zero, driven by ambitious global and regional greenhouse gas emissions reduction targets. At the same time, the climate ambitions of the European financial sector are under scrutiny as a result of public pressure and regulation. Leveraging this common ambition to reach net zero, the shipping and finance industries must work together to accelerate sustainable shipping finance.

Shipping stakeholders must mobilise significant capital for clean vessels – those capable of sailing on very low- and zero-emission fuels – as well as engine retrofits and energy saving technologies. The annual cost of decarbonising the global fleet is estimated between \$8 to \$28 billion. A further \$28 to \$90 billion is needed annually to develop the necessary clean fuel infrastructure.¹ While public financial support schemes play a role, most capital investment in shipping is supplied by the private sector. European banks, as leading financiers of the maritime industry, have a pivotal role to play in facilitating this transition by accelerating funding for green shipping initiatives. However, several barriers still impede the capital flows needed to decarbonise the sector.

Drawing from existing literature on shipping finance, interviews with industry experts, and building on our previous [Maritime Makeover](#) report, this discussion brief sets out the shipping regulatory landscape and the evolution of shipping finance. The brief identifies key barriers to financing the decarbonisation of shipping, aiming to stimulate dialogue among industry professionals, banks, and policymakers on potential solutions.

Key barriers to financing the decarbonisation of maritime shipping

Financing of retrofit and energy efficiency technologies is hampered by loan security challenges. Retrofitting existing ships and implementing energy saving technologies are crucial to meeting near-term decarbonisation targets. [The Getting to Zero coalition](#) estimated that a 25% to 30% reduction of GHG emissions can be achieved across the global fleet by maximising efficiency gains.² However, attracting financing is a challenge as banks are hesitant to lend for smaller amounts and against assets that are already encumbered.

Shipping may not fit with banks' green finance ambitions. European banks are (rightly) under pressure to decarbonise their balance sheets; however, in some cases, this is leading to banks focussing on short-term decarbonisation of their balance sheet at the expense of supporting the transition of the real economy. Providing finance to dual-fuel vessels – vessels which can run on both conventional fuel oils and clean fuels – does not flatter banks' financed emissions metrics given that those ships will likely run on conventional fuels until there is greater technological consensus and infrastructure capability for clean fuels.

Clean vessels face higher financing costs – but conventional vessels may be exposed to unpriced climate risk. This is largely because clean vessels are more expensive to buy and operate, and also because the cost of capital is higher due to the lack of historic credit risk data and technological uncertainty. However, credit risk assessments may fail to adequately consider the transitional risks associated with impending policy changes, potentially underestimating the financial threats to conventional vessels.

Lack of clarity on the commercial and technical feasibility of clean fuels and lack of infrastructure impedes green investment. Shipowners are reluctant to dedicate significant capex to clean vessels given the higher costs and lower availability of clean fuels and the lack of infrastructure available for those fuels.

This discussion brief presents for discussion potential solutions for overcoming each of these barriers. Some potential solutions will require government and policy interventions – for example to catalyse investment in bunkering infrastructure. However, bankers and shipowners should not just wait for governments. They can take meaningful actions to finance decarbonisation solutions such as retrofitting existing vessels and implementing energy efficiency measures, as well as the renewal of the fleet with vessels compatible with clean fuels.

In parallel with this discussion brief, Environmental Defense Fund (EDF) will bring together banks, shipping companies, and policymakers to discuss these challenges and collaboratively identify strategies to enhance financing for shipping decarbonisation. A follow-up report will provide detailed analyses and actionable recommendations for overcoming the barriers identified in this initial study as an outcome of these discussions.



INTRODUCTION

The maritime shipping sector is the backbone of international trade, facilitating the movement of close to 90% of global goods. It is also responsible for close to 3% of worldwide greenhouse gas (GHG) emissions.³ Although considered a hard-to-abate sector, shipping is nonetheless vital to the green transition as it is the most carbon-efficient way to transport goods over long distances.

