May 2023

Shipping Market Review

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Executive summary

How seaborne trade volumes will develop towards 2050 as the global economy aligns with the Paris Agreement

The shipping industry is a service industry, transporting the materials needed for the global economy to function. How will transport volumes change when sectors and industries strive to lower emissions? Current supply chains are the result of decades of economic growth powered mainly by low-cost labour and fossil fuels. Alignment with the Paris Agreement will require a major reset of the global economy. Seaborne trade volumes may shrink as fossil fuels are substituted by renewable energy, virgin material by circular material flow, and as energy and material demand decouples from economic growth.

Seaborne transportation is the most efficient way of moving large quantities of cargo over long distances. The shipping industry is therefore essential for a large proportion of global trade. Since it accounts for approximately 2-3% of the emissions that cause climate change, there is increasing pressure on the sector to reduce its carbon footprint. If nothing is done, shipping's emissions are expected to increase both in absolute terms and as a share of global CO2 and GHG emissions. But much is being done! Shipping mirrors the industries that it serves, and hence its emissions will decline along with the decarbonisation of the global economy (p. 6).

A great reset

By putting a price on carbon, directly or indirectly, the shipping industry is about to unlock some of the hidden layers of operational efficiency. Still, the most significant reductions in greenhouse gas emissions might not come from operational improvements or decarbonised fuel supplies but rather from lower seaborne trade volumes. Seaborne trade volumes may continue to increase in some segments, but aggregated volumes are likely to decline when the underlying industries that shipping serves reduce emissions across all three emission scopes (p. 7).

Decoupling emissions from seaborne trade volumes

To keep global warming to no more than 1.5°C – as called for in the Paris Agreement – emissions need to be reduced by 45% by 2030 and reach net zero by 2050. The shipping industry increased its energy efficiency by almost 4% annually between 2008 and 2022. In the same period, seaborne trade volumes increased by 44%, while total emissions declined by 17%. Half of the improvement was achieved via slow steaming of vessels. The big challenge is to supercharge the decoupling of emissions from seaborne trade volumes. Without this, emissions will continue to increase if more cargo is moved (p. 8).

Trade-offs between environmental and commercial decisions

The introduction of a global operational cap on emissions for the shipping industry may not be considered a major event from the outside – all industries are working to reduce emissions. In the shipping industry, though, the new regulation will have an asymmetric impact across the competitive landscape. For owners that do not operate their own vessels, it may create operational dilemmas resulting in increased costs but not much value. The competitive landscape will likely change when sister vessels' earnings potential becomes subject to individual owners' business models and operational profiles (p. 9).

Shipping markets could be about to fragment

Decarbonising the shipping industry will eventually require the introduction of new, greener fuels. For most players, though, the first steps are about energy-efficiency improvements. Front-runners are investing in digital capabilities that are starting to constitute barriers to entry. Many owners are investing in new ships with dual-fuel engines, but only those that invest in long-term fuel offtake agreements with alternative fuel producers will be able to offer green transportation. Owning vessels with dual-fuel capabilities per se may not be enough to translate the industry's energy transition into a value-generating opportunity (p. 10).

Vital and efficient – Is the shipping industry hard to abate?

Global warming and greenhouse gases

Seaborne transportation is the most efficient way of moving large quantities of cargo over long distances. The shipping industry is therefore essential for a large proportion of global trade. Since it accounts for approximately 2-3% of the emissions that cause climate change, there is increasing pressure on the sector to reduce its carbon footprint. If nothing is done, shipping's emissions are expected to increase both in absolute terms and as a share of global CO_2 and GHG emissions. But much is being done! Shipping mirrors the industries that it serves, and hence its emissions will decline along with the decarbonisation of the global economy.

For the past 150 years, activities such as burning fossil fuels and cutting down forests have caused greenhouse gas levels to increase. The climate agenda is clear: we need to stop climate change, phase out fossil fuels, and increase the Earth's ability to pull greenhouse gases out of the air.

Greenhouse gases occur naturally in the atmosphere

Greenhouse gases occur naturally in the atmosphere and have the particular property of letting radiation from the sun through the atmosphere to heat the Earth's surface and block some of the outgoing heat from leaving the atmosphere. This is called the greenhouse effect. Greenhouse gas is a common term for a gas that contributes to the greenhouse effect. When the concentration of greenhouse gases in the atmosphere increases, the greenhouse effect also changes, resulting in higher average temperatures and a changing climate on Earth. Common greenhouse gases are carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), sulphur hexafluoride (SF6) and fluorinated gases, expressed as CO2e.

Total emissions need to be reduced by 45% by 2030

Science shows that in order to avert the worst impacts of climate change and preserve a liveable planet, the global temperature increase needs to be limited to 1.5°C above pre-industrial levels. Currently, the Earth is already about 1.1°C warmer than it was in the late 1800s, and emissions continue to rise. To keep global warming to no more than 1.5°C – as called for in the Paris Agreement – emissions need to be reduced by 45% by 2030 and reach net zero by 2050.

No silver bullet exists

There is no one single way to mitigate climate change; many solutions need to be devised to prevent global temperatures from rising. In the transport sectors, greenhouse gases primarily come from combustion of fossil fuels such as oil and natural gas. Emissions can be cut by substituting current fuels with low- or zero-carbon alternatives or reducing transport volumes.

Total emission reduction targets should guide intensity-based metrics

The measures used to track emissions vary but include total emissions and intensity-based metrics. Both approaches have value when trying to reduce emissions, but there are key differences between them.

Absolute and intensity-based emission reductions

Intensity-based measures allow us to address whether changes in total emissions are due to lower or higher tonne-miles transported. Importantly, intensity improvements do not guarantee reductions in total emissions; they show whether a vessel is emitting less for a unit of transport work (tonne-miles). The intensity measures help us evaluate whether additional investments are needed to decarbonise relative to peers. Overall, the long-term focus needs to be on reducing total emissions; concentrating only on reducing carbon intensity will not be sufficient.

A great reset

Seaborne trade volumes may begin to shrink when the global economy decarbonises

By putting a price on carbon, directly or indirectly, the shipping industry is about to unlock some of the hidden layers of operational efficiency. Still, the most significant reductions in greenhouse gas emissions might not come from operational improvements or decarbonised fuel supplies but rather from lower seaborne trade volumes. Seaborne trade volumes may continue to increase in some segments, but aggregated volumes are likely to decline when the underlying industries that shipping serves reduce emissions across all three scopes.

The shipping industry accounts for 2-3% of global emissions. That leaves 97-98% of global emissions with other industries, most of which are direct or indirect customers to the shipping industry. Many of the prominent corporate players have net zero ambitions by 2040. Seaborne trade volumes, cargo types, trading patterns and parcel sizes will likely change when these corporate players adapt their behaviour to reach their targets by that year.

Material and energy efficiency

Processing of many raw materials is highly energy-intensive and, today, also carbon-intensive. The vision of a circular economy aims to keep raw materials in the cycle for as long as possible. The principles of the circular economy are transforming manufacturing processes, and energy efficiency, resource conservation and waste avoidance are being further improved. These trends may have massive spillover effects to the shipping industry alongside emission reductions by the underlying sectors and industries of the global economy.

Technology-driven reductions in material and fossil fuel demand

Take steelmaking as an example. For every tonne of steel produced, some 1.8 tonnes of CO2 are emitted into the atmosphere. As a result, steelmaking accounts for 7-9% of the world's greenhouse gas emissions. Cleaner ways of producing steel are being explored, including the use of hydrogen instead of coke as the reagent. The pertinent technology is in its infancy, but it will cut coke out of the loop when it matures. Coke currently represents 5% of seaborne Dry Bulk volumes. However, that may not be the only driver of change to reduce global emissions. Steel production could move closer to the mine, accessing not only iron ore without generating seaborne transportation, but also renewable energy, which is not transported by sea either. Iron ore represents 28% of seaborne Dry Bulk volumes, and the amount of fossil fuels currently being consumed for steel production is considerable.

Lower demand for seaborne transportation

Similar dynamics are at play in other sectors and industries, working to unlock hidden layers of operational efficiency. When we improve the insulation and energy efficiency of appliances and buildings, and introduce renewable energy sources for power generation, we structurally reduce demand for seaborne transportation alongside lower CO2 emissions. More circular use of raw materials, more efficient waste processing, and lifestyle changes are examples of structural changes.

Recalibrating global trade will support frontrunners

Front-runners in the shipping industry will partner with their customers and form long-term cargo contracts to solve their future need for green seaborne transportation. Transport volumes available in spot markets will begin to shrink, not only as a result of the long-term cargo contracts but, equally importantly, reflecting the lower transport demand from the underlying industries working to reduce emissions. Increased uptake of circularity may promote more regional trading of smaller parcel sizes at the expense of long-haul virgin materials transported on larger vessels.

Decoupling emissions from seaborne trade volumes

The IMO's greenhouse gas reduction strategy

To keep global warming to no more than 1.5°C – as called for in the Paris Agreement – emissions need to be reduced by 45% by 2030 and reach net zero by 2050. The shipping industry increased its energy efficiency by almost 4% annually between 2008 and 2022. In the same period, seaborne trade volumes increased by 44%, while total emissions declined by 17%. Half of the improvement was achieved via slow steaming of vessels. The big challenge is to supercharge the decoupling of emissions from seaborne trade volumes. Without this, emissions will continue to increase if more cargo is moved.

The shipping industry has managed to decouple trade volume growth from greenhouse gas emissions. The industry has lowered CO_2 emissions by almost 17% since 2008, corresponding to an annual CO_2 reduction of 1.3%. In the same period, distance-adjusted seaborne trade volumes have increased by 44%, which translates into an annual average of 2.6%. The industry's carbon intensity per moved tonne nautical mile has therefore improved by 42% in the period, which translates into an annual increase in its energy efficiency of almost 4%. In 2022, the average seaborne cargo unit emitted approximately 7 grams of CO_2 per moved tonne nautical mile.

Significant progress, but more needs to be done

The decoupling can be attributed to technological improvements and slow steaming. The industry started to slow steam after the financial crisis in 2008-09 to deal with surplus vessel capacity. Vessel speeds have been reduced by 17-25% across shipping segments since 2008. Baseline CO2 emissions decline by around 24% when ships lower their speeds by 20%. That means that half of the industry's improvement in energy efficiency has come from slow steaming.

Retrofitting, energy-saving technologies and further slow steaming

For the industry to reduce absolute emissions by 45% by 2030, additional measures must be put in place. In addition to existing vessels being retrofitted and energy-saving technologies implemented, new operational measures including voyage optimisation, weather routing and just-in-time arrival will be used more frequently, potentially in combination with further slow steaming.

Supported by regulation

The International Maritime Organisation (IMO) has formulated a decarbonisation strategy according to which both technical (EEDI and EEXI) and operational (CII) requirements become stricter over time. New vessels will need to be more energy efficient, and existing vessels will need to improve their energy efficiency by at least 2% annually in 2023-2026. The intention with the new regulation is clear, but upgrades and adjustments are expected. At some point, the IMO regulations must become Paris-aligned.