Regulatory pressure and customer demand are compelling the industry to play its part in mitigating the climate crisis. The U.N. International Maritime Organization's (IMO) ambitious decarbonisation targets have set the overall direction of travel for the sector. First mover initiatives such as green shipping corridors are expected to signal demand for the production of clean fuels. Customers have formed alliances to collaborate on accelerating shipping decarbonisation, for instance the Cargo Owners for Zero Emissions Vessels (coZEV) alliance, highlighting growing demand for green shipping. Likewise, financial institutions are collaborating to align their shipping portfolios with responsible environmental behaviour via the Poseidon Principles.

For the sector to keep up with regulatory targets and customer demand, shipping stakeholders must mobilise significant capital for clean vessels – those capable of sailing on very low- and zero-emission fuels – as well as engine retrofits and energy saving technologies. UMAS estimated the total capital investment required for shipping's decarbonisation by 2050, including infrastructure, to be \$1.4-1.9 trillion.⁴ Public financial support schemes, for instance the EU's Innovation Fund, are supporting the EU's transition to climate neutrality, but most capital investment in shipping is supplied by the private sector. European banks, as major capital providers of the shipping industry, can play a key role in accelerating finance for shipping decarbonisation.

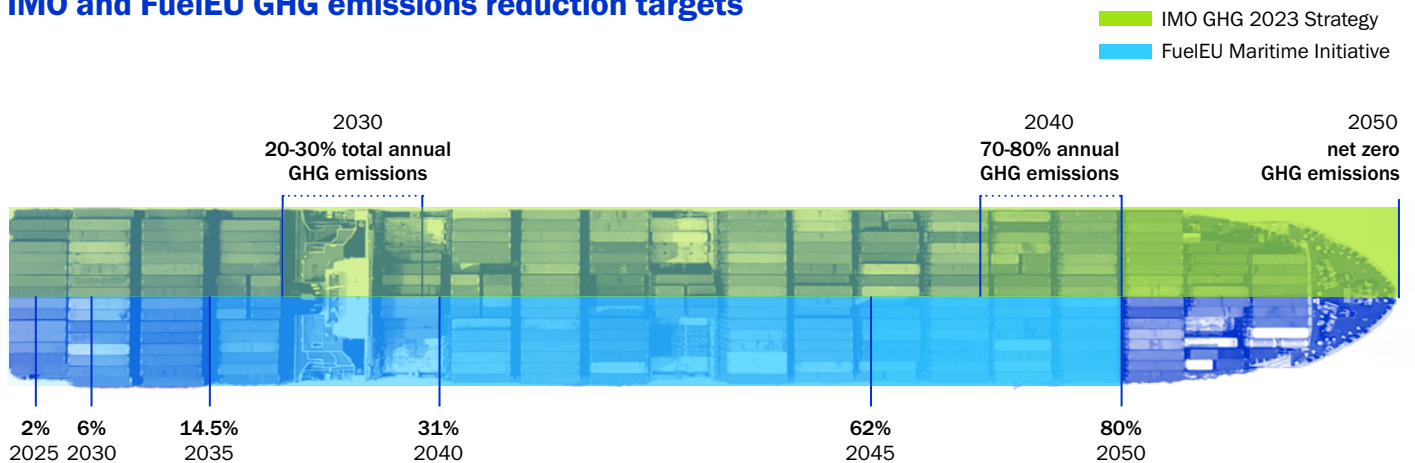
Both the finance and shipping sectors have respective decarbonisation targets, but certain barriers hinder the development of sustainable shipping finance. Drawing on existing research in shipping finance and a series of interviews with sectoral stakeholders and experts, this discussion brief delves into the state of the shipping finance market and sheds light on those barriers faced by European banks and shipping companies as they navigate the green transition.

THE SHIPPING REGULATORY LANDSCAPE

In 2023, the IMO adopted a revised Greenhouse Gas Strategy (2023 IMO GHG Strategy) setting out ambitious targets to reduce GHG emissions on a path to net zero by or around 2050. Regionally, the EU has implemented the FuelEU Maritime initiative which mandates that the GHG intensity of fuels used by the shipping sector decreases over time. Additionally, the EU's Emissions Trading System (EU ETS)ⁱ, effective January 2024, sets a cap on the total GHG emissions permissible for large shipsⁱⁱ entering EU ports.

FIGURE 1

IMO and FuelEU GHG emissions reduction targets



Source: IMO GHG 2023 Strategy and FuelEU Maritime Initiative





The EEXI is a measure of the energy efficiency of a ship. The calculated EEXI for a ship (attained EEXI) is compared to a baseline (the required EEXI) determined by the technical design of a ship.

The CII functions as a rating system of the operational carbon intensity performance of ships, ranging from A to E, where A signals the highest performance level and E the lowest.

Production and use of clean fuels, like e-methanol and e-ammonia, will be essential to achieve shipping's net zero ambitions. This will mean scaling up new energy supply chains and infrastructure for clean fuels. In 2025, the IMO is set to adopt a basket of mid-term measures, which will include a fuel standard and an economic mechanism that will help create greater certainty around these fuels.

The IMO has also set decarbonisation targets for the near-term (2030). To meet these, shipowners will need to focus on maximising the energy efficiency of the existing fleet:⁵

- The IMO has set a mandatory measure for ships to reduce their carbon intensityⁱⁱⁱ by 40% by 2030. In doing so, ships are required to calculate their attained Energy Efficiency Existing Ship Index (EEXI ) and Carbon Intensity Indicator (CII ). This requirement fosters enhanced data collection and monitoring of both energy efficiency and operational carbon intensity across the fleet.

i The EU ETS covers 50% of CO₂ emissions from voyages starting or ending outside of the EU, and 100% of CO₂ emissions that occur between two EU ports. As of 2026, the EU ETS will also cover CH₄ (methane) and N₂O (nitrous oxide) emissions. The cap is reduced over time to ensure that all ETS sectors contribute to the EU's climate objectives. This will incentivise energy efficiency, low-carbon solutions, and reductions of the price difference between clean fuels and traditional maritime fuels.

ii 5,000 gross tonnage and above

iii GHG emissions linked to the amount of cargo carried over a specified distance.

- The IMO includes a target for the uptake of zero or near-zero GHG emissions technologies, fuels and/or energy sources which are to represent “at least 5%, striving for 10%” of energy used by international shipping by 2030. This target gives a signal to the shipping industry to start the process of adopting clean fuels which are necessary to meet longer term targets. It also provides more legal certainty to investors as the industry will be normalising those fuels.

THE SHIPPING FINANCE MARKET

Traditional ship finance

Traditionally, the shipping industry has consisted of family-owned businesses reliant on bank loans for ship financing. Because vessels are high value-assets with a long economic life and high cost, access to capital and the cost of capital are important factors for shipowners and their businesses. Shipowners have predominantly sought capital through bank loans due to lower costs, greater accessibility, preservation of ownership structure and greater confidentiality of strategic information.⁶

Ship financing often follows the structure of asset-based financing where banks provide a loan to the borrower, in this case the shipowner. The loan is secured using the vessel as collateral, which can be seized by the bank in case of default. Terms and conditions of bank secured loans, such as loan amount, tenor and pricing, are determined on a case-by-case basis based on the bank’s credit risk assessment.

Banks look closely at the value of the collateralised ship (including historical, market and scrap values), the loan-to-value ratio (comparing the loan amount to the value of the collateral), and chartering policy and market conditions (freight rates, which drive variability of a shipping company’s earnings).⁷ While those factors are key in asset-based financing to determine the loan pricing, in practice for shipping, many banks typically prioritise in their credit risk assessment the creditworthiness of the borrower over the collateral offered. This reflects a corporate finance approach rather than an asset-based finance approach. Shipowners with better corporate credit ratings can more easily access loans and benefit from more favourable terms and pricing. Factors considered by banks to inform the creditworthiness of a shipping borrower ordinarily include the credit history of the shipowner and performance in past shipping market cycles, the reputation, quality and experience of its management team, and the relationship history of the shipowner with the bank.

Changes in shipping finance since the 1990s

Accelerating globalisation in the 1990s and early 2000s propelled the shipping industry into a boom cycle. Banks, especially in Europe, seized the opportunity to lend to this thriving industry. However, the 2008 financial crisis sent shockwaves through the global economy and severely impacted shipping. Freight rates plummeted, shipowners struggled with low vessel demand, and banks faced significant loan losses.