Known abatement potential is difficult to achieve in today's business landscape

The commercial architecture of the shipping industry makes much of the known abatement potential difficult to achieve. The split incentives between owners and operators and the industry's devotion to the asset game often make it challenging for solutions to known problems to be implemented. For example, the new environmental regulation calls for long-term energy-efficiency planning. It seems likely that business models will need to change if their current nature does not allow energy-saving investments with long(er) repayment profiles.

Asymmetric potential across business models

The tonnage provider model seems most exposed. How do you engage in long-term energy-efficiency planning if you do not have operational control of your vessels and therefore do not benefit from lower future fuel consumption? What happens to the future earnings potential of fleets if they are not upgraded along with those of competitors? Return on invested capital will be significantly reduced if fleets are upgraded without access to future fuel savings. The complexity only increases further when we add the extra dimension of environmental ratings (CII) and a price on carbon (e.g. EU ETS).

Trade-offs between environmental and commercial decisions

Market impact from new regulation

The introduction of a global operational cap on emissions for the shipping industry may not be considered a major event from the outside – all industries are working to reduce emissions. In the shipping industry, though, the new regulation will have an asymmetric impact across the competitive landscape. For owners that do not operate their own vessels, it may create operational dilemmas resulting in increased costs but not much value. The competitive landscape will likely change when sister vessels' earnings potential becomes subject to individual owners' business models and operational profiles.

The new CII ratings will impose an operational cap on emissions. The metric ultimately boils down to the fuel consumption for each voyage divided by the cargo-carrying capacity and distance travelled. Although not a perfect design, the intention of the regulation is clear: low emitters will likely earn the most.

The industry is beginning to measure, audit and report co2 emissions

The introduction of CO2 transparency is an essential step towards commercial decarbonisation. It is still early days for many, but the industry is beginning to measure, audit and report CO2 emissions. We learn the trade-offs between environmental and commercial decisions.

Commercial decarbonisation aims to increase co2 efficiency per moved unit

Commercial decarbonisation is the process of increasing CO2 efficiency per moved unit. At some point, additional improvements to a vessel's CO2 efficiency may only be obtained via retrofits or changes to its fuel mix, but preliminary steps can be taken using operational levers.

Difficult to restrict charterers without impacting a vessel's commercial value

Individual owners' ability to realise energy-efficiency improvements depends on their commercial profile. The new regulation will have an asymmetric impact across the competitive landscape. Players that do not operate their vessels or pay for the fuel will find it more difficult to capitalise on abatement potential and improve their vessels' CII ratings. Charter contracts will change, but it seems unlikely that operational restrictions can be imposed without impacting the commercial value of a vessel for the charterer.

The competitive landscape is likely to change

The competitive landscape will likely change when sister vessels' earnings potential becomes subject to individual owners' business models and operational profiles. Owners that operate their own vessels may invest in long-term efficiency improvements to increase their fleets' CII ratings and long-term earnings potential. Owners with little (i.e. pool) or no (i.e. timecharter) operational control may find it difficult to optimise their fleets' CII ratings.

Routes may be priced differently

Some routes are not easy to optimise. Owners may become more reluctant to serve these routes without proper compensation, and these routes will likely find it more difficult (and costly) to attract vessels with high CII ratings. Operators may choose to employ chartered-in vessels on these routes, provided that the charter contracts do not restrict the commercial use of the vessels to routes that do not lower the vessels' CII ratings. The commercial aspects are no simpler when vessels are operated in pools.

Fewer vessels will participate in the asset game

Vessels tailed by investments with long(er) repayment periods are less likely candidates for a short-term asset game. It will only gain pace with the introduction of alternative fuels that are purchased on long-term (10-15 years) fuel offtake agreements. Vessels that are employed on long-term cargo contracts and bound to long-term fuel offtake agreements are unlikely to participate in a future asset game until the very end of the contract period.

Shipping markets could be about to fragment

The competitive landscape is likely to change

Decarbonising the shipping industry will eventually require the introduction of new, greener fuels. For most players, though, the first steps are about energy-efficiency improvements. Front-runners are investing in digital capabilities that are starting to constitute barriers to entry. Many owners are investing in new ships with dual-fuel engines, but only those that invest in long-term fuel offtake agreements with alternative fuel producers will be able to offer green transportation. Owning vessels with dual-fuel capabilities per se may not be enough to translate the industry's energy transition into a value-generating opportunity.

The long-term efficiency play is not only about technical upgrades to vessels to improve their hydrodynamic performance and propulsion efficiency. It is as much a question of achieving operational improvements on the back of a massive digitalisation process ranging from ballast and engine optimisation to emission and energy management. The objectives are clear: to enhance operational efficiency, optimise fuel use and reduce fuel consumption. Eventually, voyage and capacity planning, and vessel availability, will be integrated into a real-time streamlined process, with interaction between terminals, cargo owners and vessel owners, which will help reduce emission intensity even further.

A consolidation push for asset ownership

The introduction of CII ratings will likely spill over into a consolidation push for asset ownership among players with operational control of their fleets. These players will invest not only in retrofits with long(er) repayment periods, but also in more structural long-term energy-efficiency improvements, including fleet digitalisation and the development of machine-learning models that will help improve both voyage planning (including advanced weather routing systems) and maintenance schedules (including digital twins).

Tonnage providers may find limited room for navigation

Tonnage providers will only invest in energy-saving initiatives they can capitalise on, and onshore digital solutions work best with the proper sensors and equipment installed onboard vessels. Hence, shipping markets could be about to fragment. Traditional players may find competing on both cost and income increasingly tricky. The lowest emitters (vessels with the best CII ratings) are expected to earn the most and pay the least, both in carbon taxes (e.g. EU ETS) and for their capital (and ports?). Access to cargo is also likely to be increasingly dependent on environmental performance.

Cargo owners hold the key to changing the dynamics

These market trends will gain momentum during 2023 and 2024 but may only begin to shape the ownership landscape once vessels start being penalised for poor CII ratings. Global regulation is tightening, but a clear pathway after 2026 has yet to be formally agreed. Many cargo owners have formulated net zero strategies for 2040. These players could demand earlier adaptation or stricter emissions reduction targets.

Commercial levers may supercharge the energy-efficiency race

To supercharge the energy-efficiency race, additional commercial levers need to be put into place to support the goals of the new regulation. The main goal is to **reduce total emissions**, but the new regulation targets individual vessels. How best to structure commercial levers that drive down overall fleet emissions?

Routes as much as vessels define cii ratings

There has been much discussion about the current CII methodology. Improvements seem possible (e.g. EEOI rather than AER), but critical challenges remain. For instance, during a year, it will be possible for a vessel to sail a mix of A-rated and E-rated voyages that translate into an average CII rating for the year. If A-rated voyages dominate the year, the vessel will likely receive a rating better than C, while the opposite is equally possible. If a young, high-performing eco-vessel has been employed on "difficult" voyages throughout a year, it will obtain a low CII rating. In contrast, the same vessel could obtain a high rating if it were employed on more CO2-friendly routes. All vessels, independently of EEXI ratings and trading routes, can improve their CII ratings by increasing the amount of low-carbon fuels in the fuel mix.

Perspectives

A voyage index could be a next step in the commercial decarbonisation journey

Wishlist for 2024 and beyond

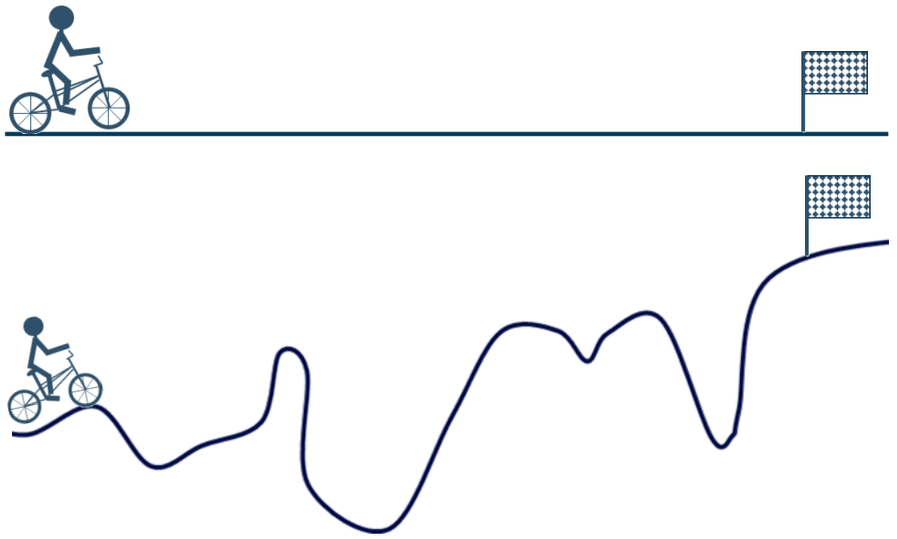
A golf player’s performance is measured relative to a handicap, representing the player's technical ability based on previous performance. Not all golf courses are alike; some are more difficult than others. The player’s handicap is therefore adjusted by an index to allow performance to be compared across courses.

In much the same way, the IMO’s EEXI regulations can be seen as “handicaps” for vessels, but it has not yet introduced an index that measures the toughness of voyages. The average vessel performance – the CII rating – is difficult to evaluate when the voyage and its sea and weather conditions are unknown.

The introduction of a **voyage index** would allow better benchmarking and peer reviews. The index could be dynamic across seasons to reflect not only static information but also dynamic factors such as sea and weather conditions.

Not all voyages are alike

How do we measure environmental performance?



Source: Danish Ship Finance

Shipping Markets At A Glance

Shipping Market Review – May 2023

Shipping markets at a glance

Strong earnings and high secondhand prices

Strong freight rates and high secondhand prices defined shipping markets in 2022 and the first quarter of 2023. Market fundamentals are deteriorating, as supply is expanding ahead of demand in several of the main vessel segments. Low orderbooks in the Crude, Product and Chemical Tanker segments are paving the way for a strong earnings outlook in 2023, whereas Container vessels, the larger LPG vessels and Capesize Bulk Carriers seem to be sailing into harsh market conditions. A potential supply surplus is building up in segments with large orderbooks (i.e. LNG, LPG and Container). Decarbonisation strategies vary across the shipping industry, but there seem to be few signs that investors actively renewing their fleets with dual-fuel vessels are being rewarded.

The shipping industry has just come out of a period of **extraordinarily high earnings** across multiple vessel segments. In 2022, the ClarkSea index almost matched its peak from 2007. Interestingly, all the main vessel segments – few at the same time – occasionally supercharged the index from the fourth quarter of 2019 to the first quarter of 2023. Tankers kickstarted the boom in October 2019 but maintained momentum only until May 2020, and have since May 2022 regained strength.

In previous editions of this report, we have analysed how the global economy is transitioning to become less seaborne-intensive per dollar growth.

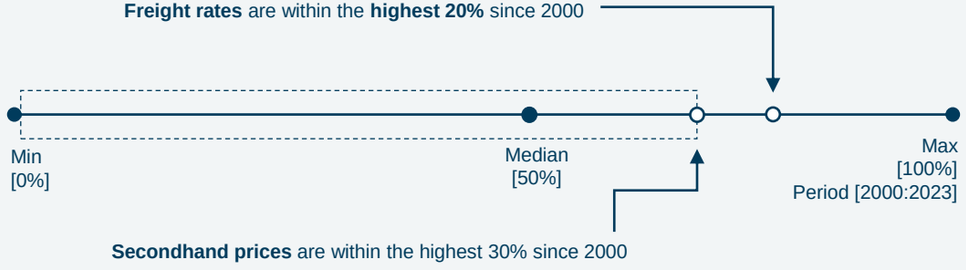
This megatrend continues to mould the shipping industry's long-term outlook. The short-term dynamics, however, have been influenced by unlikely "events" such as the global pandemic and Russia's invasion of Ukraine.

The unexpected shocks to the global economy have disrupted global supply chains and lowered the productivity of the global shipping fleet. Some of the effects proved temporary, but changes to the energy system are likely to be longer-lasting.

Freight rates and secondhand prices have experienced extraordinary gains similar to those during the boom period before 2008, although secondhand prices are significantly less inflated today and far fewer vessels are on order. We have all learned the power of external shocks and how far the ripples can be felt.

DS:FUNDAMENTALS

MARKET CYCLE POSITION – May 2023



Distance-adjusted seaborne demand decreased by 0.4% in 2022, as seaborne demand volumes declined by 0.5% and longer travel distances only absorbed 0.1%. The merchant fleet expanded by 3%, but operational inefficiencies, including port congestion, managed to balance supply and demand. There were considerable differences between segments, but freight rates and secondhand prices generally increased during the period.

Deliveries remained relatively unchanged from 2021 to 2022 at around 1,130 vessels. However, the dwt level was reduced by 8%, with 77 million dwt added to the fleet.

Scrapping nearly halved in 2022 compared to 2021. Approximately 12 million dwt was scrapped, compared to 22 million in 2021 (-45%).

Contracting activity declined by 35% in 2022. 90 million dwt was ordered, compared to 139 million dwt in 2021.

The orderbook represents 10% of the fleet, of which 42% and 75% are scheduled for delivery by the end of 2023 and 2024, respectively.

Seaborne trade volumes fell by 0.6% during 2022 but are expected to increase slightly by 1.6% and 2.8% in 2023 and 2024, respectively.

Distance-adjusted demand: In 2022, travel distances decreased by 0.4% but are expected to lengthen somewhat in 2023 and 2024.

Earnings and vessel prices

Strong market activity backed by high earnings

In 2022, the ClarkSea Index reached its highest level since 2007. It peaked at USD 43,600 per day in May 2022 but dropped to USD 26,100 per day in April 2023, a 40% decrease in 11 months. The index is still within the highest 20% seen between 2000 and 2023. Secondhand prices rose to index 213 in July 2022, the highest point since 2008, but subsequently fell by 28% to close April at index 154. Despite the drop, secondhand prices are still trading within the top 30% seen since 2000.

High newbuilding prices

Strong contracting activity, distributed between relatively few shipyards, pushed newbuilding prices up sharply. The average newbuilding price bottomed out in November 2020 at index 125 and has since strengthened to index 166 (+33%). Current newbuilding prices are among the highest 15% seen since 2000. Chinese owners remain the biggest investors in newbuild tonnage, with their investments in Gas Carriers driving up the newbuilding price.

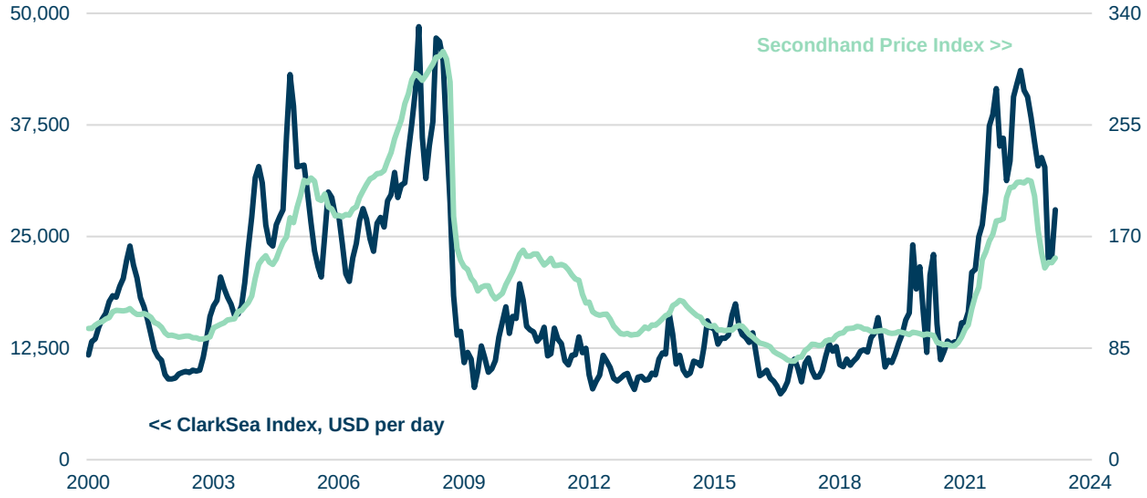
Strong investment activity

Investors placed USD 165.5 billion in vessels during 2022, a level only surpassed during the heydays of 2006-2008. Strong earnings combined with less inflated secondhand prices (relative to 2008) created the strongest S&P market on record. USD 57.5 billion was transacted during the year, when more than 2,300 vessels changed hands. Ordering of new vessels saw more than USD 108 billion invested in almost 1,100 vessels. 2022 thus saw the strongest investor appetite for new vessels since 2008.

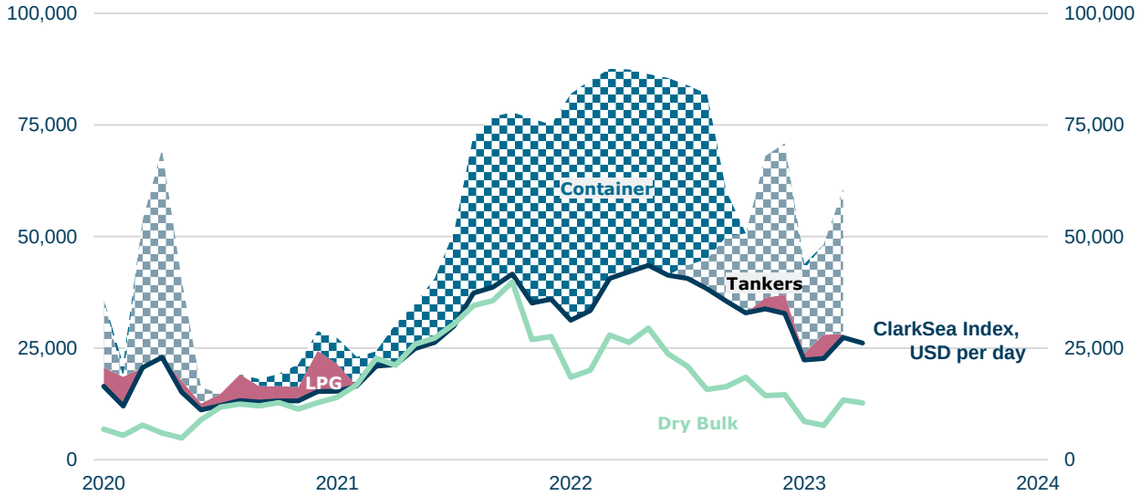
Strong earnings outside the dry bulk segment

The ClarkSea index was largely supported by Container vessels during 2022, but strong Tanker earnings added to the index from the summer onwards. Container earnings levelled off during the first few months of 2023, while Tankers maintained momentum. Dry Bulk earnings have been trailing the ClarkSea Index since the summer of 2021.

Rates and values (USD per day and index)



Clarksea index (USD per day)



Sources: Clarksons, Danish Ship Finance

Supply outlook

Low fleet growth is expected to support freight rates and secondhand prices in the coming years

The orderbook-to-fleet ratio bottomed out in November 2020 at 7.8%, but strong contracting activity raised this to 10.6% in May 2022. The ratio started to decline during the second half of 2022 and the first quarter of 2023 as contracting activity failed to maintain momentum. The orderbook represents 10% of the fleet as per April 2023.

Limited supply growth in 2023

Supply is scheduled to expand by 6% in 2023, with LPG, LNG and Container vessels leading the way. Crude and Product Tankers are only due to expand by 2.6% and 2.4%, respectively. Similar numbers are scheduled for 2024, although the Crude Tanker fleet is only set for 0.6% growth (and Product Tankers for 1.7%). Orderbooks are running thin in 2025 across all the main segments except Containers and LNG Carriers. The LNG fleet is scheduled for double-digit fleet expansion in 2025 and 2026.

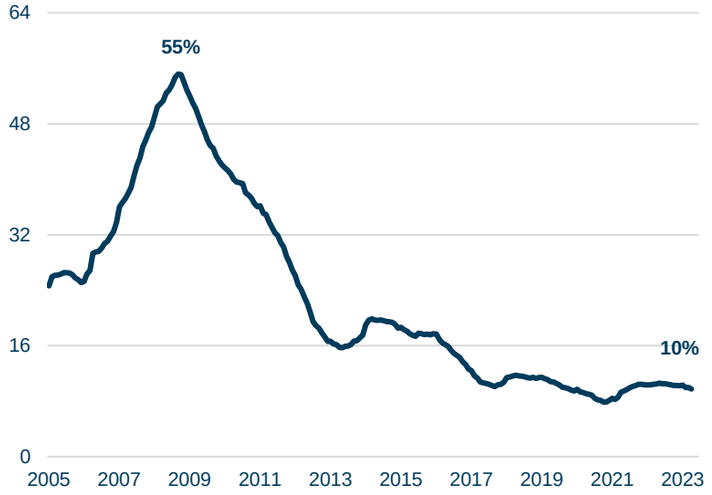
Few vessels are expected to be scrapped during 2023

The robust freight rate environment has caused demolition activity to decrease since 2020, and there are few signs of any notable rise in 2023 and 2024. Container demolition may increase after the massive influx of newbuildings. This may not happen until 2024. LNG is also experiencing significant fleet expansion but seaborne demand is expected to absorb much capacity, since pipelined Russian gas exports are now being transported on LNG Carriers. The largest LPG Carriers may run into surplus sometime in 2023 or 2024, which may intensify the demolition of older vessels.