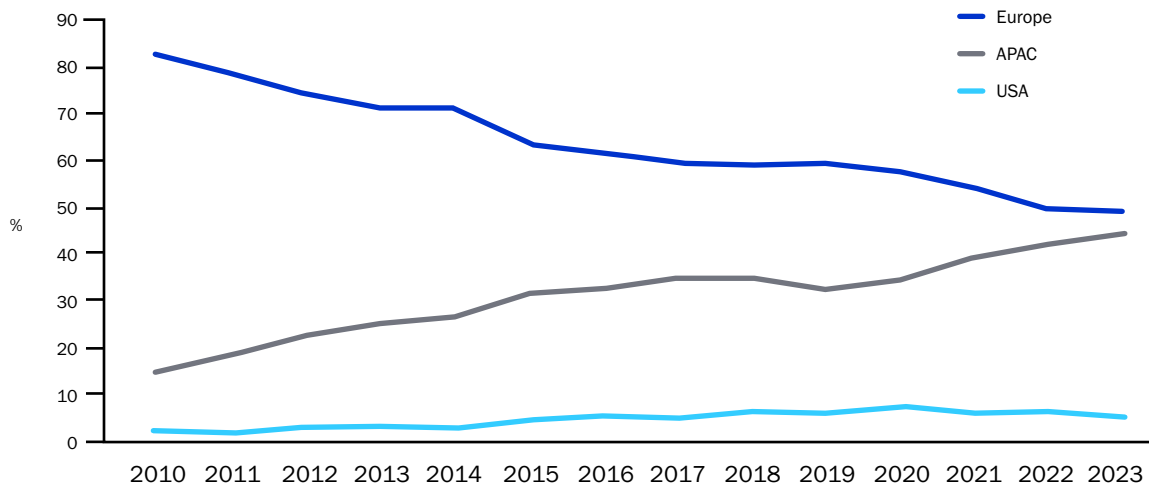
In the aftermath of the financial crisis, banking regulations in many countries were updated to enhance financial stability. Given its volatile and cyclical nature, the shipping industry was considered high risk. With higher capital requirements for shipping lending, borrowing costs

for shipowners increased. Many banks, especially those in Europe, opted to limit their exposure to or even exit the shipping market. Those that remained prioritised lending to larger shipping companies with stronger corporate credit ratings.

Bank lending remains an essential source of capital for shipping, representing approximately 62% of global ship finance in 2023 according to [Petrofin Research](#). European banks still account for half of global shipping bank portfolios. However, the decline in traditional European bank lending has created an opportunity for new financial players to enter the shipping finance market. Asian and Australian banks (APAC), for instance, have seen their market share increase from 15% in 2010 to 45% in 2023⁸ as state-backed banks offer attractive loan terms to support national shipbuilding industries, especially in China, Japan and Korea.

FIGURE 2

Global shipping bank portfolios - Market share



Source: [Petrofin Research Global Ship Portfolio 2024](#)

In most cases, bank loans still represent the lowest cost source of capital for shipowners, but other financing options such as leases, bonds and equity have gained in popularity as an alternative or supplement to bank loans. Shipowners might value other characteristics offered by those financial instruments. Leases^{iv} have the advantage of lower upfront costs relative to bank loans and predictable cashflow but the disadvantage of higher overall costs and limited ownership rights. Bonds offer a greater pool of accessible capital relative to bank loans but typically come with a higher cost of capital and higher transparency and accountability towards investors.⁹ Public or private equity provides secure funding without the obligation to repay the initial investment with interest; however, it results in ownership dilution and imposes transparency requirements as investors gain influence in company decisions.

The development of sustainable shipping finance

Public and regulatory pressure is driving banks to decarbonise their balance sheets, reduce their financed emissions, and consider how they can actively support the transition of the real economy, including maritime shipping. Disclosure initiatives from the International

iv A lease can usually be structured in two forms: an operating lease, where the ownership remains with the financial institution who assumes risks and rewards attached to the asset ownership; or a finance lease, transferring risks and rewards related to the asset from the financial institution to the shipping company that holds a purchase option at the end of the lease contract.

Sustainability Standard Board (ISSB) and the EU Corporate Sustainability Reporting Directive (CSRD) will increase transparency over the sustainability performance and transition plans of banks and shipowners. In the EU, banks and shipping companies will also have to report the extent to which their activities align with sector-specific climate and environmental criteria defined by the EU Taxonomy, allowing for greater scrutiny of their decarbonisation efforts and alignment with a net zero pathway.