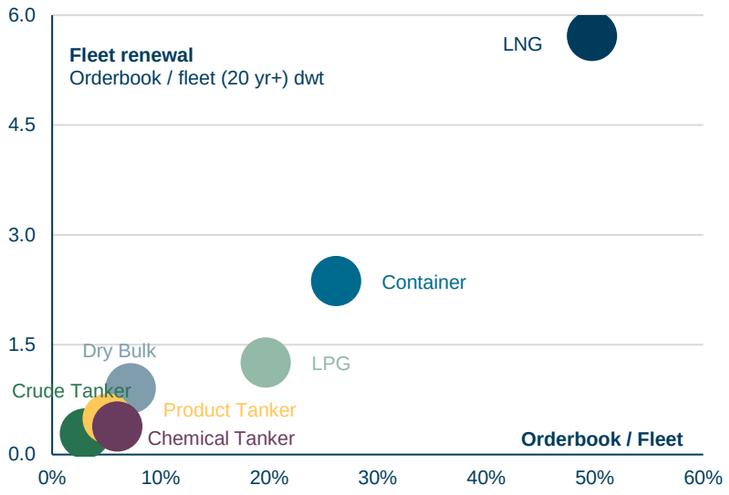
Slow steaming supports the outlook

The new IMO regulation demands a certain level of energy efficiency for every vessel in the fleet. For some of the older vessels, this means that they need to limit their engine power, while others can comply simply by slow steaming during operation. Others will need to do both. These initiatives are reducing the fleet's cargo-carrying capacity and thereby support the outlook.

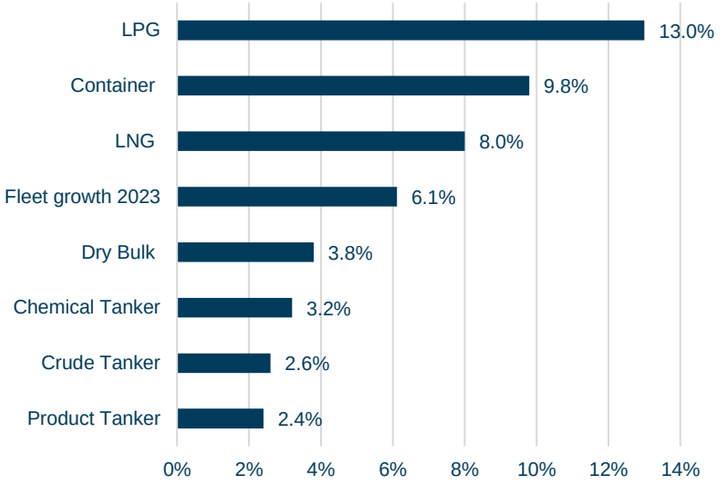
Global orderbook-to-fleet ratio



Orderbook-to-fleet ratio (%)



Fleet expansion in 2023 (before scrapping)



Sources: Clarksons, Danish Ship Finance

Market outlook

Strong market outlook across several of the largest vessel segments

Distance-adjusted seaborne demand is expected to increase by approximately 3% in 2023, while supply is projected to expand by 6% (before scrapping).

Strongest tanker outlook in a decade

Crude and Product Tankers are positioned for an extraordinary earnings season in 2023. Distance-adjusted demand is predicted to expand by 5.6% and 10.9%, respectively, while the fleets are scheduled to expand by less than 3%. When we add the fleets' reduced cargo-carrying capacity as a result of longer travel distances, and the expected slow steaming of older vessels in the wake of the new IMO regulations (EEXI and CII), we have one of the strongest market outlooks for decades. Chemical Tankers are not obviously positioned for a fantastic year, but a robust Product Tanker market is likely to swing enough Chemical Tanker capacity to Product Tanker trades to allow freight rates and secondhand prices to increase.

Containers are facing a difficult year

Containers are facing a tough year, with supply predicted to expand significantly ahead of demand. Older vessels are likely to be scrapped, while younger vessels are expected to be laid up. Timecharter rates are expected to drop significantly, while box rates remain subject to liner operators' ability to manage capacity within the alliances.

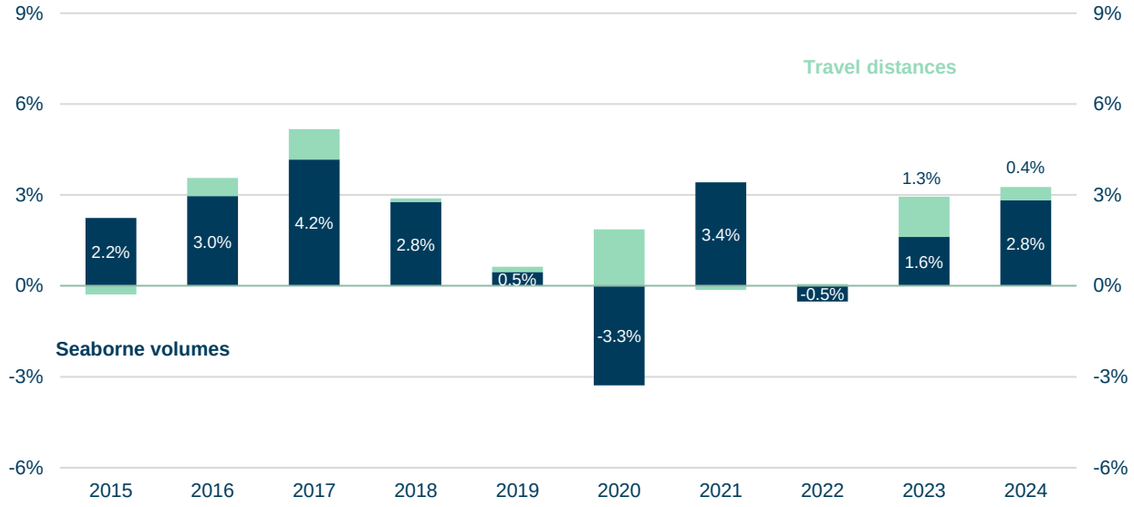
Weak LPG outlook

The LPG fleet is set for a massive expansion of 13% in 2023, while demand is only predicted to increase by 5%. Freight rates and secondhand prices could be heading for a challenging year. Periods of extraordinary volatility are anticipated alongside demolition of older vessels if the EEXI and CII regulation fails to balance the market through operational speed reductions.

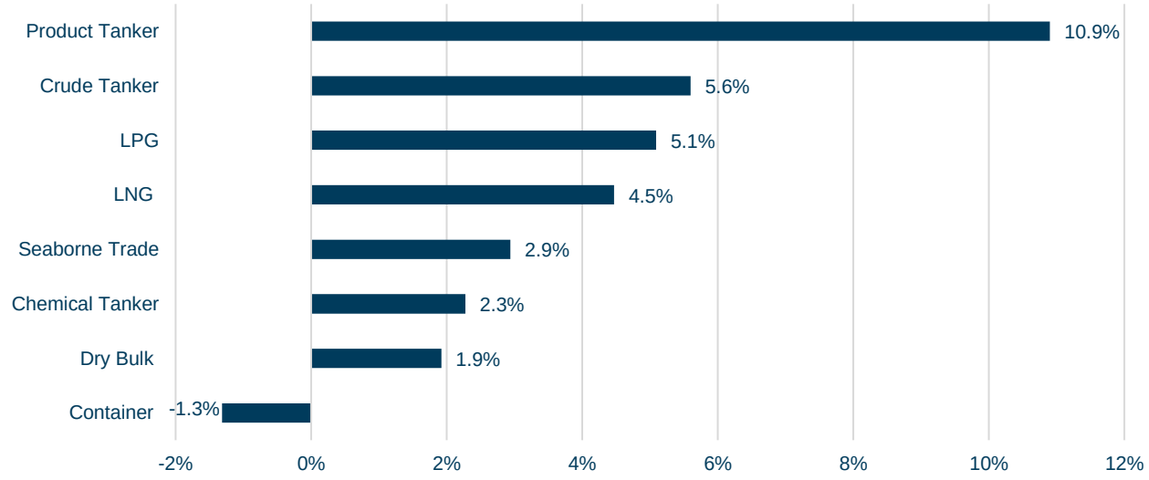
Uncertain times for LNG carriers

LNG Carriers could be in for a bumpy ride with periods of surplus vessel capacity. It remains to be seen to what extent steam turbine vessels will be scrapped to balance the market. Many expect that new import and export facilities will open in time to employ the massive fleet expansion set to take place over the next three to four years.

Seaborne trade volumes and travel distances



Distance-adjusted seaborne demand, 2023



Sources: Clarksons, Danish Ship Finance

Navigating the energy transition

Scant reward for first movers

There is currently no clear pathway for sustainable fuels to be introduced in the shipping industry. Periods of high earnings help, but the underlying challenges remain. Segments actively engaging in fleet renewal are likely to encounter surplus vessel capacity at times; inaction currently seems the most profitable strategy. The ability to burn sustainable fuels that are not yet available seems a problematic investment prospect in the short term, since it may yield a negative return on invested equity until the markets start rewarding such capabilities.

Fuel is the most significant cost component in running a vessel. The price gap between traditional fuels and sustainable fuels needs to be closed. This can be achieved through a carbon tax (in one form or another), global regulation or business mode innovation that changes the value drivers for seaborne transportation.

No task for individual shipowners

These structural challenges cannot be solved by individual shipowners. Shipowners are aiming to build as much flexibility into their fleets as possible. Existing fleets are being retrofitted and energy-saving technologies are being installed. These investments are intended to extend the lives of existing assets for as long as possible while staying compliant with the tightening global environmental regulation.

47% of vessels on order will have dual-fuel engines

New vessels are increasingly being ordered with dual-fuel engines and various energy-saving technologies. 47% of the current orderbook is alternative fuel-capable in one form or another. This number increases to 60% for orders placed during 2022.

Negative yield on invested equity

The logic behind these strategies is straightforward, but the short-term impact on invested equity will likely be negative. The investment in a capability unlikely to be used in the short term is probably considered a long-term hedge. However, the hedge is likely to carry a negative yield until the market rewards this capability. It may find some support from a corporate ESG angle, but it seems complicated to justify from a cash-flow perspective.

Fuels are not available

Sustainable fuels are currently not globally available and no spot market exists. A vessel capable of burning a sustainable fuel is unlikely to generate value from that capability until the fuel becomes widely available. This poses a dilemma in the industry's energy transition: do nothing, which is hardly a viable choice in today's business environment, or invest to adapt, which will destroy value in the short term. Finding the right balance is challenging.

First movers are not necessarily rewarded

The vessel segments where fleet renewal is most prevalent – Container, LPG and LNG – are likely to experience periods of lower freight rates and declining secondhand prices in the coming years, since they are likely to experience surplus vessel capacity at times.

A wait-and-see approach may pay off in the short term

Vessel segments with very low orderbooks – Dry Bulk, Crude Tankers, Product Tankers and Chemical Carriers – are primarily positioned for a strong earnings season. However, Dry Bulk could struggle to maintain freight rates and secondhand prices if the Chinese property sector fails to recover.

Long-term contracts

The only natural hedge for early movers ordering new vessels with dual-fuel capabilities is long-term employment contracts with solid counterparties. Such contracts are likely to be supported by long-term offtake agreements for sustainable fuels that will power the vessels during the contract period.▪

Shipbuilding

Shipping Market Review – May 2023

Shipbuilding

A few are taking the most

The shipyard industry has been consolidating capacity for more than a decade. A group of yards are beginning to show significantly better track records on attracting new orders. A group of 80 yards, with a combined share of global yard capacity of 63%, are building more than 80% of the vessels on order. The remaining group of 219 yards are quickly running out of orders. 113 yards are due to deliver their last orders this year, while another 78 will empty their orderbooks in 2024. Container and LNG orders rank first and second with 32% and 25% of the total orderbook, respectively, while Dry Bulk only accounts for 15% of orders currently placed.