To support the development of sustainable shipping finance, financial institutions have collaborated to develop the Poseidon Principles. Participants commit to assess and disclose annually the climate performance of their ship finance portfolios via a climate alignment score measured against the past and updated IMO targets. This initiative allows for increased public transparency on the carbon intensity of banks' shipping portfolios, thereby incentivising them to support the decarbonisation of their shipping loan books to improve their publicly disclosed climate score.¹⁰

In theory, these initiatives should help establish greater scrutiny of banks' climate ambitions which should lead to larger pools of capital to support the shipping industry's transition. However, although some capital is being directed toward shipping decarbonisation, it is not flowing at the rate needed to achieve short- and long-term decarbonisation targets.

Public finance support for the shipping transition

In the EU, several financial schemes and funding programmes include a focus on supporting the shipping industry in its transition. For instance, revenues generated by the EU Emissions Trading System are channelled into the EU Innovation Fund, which supports the demonstration and deployment of technologies aimed at decarbonising the sector by sharing associated risks. Recently, the European Hydrogen Bank announced a €200m budget to support the production of renewable hydrogen for the shipping industry, an essential component for clean fuels. Other types of EU public support include the Blue Champion initiative launched by the European Investment Bank (EIB). This will allow companies to benefit from EIB advisory services for investment projects related to the restoration of oceans and waters.

At the national level, Export Credit Agencies (ECAs) can contribute to developing green shipping. They can support the domestic shipbuilding industry by providing financial guarantees or direct lending conditional on a certain level of sustainability performance. ECAs can similarly incentivise private investments in clean fuel infrastructure development.

While private finance is necessary for the transition of the shipping industry, additional public financing mechanisms are key to accelerate the development of green shipping projects and attract further private investments.

BARRIERS TO ACCELERATING SUSTAINABLE SHIPPING FINANCE & POTENTIAL SOLUTIONS

To keep up with its climate ambitions, the shipping industry needs significant capital. Financing of retrofit and energy efficiency technologies is crucial to meet the IMO's 2030 targets, as are investments in clean vessels. To achieve longer-term full decarbonisation targets, significant capital is needed to develop supply chains to upscale clean fuels and associated infrastructure. This section explores the barriers identified through our research and sketches out potential solutions for discussions.



Financing of retrofit and energy efficiency technologies is hampered by loan security challenges

Long-term decarbonisation goals are heavily reliant on new energy supply chains and fuel infrastructure as well as clean shipping vessels. In the interim, retrofitting existing ships and optimising their energy efficiency are crucial measures to meet shorter term (2030) targets¹¹ and to comply with carbon intensity reduction measures like the CII.

Despite the clear business case for retrofitting and energy savings technologies,¹² especially for less efficient vessels,^v the significant capital expenditure required poses a challenge. Many shipowners, especially smaller ones, find it difficult to obtain financing to modernise their existing fleets. Bank lending practices are focused on financing the purchase of new vessels rather than upgrades to existing ones because of loan security challenges associated with retrofitting older ships. Unlike new vessel purchases, where the vessel itself serves as collateral for the loan, older ships already have existing encumbrances, meaning that there is no first ranked mortgage available to secure the retrofit loan. Additionally, banks are less inclined to lend for retrofits due to the smaller loan sizes involved – smaller loans require similar administrative effort relative to larger loans but offer lower returns.



Potential solutions for discussion:

- To overcome these barriers, banks could develop innovative lending structures to support investments in retrofits and energy efficiency technologies. This would help shipowners reduce their climate transition risk exposure and support financed emissions reductions in banks' shipping portfolios.



Retrofitting vessels can be a major part of decarbonising the maritime industry until 2050. Large investment volumes will be needed to make older vessels compliant with the IMO regulations. Banks will need to play a major role by providing debt to finance these investments. However, for now there have not been many financings of this kind as not many shipping companies have decided on retrofit programmes of their fleets. In addition, financing of retrofits seems to be less attractive and riskier for the major maritime banks. Banks financing retrofits usually do not become the first ranked mortgagee as vessels already have been financed with mortgage-backed loans. At the same time, second lien financing (i.e. securing the financing with a second ranked mortgage) is rather complicated and expensive. Normally, the first ranking mortgagees are reluctant to accept a second ranked mortgage.