High newbuilding prices – but fewer yards are benefiting

Newbuilding prices remain high, but prices are settled between a shrinking group of yards in each segment. The average newbuilding price is among the highest 15% seen since 2000. Newbuilding prices increased strongly during 2021 but have since risen only by 8% on average. LNG Carriers have seen the biggest increase. Steel prices are also high but have decreased during 2022 and so far in 2023.

The global orderbook is split between 297 yards, but only 155 yards secured new orders in 2022 and only 21 during the first four months of 2023.

The orderbook is unevenly distributed between vessel segments and does not mirror the segment distribution of the world fleet.

Shipping investors are increasingly concerned about asset risk. The introduction of tighter environmental regulations, new energy-saving technologies onboard vessels, and the transition towards alternative fuels are driving a flight to a small group of builders in each vessel segment.

Take LNG as an example. The massive LNG orderbook is distributed between only 16 yards, whereas 56 yards built the existing fleet. A similar trend is visible for other vessel segments. The Dry Bulk fleet was built by more than 500 yards, while the orderbook is concentrated to around 90.

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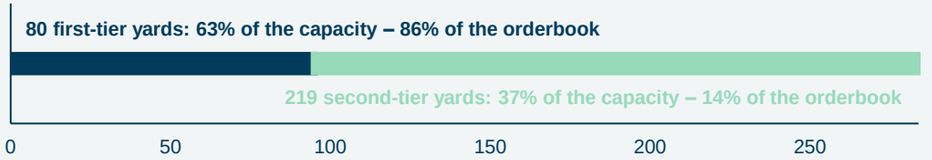
MARKET POSITION – May 2023

First-tier yards: Yards with order cover beyond one year, that have received orders in the past 18 months, that have at least two vessels in their orderbooks, and whose orderbooks are not set to run out in the next 24 months.



The global orderbook bottomed out in 2021 and has since expanded by some 30 million cgt – the equivalent of one year's yard output. Contracting activity has increased, but orders are being placed at ever fewer yards. The global order cover (orderbook-to-capacity ratio) is approaching two years, but 219 out of 299 yards are running an order cover of less than one year but with orders spread over two or three years. Many are facing a challenging outlook.

The yard industry is fragmented. We categorise yards into first-tier and second-tier groups, subject to their ability to attract new orders. The first-tier group is further divided into 1) top performers; 2) core; and 3) swing builders.

The first-tier group contains 80 yards with combined capacity of 34 million cgt, translating into 63% of global yard capacity but 86% of the global orderbook.

The first-tier yards secured more than 92% of contracts in 2022 and 98% during the first four months of 2023. The second-tier group consists of 219 yards with combined capacity of 19.8 million cgt or 37% of global yard capacity but only 14% of the orderbook.

The second-tier yards are struggling to secure new orders. In 2022, they only restocked 41% of annual yard capacity. They are scheduled to deliver more than half of their orderbooks in 2023.

Second-tier yard utilisation is predicted to increase from 36% in 2022 to 46% in 2023, only to drop to 25% in 2024.

Market dynamics in the last six months

The global orderbook has increased, but ever fewer yards are attracting new orders

Ever fewer shipyards are attracting new orders, reflecting the ongoing consolidation of yard capacity. The orderbook-to-fleet ratio stands at 12% (measured in cgt), and 62% of the orderbook is scheduled to be delivered by year-end 2024.

LNG and Container vessels dominate the orderbook

LNG and Container orders dominate the orderbook, while segments such as Dry Bulk and Product Tankers are unusually underrepresented. The LNG orderbook represents 43% of the LNG fleet, with orders only placed at 16 yards. In the Container segment, the orderbook-to-fleet ratio stands at 23%, but the fleet expansion is more widely distributed among 71 yards. Both segments have orderbooks running into 2028.

44 million cgt contracted during 2022

In 2022, only 161 yards (out of 287) received new orders compared to 225 in 2021. A total of 1,400 vessels with combined capacity of 44 million cgt were contracted in 2022, whereas only 7 million cgt was contracted during the first four months of 2023.

High performance in China and South Korea

41 Chinese and 8 South Korean first-tier yards, representing 52% of global yard capacity, more than restocked their annual yard capacity during 2022, while the remaining yards have struggled to secure utilisation for their future yard capacity.

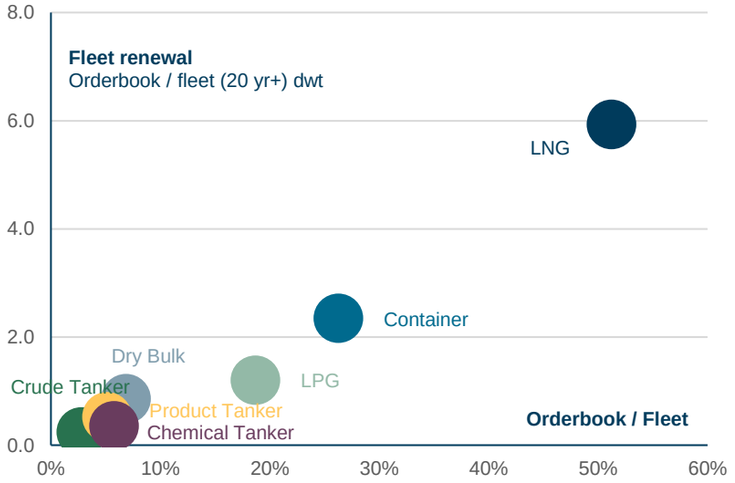
31 million cgt delivered in 2022

Almost 31 million cgt, distributed between 1,500 vessels, was delivered during 2022. This was in line with expectations but 5% below the 2021 performance and significantly below the yard capacity of approximately 52.5 million cgt.

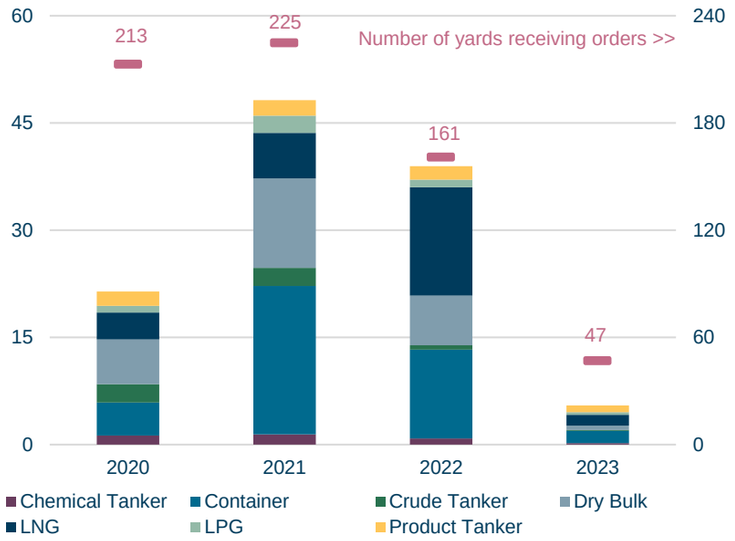
Modest order cancellations

The strong delivery performance of yards was boosted by the modest number of order cancellations: only 5% of orders scheduled to be delivered in 2022 were cancelled. Seven LNG orders at South Korean yards were postponed until 2023.

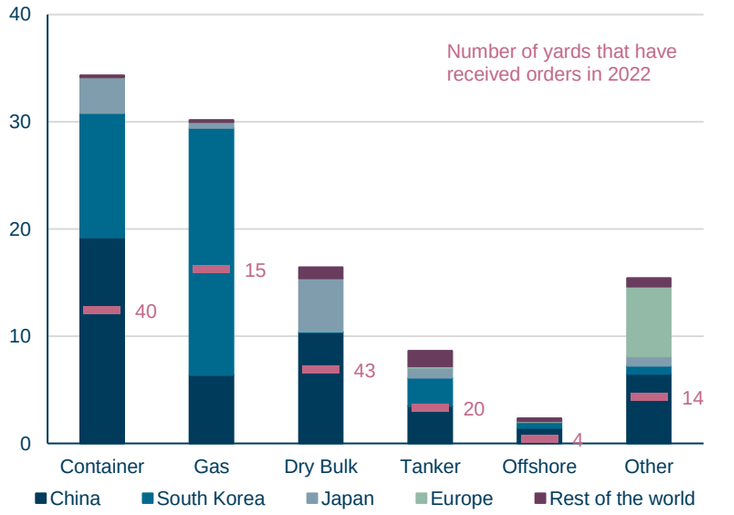
Fleet renewal and rebalancing potential



Contracting (million cgt)



Orderbook by segment and region (million cgt)



Source: Clarksons, Danish Ship Finance

Yard capacity and yard utilisation

A bumpy road for most – a smooth ride for very few

The global shipyard industry comprises a patchy group. Many yards are apparently finding it hard to adapt to a new landscape shaped partly by environmental regulation.

New capacity added despite low utilisation at some yards

Yard capacity is predicted to increase by 1.5 million cgt from 2022 to 2023, with the reopening of 12 yards in China despite a growing domestic and global surplus. Global yard capacity is thereby expected to reach 54 million cgt in 2023, split between 299 yards.

A patchy competitive landscape

The group of 80 first-tier yards represent 63% of global capacity but 86% of the orderbook. Within this group, we find 45 yards that have secured 76% of orders while representing 56% of global yard capacity. These yards are running an order cover (i.e. orderbook-to-capacity) approaching three years. The remaining 35 yards are considered swing yards in the first-tier category. They account for 7% of global yard capacity and 10% of the orderbook. The average swing yard currently has an order cover of 2.6 years, but many have found it difficult to secure new orders in 2023.