KfW IPEX-Bank

^v The payback period for a retrofit can go as low as one or two years for shipowners with sufficient own equity to make the investment.



Shipping may not fit with banks' green finance ambitions

In response to public pressure and regulatory requirements, banks have made public sustainability commitments and increased disclosures and transparency around their sustainability performance. However, the welcome drive to demonstrate balance sheet decarbonisation and to reduce financed emissions could lead to banks prioritising the allocation of capital to industries that are already green. This might mean banks lowering their exposures to the shipping industry rather than financing its net zero transition.^{xi} Banks may be reluctant to provide finance to dual-fuel vessels given that those vessels may not start using clean fuels until better bunkering infrastructure is developed. This means that banks will not see immediate financed emission reductions from those investments – indeed financed emissions will likely increase given the overall cost of those vessels is higher relative to conventional vessels.

Although green loans and sustainability-linked loans are gaining traction in other sectors, their adoption in shipping remains limited. These instruments offer favourable loan terms to companies or projects against defined sustainability performance targets. However, the lack of certainty around clean fuel choices and lack of availability of clean fuels impedes the establishment of sustainability performance requirements and targets that are sufficiently ambitious and credible. This has led to some banks considering options like fossil-derived liquified natural gas (LNG) as a green alternative for shipping despite its lifecycle emissions. Frameworks such as the Climate Bonds Initiative's shipping criteria define a green shipping bond, but the adoption is low in practice given unclear benefits of issuing green bonds compared to conventional ones, and current difficulties in operating green shipping activities due to the low availability of clean fuels.



Potential solutions for discussion:

- Greater awareness of the role of banks in supporting transition finance, even if such support does not lead to immediate balance sheet decarbonisation.
- Policy tools, such as the EU Taxonomy or the UK's Transition Finance Market Review, to provide greater clarity and certainty for banks to support investments in shipping's transition.

The \$200m Sustainability-Linked Loan (SLL) secured by Seaspan in 2020, underwritten by Société Générale and BNP Paribas, included two KPIs against which the SLL pricing will be adjusted: (i) measurement of the alignment of the carbon intensity of collateral vessels with IMO's 2050 decarbonisation trajectory; and (ii) fostering cooperation with charterers in order to advance the decarbonisation agenda, by seeking to include sustainability-linked provisions in future charter contracts.



Clean vessels face higher financing costs – but conventional vessels may be exposed to unpriced climate risk

Clean vessels are more expensive to finance relative to conventional vessels. This is partly because they are more expensive to buy and operate, and also partly because they attract higher capital costs. Banks' credit risk assessments are typically less favourable for the

^{xi} Other issues in relation to financed emissions reporting include fluctuation in emissions attribution, gaps in decarbonisation tracking and data reporting timeline mismatch, as highlighted in this [Environmental Defense Fund's Brief](#).

financing of innovative technological assets given the lack of performance history, a key determinant of asset rating. This results in less favourable pricing terms for clean vessels relative to conventional vessels.

However, it is plausible that climate-related credit risks are not being fully factored into pricing. Conventional vessels are exposed to higher transition risks relative to clean vessels as they could become more expensive to operate (e.g. due to carbon pricing, such as the EU ETS) or obsolete due to regulation (e.g. carbon intensity reduction requirements, such as the CII).



Potential solutions for discussion:

- Public finance to lower the financing costs of investment in clean vessels with tools such as subsidies, direct lending or guarantees.
- Banks to consider how to factor climate transition risks into their assessment of the creditworthiness of both new and conventional vessels.^{vii}
- Financial regulators to integrate climate-related risk considerations in bank capital requirements to incentivise banks in measuring, managing and mitigating these risks. Proper integration and assessment of climate and transition risks can ultimately lead to higher capital charges for polluting assets, typically more exposed to such risks.