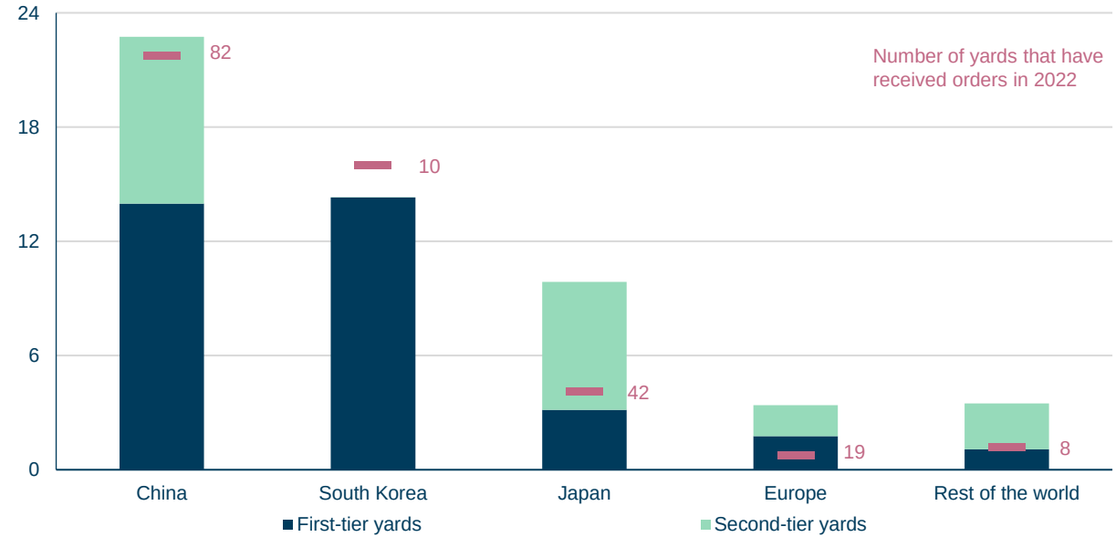
Many yards are failing to utilise their capacity

The group of second-tier yards currently numbers 219, with combined yard capacity of 19.8 million cgt (37% of global yard capacity) and an aggregated orderbook of 15 million cgt (14% of the global orderbook). These yards are struggling. Their average order cover is less than one year, but their orderbooks are distributed across more than two years, indicating that many yards are utilising very little of their annual capacity. The average yard utilisation for second-tier yards is expected to increase from 36% in 2022 to 46% in 2023, only to drop to 25% in 2024.

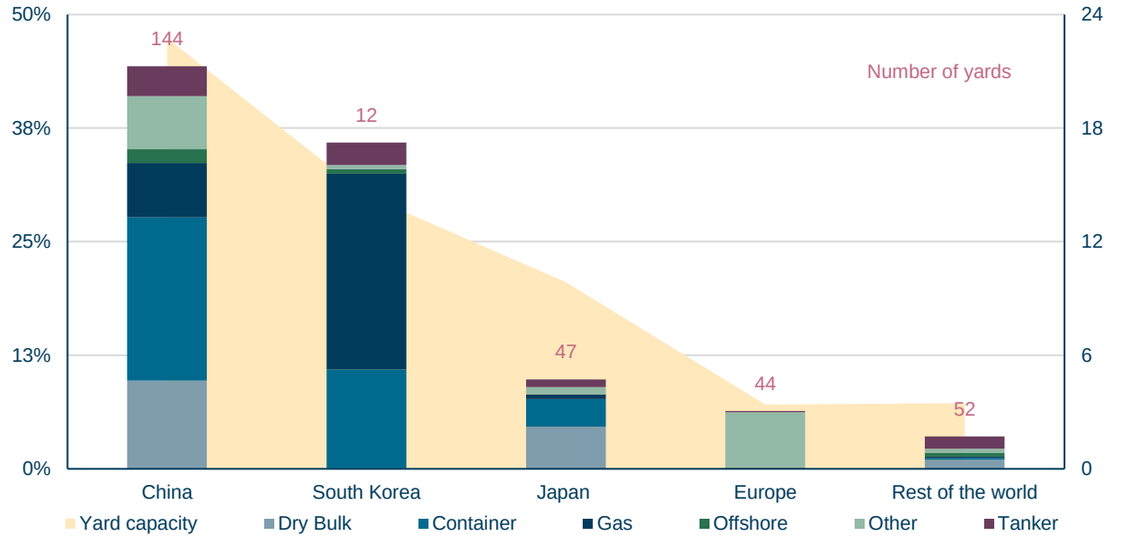
Higher yard utilisation among the strongest yards

The 80 first-tier yards are predicted to improve their yard utilisation from 65% in 2022 to 83% in 2023 and an astonishing 91% in 2024. First-tier yards in South Korea and China are outperforming their competitors in Japan and elsewhere.

Active yard capacity (million cgt)



Share of global orderbook (%) and yard capacity (million cgt)



Source: Clarksons, Danish Ship Finance

Shipbuilding market outlook

Yard capacity will soon run idle

The average second-tier yard is expected to increase utilisation from 36% in 2022 to 46% in 2023, only to see a deterioration to 25% in 2024. Only 11% of second-tier yard capacity is scheduled to be employed in 2025.

11% of yard capacity is running out of orders

A total of 113 second-tier yards, with combined capacity of 5.7 million cgt, are set to run out of orders in 2023. These yards account for 11% of global yard capacity.

Chinese yards are very exposed

It is mostly Chinese second-tier yards that are exposed. 60 yards with a combined capacity of 3.6 million cgt are due to deliver their last orders during 2023. This represents 16% of domestic yard capacity or 7% of global capacity.

2024 seems likely to be another challenging year

In 2024, another 68 second-tier yards with combined capacity of 6.7 million cgt (12% of global capacity) will deliver their last orders. 32 of these 68 yards are located in China.

First-tier yards will be at risk as soon as 2024

Surprisingly, 9 first-tier yards – categorised as swing yards – with combined capacity of 0.8 million cgt (1.5%) will also deliver their last orders next year. The total number of yards scheduled to deliver their last orders in 2024 is 78, with combined capacity of 7.6 million cgt or 14% of global yard capacity.

New orders are likely to be placed for 2025

New orders will likely be placed for 2025 delivery, but much indicates that the surplus capacity will only expand further. The current orderbook suggests that vacant yard capacity will grow by 13 million cgt (24% of current capacity) in 2025 if no new orders are secured. Most first-tier swing yards are due to run out of orders in 2025, but we are also starting to see signs that 15 core first-tier yards, representing 5.8 million cgt or 11% of yard capacity, will also run out of orders.

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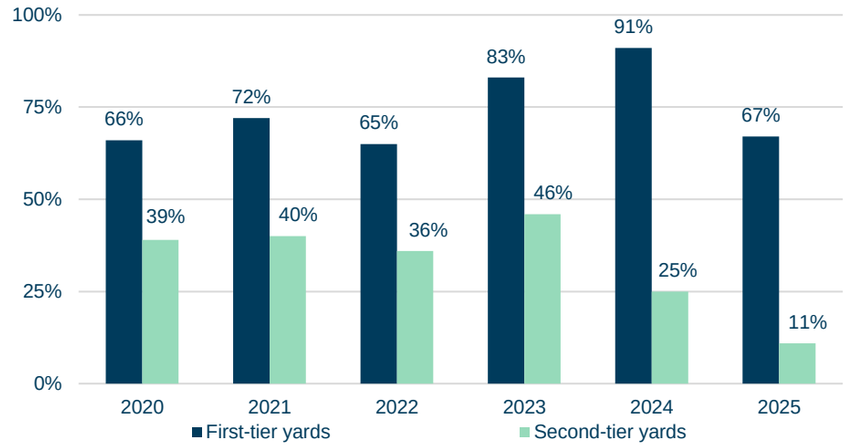
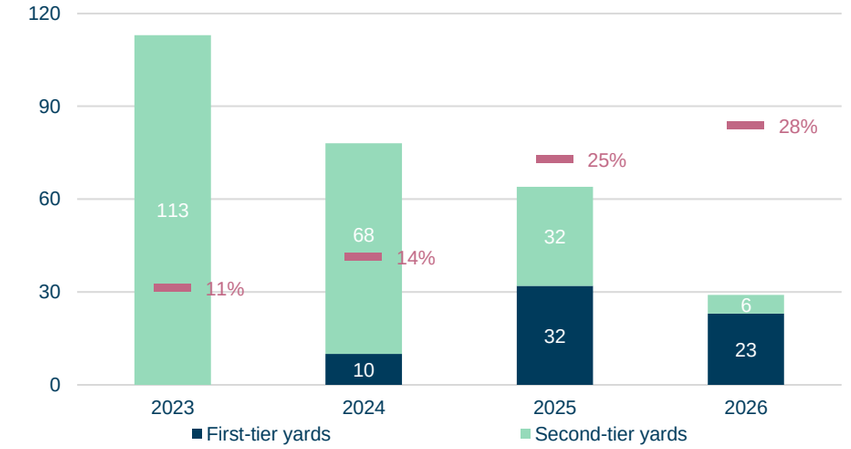
Reduced ability to renew fleets

The shipyard industry is clearly in the midst of a transition process that is shaping the competitive landscape. Many yards are struggling to see more than a few years ahead. The impact on the shipping industry is lopsided. The short-term effects are supporting high freight rates. A smaller yard industry shapes the longer-term outlook too, however. Reduced yard capacity may support freight rates in the short and medium term but may also postpone the industry's adoption of sustainable fuels.

Yard utilisation (delivery/capacity)



Yards out of orders (no.) and % of yard capacity (2023)



Source: Clarksons, Danish Ship Finance

Container

Shipping Market Review – May 2023

Container

The Container market is expected to suffer from weak market fundamentals

The Container market has been on a rollercoaster ride in the past three years. Freight rates reached all-time highs before tumbling 70-80%, while the orderbook has continued to surge. The Container market is now faced with a massive influx of vessels expected to enter the market in 2023 and 2024. High inflation and interest rates have weakened the global economic outlook. The Container market is, therefore, expected to suffer from surplus vessel capacity in the coming years. Timecharter rates will likely decline – especially for the larger segments. Market dynamics for Feeder vessels seem more resilient. Positive rebalancing potential coupled with higher intra-regional trade may strengthen fleet utilisation in the short to medium term.

Freight rates and secondhand prices

Box rates and timecharter rates reached an all-time high at the end of 2021 before falling by 80% and 70%, respectively. Despite the steep falls in freight rates, they remain within the top 30% since 2000. The average secondhand price index has almost halved in the same period and has dropped below median levels. Conversely, newbuilding prices have been fairly stable, supported by continued contracting of dual-fuelled vessels.

8,000+ teu vessels: Weakening demand and easing port congestion continued to reduce box rates by around 11% in the first four months of 2023. The three-year timecharter rate also declined, falling 18% to USD 39,400 per day in April for a 9,000 teu vessel. The average fixture period decreased to around eight months, which is less than the two-three years seen in 2021. The price of a five-year-old vessel of 10,000 teu decreased by 5% in the first four months of 2023, reaching USD 90 million.

3-7,999 teu vessels: The three-year timecharter rate for a 6,800 teu vessel declined by 14% in the first four months of this year, to USD 25,400 per day. The price of a five-year-old vessel of the same size remained steady in the same period and is currently USD 70 million.

Feeder vessels: In April 2023, the three-year timecharter rate was USD 13,100 per day, while the five-year-old secondhand price for a 2,500 teu vessel was unchanged in the first four months of 2023, and stood at USD 30 million.

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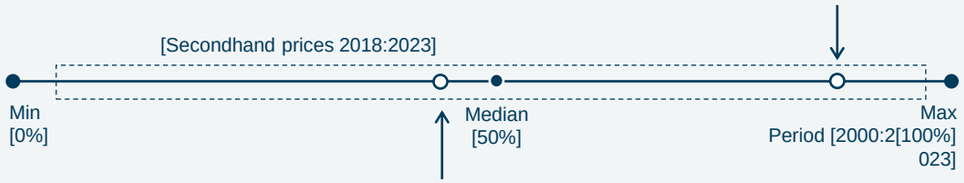
MARKET CYCLE POSITION – May 2023

Freight rates are well above the median but have decreased by 14% in the past six months



Secondhand prices are below the median and have decreased by 32% in the past six months

Weak retail sales and inventory build-up in the US and the EU have continued to reduce demand in 2023. Volumes were around 6% lower in the first four months of 2023 compared to the same period last year. Fleet utilisation in the first four months weakened as the Container fleet expanded by 1.3%, while easing port congestion also added around 3-4% to the active capacity. Fleet growth was partially offset by a 1% reduction in average speeds.