Larger companies with strong balance sheets can reassure lenders when financing alternative-fuelled vessels. Smaller and medium-sized owners, who often prefer asset-based finance, face greater challenges. The lack of historical data for alternative-fuelled vessels means that asset ratings are based on time series for traditional vessels. While this approach may lead to unfavourable asset ratings for new alternative-fuelled units (such as being considered “too expensive” or having very high operating expenses), it also reflects a conservative stance in assessing their likely future market value (will they really see a premium, even in downside scenarios?). In addition to such backward-looking rating systems, lenders should consider forward-looking risks, particularly those related to regulatory and policy changes, and incorporate them into their assessment.

Hamburg Commercial Bank



Lack of clarity on the commercial and technical feasibility of clean fuels and lack of infrastructure impede investment

Shipowners are reluctant to dedicate significant capex to cleaner vessels given the higher costs and lower availability of clean fuels. Even though there is an increase in orders of clean vessels, LNG remains the fuel of choice and dual-fuel vessels will continue running on conventional fuels until commercial viability of clean fuels can be demonstrated.

The path to achieve the ambitious decarbonisation goals set for the shipping industry with the IMO, FuelEU Maritime and EU ETS, remains unclear. The future fuel mix is expected to

xii For a detailed analysis of financiers' beliefs and behaviours regarding the shipping's transition, see Fricaudet, M., Parker, S., & Rehmatulla, N. (2023). [Exploring financiers' beliefs and behaviours at the outset of low-carbon transitions: a shipping case study](#). Environmental Innovation and Societal Transitions, 49, 100788.

viii No single fuel is expected to conquer the diverse needs of shipping. Moving forward, fuel selection will likely vary with factors such as the type of shipping, route, and vessel. See EDF's [Maritime Makeover](#) report for technical, commercial and regulatory considerations of each potential fuel solution.

include a diverse array of options,^{viii} and the lack of clarity around the commercial and technical feasibility of clean fuels creates significant uncertainty and elevates risk. Without regulatory certainty and technological consensus, both banks and shipowners are hesitant to make necessary investments to upscale early-stage green technologies.



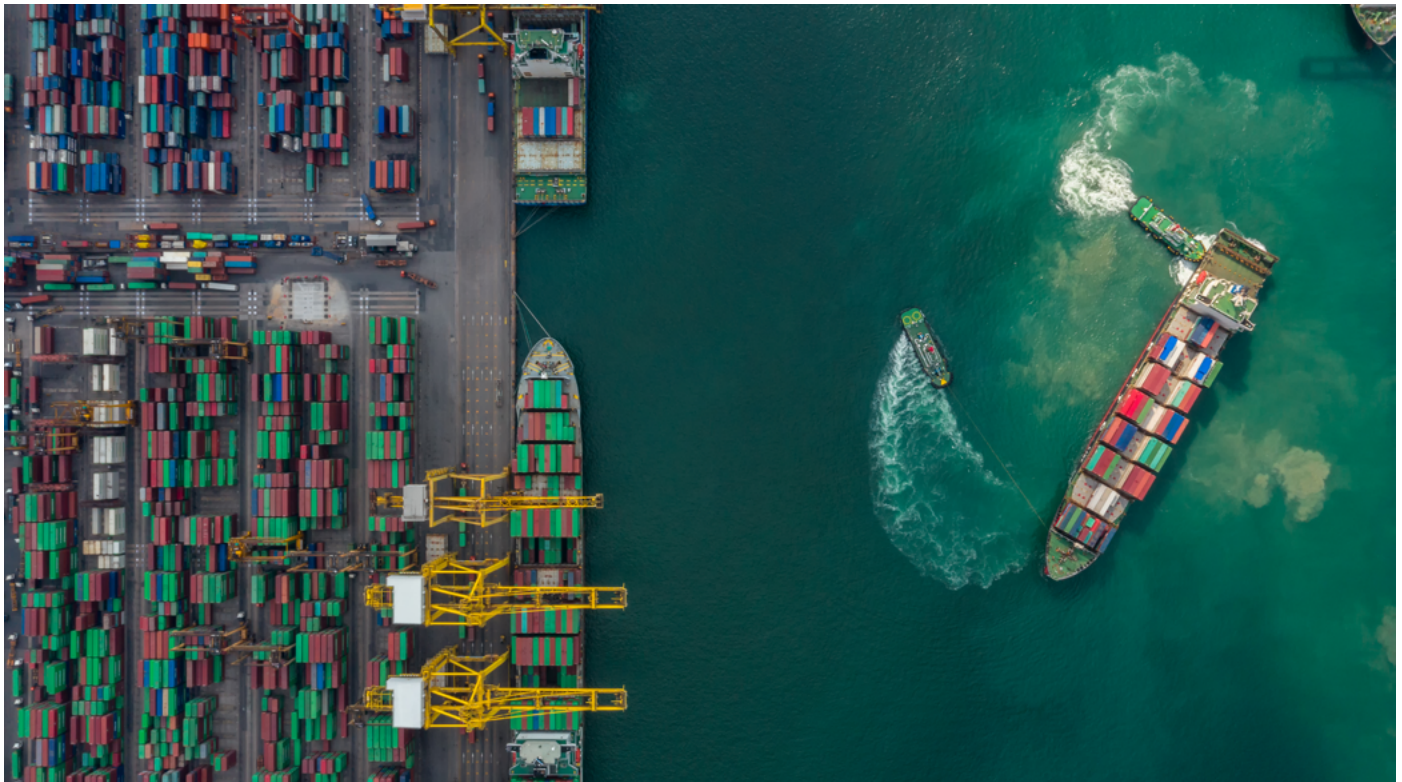
Potential solutions for discussion:

- Governments and policymakers need to set regional decarbonisation pathways for shipping to increase clarity of choices.
- Regional decarbonisation pathways should be accompanied by dedicated public finance mechanisms to increase the bankability of green shipping projects by taking on part of the risk, particularly for the necessary bunkering infrastructure to support the availability and distribution of clean fuels.



The shipping sector faces several challenges in the green transition. One of the biggest barriers is the regulatory uncertainty about how and when to close the price gap between fossil and zero-emission fuels and technologies which delays the necessary investments in new green fuel production and infrastructure. Regulatory clarity will help the shipping sector to access the needed financing for the green vessels and accelerate the green transition.

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CONCLUSION

In 2023, the IMO elevated the climate ambitions of the shipping industry by setting an objective of reaching net zero by or around 2050. Achieving both short- and long-term decarbonisation targets will require substantial investments in clean vessels, clean fuels and energy-efficient technologies. European banks, which have historically been pivotal in driving the growth of the shipping industry, are now uniquely positioned to direct their financing towards these decarbonisation efforts.

However, the acceleration of the flow of capital needed for shipping's net zero transition is hampered by several barriers, as elaborated in this discussion brief.

In the near-term, financing is needed for retrofitting existing ships and adopting energy efficiency measures. These investments should pay for themselves over time through lower fuel costs. Yet, shipowners struggle to finance these upgrades because lenders are reluctant to allow a second lien on the assets. Innovative financing structures could be part of the solution to address these challenges.

Additionally, there is some evidence that shipping does not fit with banks' green finance ambitions. Given the pressure banks face to demonstrate reductions in financed emissions, banks may be motivated to reduce their exposures to shipping given that the path to achieving near-term and longer-term decarbonisation is less clear relative to other sectors. Greater emphasis needs to be placed on banks supporting hard-to-abate sectors in decarbonising – transition finance frameworks could help provide this support.

Currently clean vessels are more expensive to finance relative to conventional vessels. This is partly because they are more expensive to buy and operate, and partly because the cost of capital is higher due to the lack of historic credit risk data and technological uncertainty. Public finance can help support the de-risking of investment in clean vessels. However, banks and their financial regulators should also consider whether banks' credit risk assessments are adequately factoring in forward-looking transition risks. As conventional vessels face potential stranded asset risks, they may be riskier than current credit risk pricing models would suggest – and conversely clean vessels may be less risky.

Substantial financing is needed for new clean ships and for the accompanying clean fuel bunkering infrastructure to meet full shipping decarbonisation in the long term. Solving for the infrastructure challenge – which is closely tied to consideration of fuel choices – requires the support of governments and policymakers. Shipowners and banks can leverage their influence to advocate for government action in this area.

Collaboration is essential to overcoming these barriers. By working together, the finance and shipping sectors can unlock innovative solutions and accelerate the capital flow needed to achieve net zero emissions. We invite stakeholders to engage in discussions about potential solutions to these challenges. A subsequent report will provide a detailed analysis of these proposed solutions.

ENDNOTES

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