Deliveries: Around 400,000 teu was added to the fleet (1.5% of the fleet) in the first four months of 2023, compared to 250,000 teu in the same period in 2022. An additional 2 million teu is scheduled for delivery this year.

Scrapping was very low in 2022 with 11 vessels sold for demolition. However, scrapping activity has increased in 2023, with 19 vessels demolished (0.1% of the fleet) in the first four months of 2023.

Contracting decreased by 68% from 1.2 million teu in the first four months of 2022 to 400,000 teu in the same period in 2023 (around 1.5% of the fleet). Contracting activity in 2023 has primarily been driven by methanol-capable or methanol-ready vessels.

Orderbook: The orderbook has continued to increase despite the drop in contracting activity, as actual deliveries were lower than contracting activity. It is now at a historical high of 7.5 million teu (29% of the fleet).

Demand: Seaborne Container trade volumes decreased by 3.7% in 2022, as a weakening global economy and high inflation took their toll on demand for containerised goods. Demand has continued to weaken in 2023, with the monthly global seaborne Container trade indicator hitting a three-year low.

Market dynamics in the last six months

A volatile period for the Container market has seen steep falls in earnings

A steep fall in demand coupled with lower port congestion has sent freight rates downwards. This has not stopped market players from contracting new vessels, however.

Box rates are down but there are regional differences

Although average box rates have experienced significant declines over the past six months, they remain well above the historical lows seen in 2009 and 2016. Differences in demand for certain routes have, so far, prevented a total collapse in freight rates. As such, box rates from the Far East to the US West Coast have declined by 50% in the past six months and are currently below pre-pandemic levels. Box rates on the Europe-US East Coast route have dropped 56% in the past six months but are still almost double the level seen before the pandemic.

Weaker outlook has not halted contracting activity

Contracting activity has not stalled even though freight rates have declined. Shipowners and liner operators have earned massive amounts of cash in the past two years and continue to invest in renewing their fleets. In 2021 and early 2022, primarily Container vessels powered by conventional fuel or dual-fuel (LNG) were ordered. However, in recent months shipowners have favoured Container vessels powered by methanol. In Q4 2022 and Q1 2023, methanol-powered or methanol-ready vessels accounted for over 60% of contracting activity.

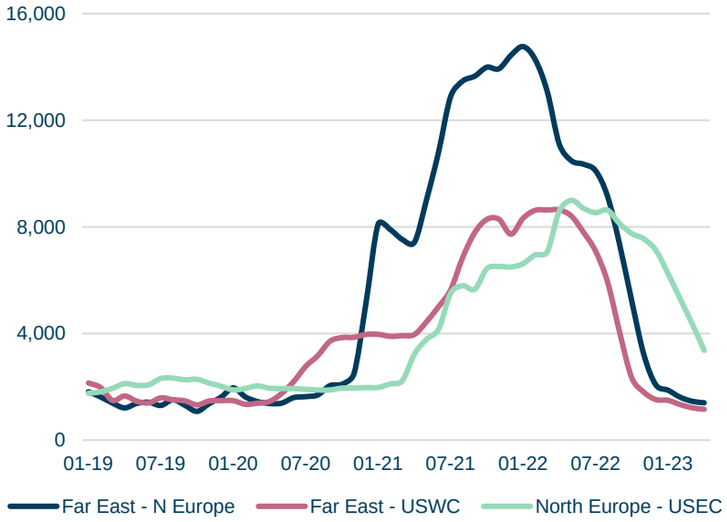
Port congestion is now back to pre-pandemic levels

Port congestion increased significantly amid the global supply chain disruptions caused by the Covid-19 pandemic. The average volume of Container capacity caught up in ports rose from 31.6% in 2019 to 34-35% in 2021 and 2022. The fall in Container trade saw port congestion ease. In 2023, the average number of vessels caught up in ports has fallen back to pre-pandemic levels of around 31% of the fleet, increasing the active fleet.

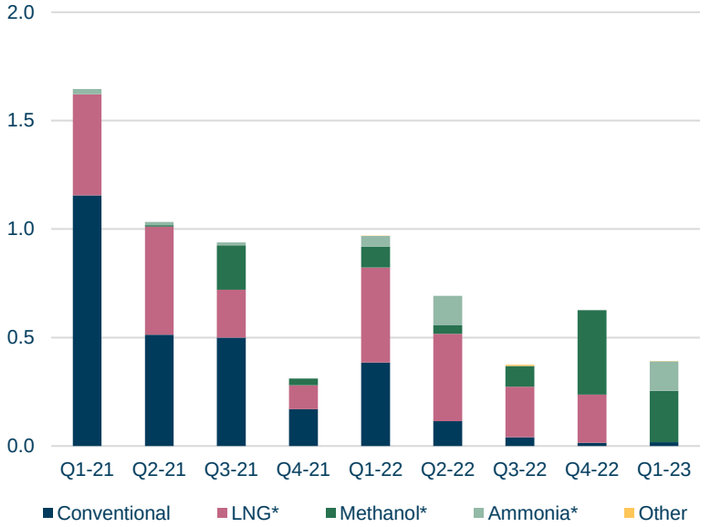
Turnover ratio has declined to 2.5%

Falling demand has dampened shipowners' interest in secondhand Container vessels. The turnover ratio declined to 2.5% in April 2023 compared to 5.4% a year ago. While sales activity fell across all subsegments, it was primarily the middle segments that saw the largest declines. Sales activity of 8-13,000 teu halved in 2023 compared to the average for the past five years.

XSI freight rates for selected routes (USD per feu)

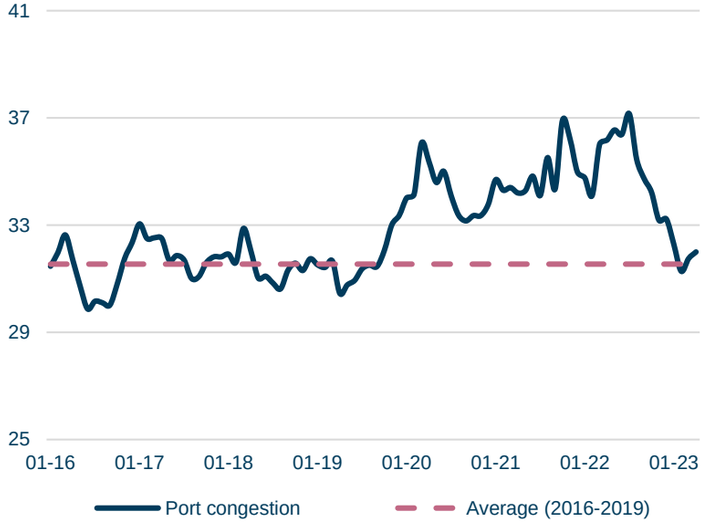


Contracting activity by fuel type (million teu)



*All vessels are a fitted with a dual-fuel engine.

Port congestion (% of fleet)



Source: Drewry, AlixPartners, AXS Marine, Clarksons, Danish Ship Finance

Summary: Container market outlook

Surplus vessel capacity is expected to pressure earnings further

Market fundamentals are expected to be challenged by both supply- and demand-side dynamics. A massive quantity of vessels is scheduled for delivery in 2023 and 2024, while a weakening global economic outlook is expected to limit growth in demand for Container vessels in the short to medium term. This is likely to create surplus vessel capacity in the larger segments, pressuring freight and timecharter rates. Fundamentals look more positive for Feeder vessels.

Freight rates have fallen before the new vessels have entered the market

A challenging macroeconomic outlook, high inflation and interest rates and a post-COVID normalization have pushed demand for containerised goods down. As a result, freight rates on major routes have fallen by 50-70% in the past six months. The collapse in freight rates has come at a time when a massive quantity of vessels is set to enter the market. The orderbook-to-fleet ratio currently stands at 29% and the fleet is projected to expand by around 10% (before scrapping) annually in 2023 and 2024.

Surplus vessel capacity is expected to pressure earnings for some time…

World seaborne container trade (in teu-miles) is expected to decline by 2.1% in 2023 and increase by 3.3% in 2024. Despite the partial recovery in 2024, the levels are projected to remain lower than in 2021. As a result, the Container market will experience surplus vessel capacity in the coming years – especially in the larger segments. This may further pressure earnings, while we might also see larger and newer vessels cascading down to routes that are traditionally occupied by vessels in the middle segments. While demolition activity has been close to zero in the past two years, increased layups and premature scrapping of vessels are very likely to be seen in the middle segments.

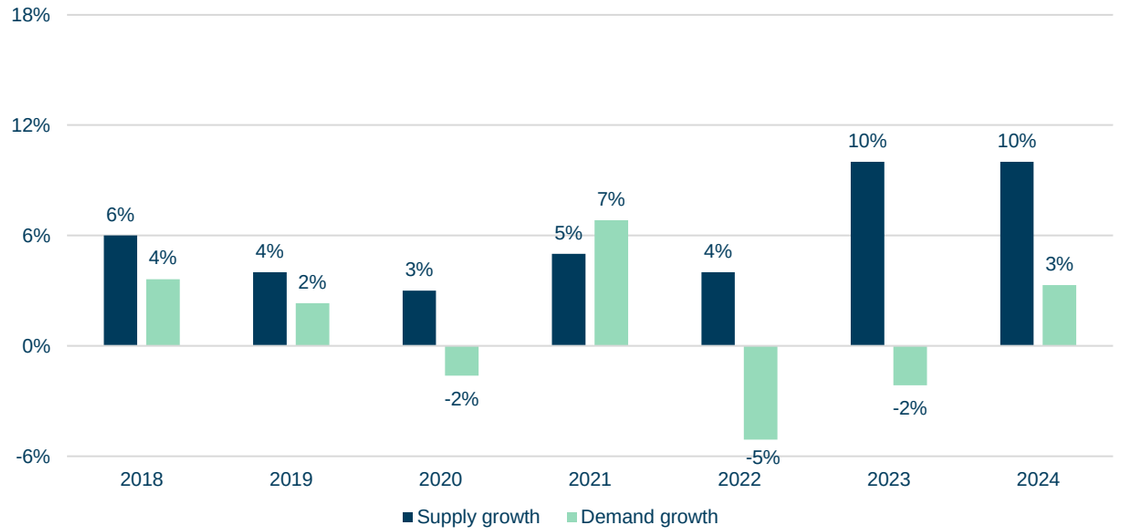
…which may increase the re-employment risk for tonnage providers

Liner operators have been the most bullish players in the newbuild market. They currently own around 63% of the orderbook, of which a significant part is for larger vessels. Tonnage providers who primarily own vessels in the larger segments may be facing an increased risk when re-employment of their ships comes due.

Robust intra-regional trade may provide support for feeder demand

While the larger segments are expected to suffer from surplus vessel capacity in the coming years, we see more robust dynamics for the Container Feeder segment. The rebalancing potential in this segment is fairly positive, as there are enough vessels above the age of 25 to cover the orderbook (which currently corresponds to about 13% of the fleet). Demand-side dynamics are also expected to remain more resilient than larger segments. The ongoing diversification in supply chains, prompted by the recent supply chain disruptions, may provide support for Container Feeder demand, as inadequate port infrastructure limits the ability of larger vessels to call at ports in emerging market economies. Demand for Feeder vessels is projected to remain steady in 2023 and increase by 3-4% in 2024.

Supply and demand balance (dwt and teu-miles)



Source: Drewry, AXS Marine, Clarksons, Danish Ship Finance

Container fleet outlook

The market is set to be flooded with new tonnage in the coming years

The high inflow of vessels will likely create surplus vessel capacity and increase the re-employment risk for tonnage providers.

Massive inflow of vessels in 2023 and 2024

Despite a steep fall in earnings, the orderbook has continued to expand, driven by new orders for large methanol-capable vessels. A massive 726 vessels will be added to the fleet during the rest of 2023 and in 2024 – corresponding to annual gross fleet growth of around 10%. A further 156 vessels are scheduled for 2025.

Delivery of the orderbook seems to be on track

Speculation has emerged as to whether we could see widespread cancellations or conversion of orders. However, so far only 33 orders have been cancelled (3% of the orderbook), mainly vessels powered by conventional fuel. Furthermore, few orders have been postponed, with only 0.8% of the orderbook rescheduled by more than a year. Cancellations are expected to remain low and will primarily concern options rather than actual orders, so that heavy cancellation fees can be avoided.

Re-employment risk for tonnage providers

The Container market is expected to struggle with surplus vessel capacity in the coming years – especially in the larger segments. However, this may impact operators and tonnage providers differently. Liner operators currently own the lion's share of the orderbook (63%), of which two-thirds are vessels in the 12,000+ teu segments. If demand remains constant, we may see an increasing re-employment risk for tonnage providers.

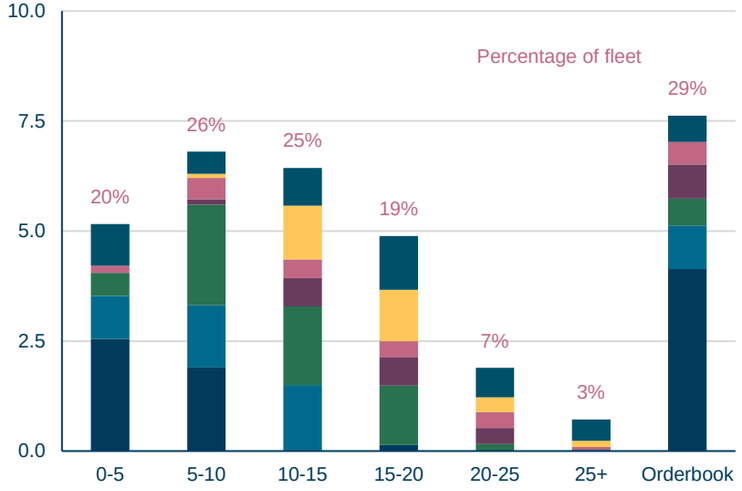
Limited support from slow steaming and rerouting

Average speeds across segments have already fallen to an 11-year low. Further slow steaming is expected and we may also see some of the larger vessels reroute their back-haul trades. The impact on utilisation from these measures is likely to be limited, as average vessel speeds have already hit an 11-year low.

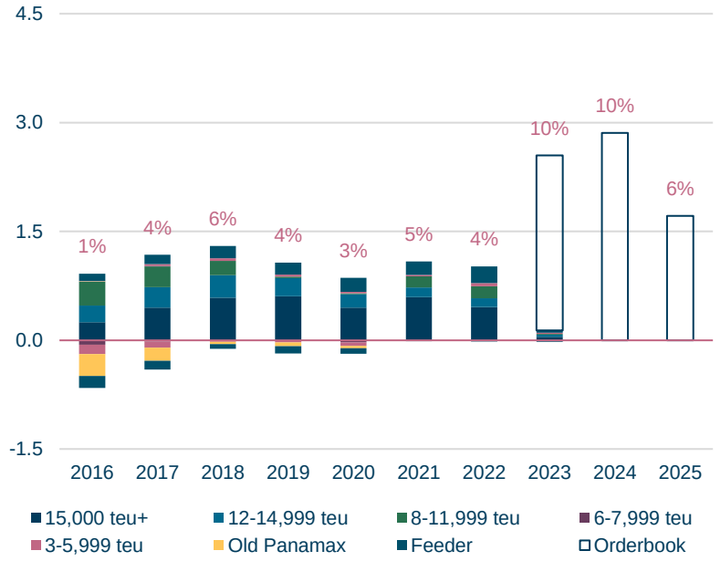
Layups and demolition activity are likely to increase

The strong inflow of vessels may lead to increased layups and premature scrapping. Around 22% of the 6-8,000 teu fleet is older than 20 years. These vessels may be at risk, as larger vessels may cascade down (until port limitations) to the routes traditionally occupied by these vessels.

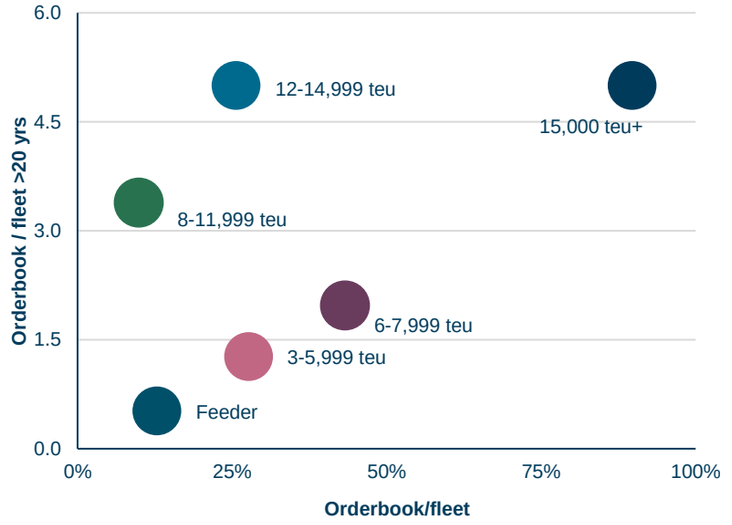
Age distribution of fleet (million teu)



Fleet development (million teu)



Fleet renewal potential (teu)



Source: AXS Marine, Clarksons, Danish Ship Finance

Container demand outlook

Weaker economic activity and high inflation are a toxic mix for the Container market

A weaker global economic outlook will challenge demand for large Container vessels. Demand for smaller vessels seems to have fewer headwinds.

A challenging macroeconomic outlook…

The outlook for the global economy will continue to be challenging in the short term. Inflation remains persistent: current projections suggest that global inflation will reach 7.0% in 2023 and 4.9% in 2024, almost double the level seen in the five years before the pandemic (2014-2019). This will impact growth in real wages, which in the US are already down 8% since the start of the pandemic.

…will likely impact demand for containerised goods

The declining real wages have reduced demand for containerised goods on top of post-COVID normalization. As such, retail sales in the US have been rather sluggish in the past few months, while there has been an actual decline in the EU. Global supply chain disruptions have, at the same time, prompted retailers to build up inventories. In the US, retail inventories have increased by over 10% (adjusted for inflation) since 2020. Retailers in the US and the EU are expected to draw down inventories in the short term, limiting Container trade on Far East to Europe and North America routes. Demand for large and medium Container vessels is expected to decline by around 3-4% in 2023 and partially recover in 2024.

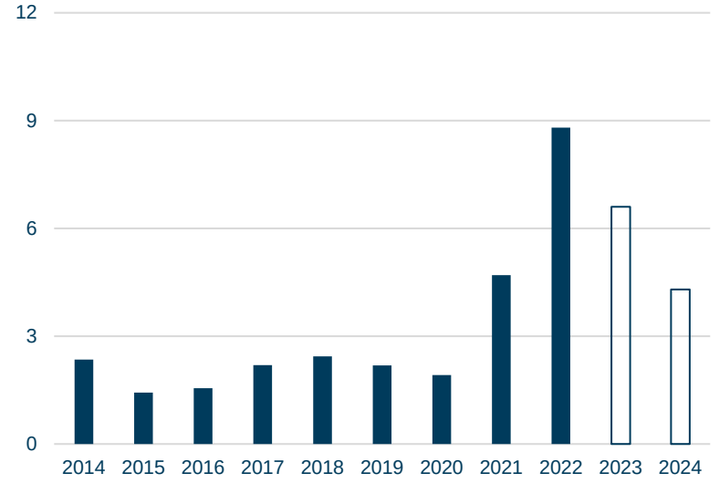
Intra-regional trade in asia remains resilient

We see more positive drivers for intra-regional trade. The disruptions that occurred during the pandemic prompted many firms to strategically re-evaluate and diversify their supply chains, c.f. demand deep dive. Furthermore, a combination of slowing demand and strict environmental regulations may see larger vessels call at fewer ports (improving their CII-ratings), paving the way for growth in intra-regional trade to feed the larger ports. Demand for Feeder vessels is expected to remain steady in 2023 and then increase by 3-4% in 2024.

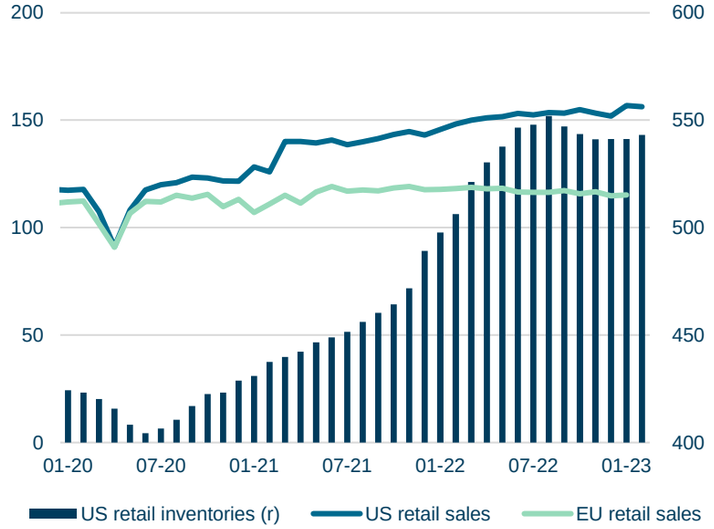
Alliance shakeup may further pressure freight rates

Different strategic approaches by liner operators have shaken up the Container shipping alliances. For instance, the 2M alliance is set to be discontinued in 2025. Further shake-ups are expected, which may pressure freight rates further as operators seek to fill capacity on vessels.

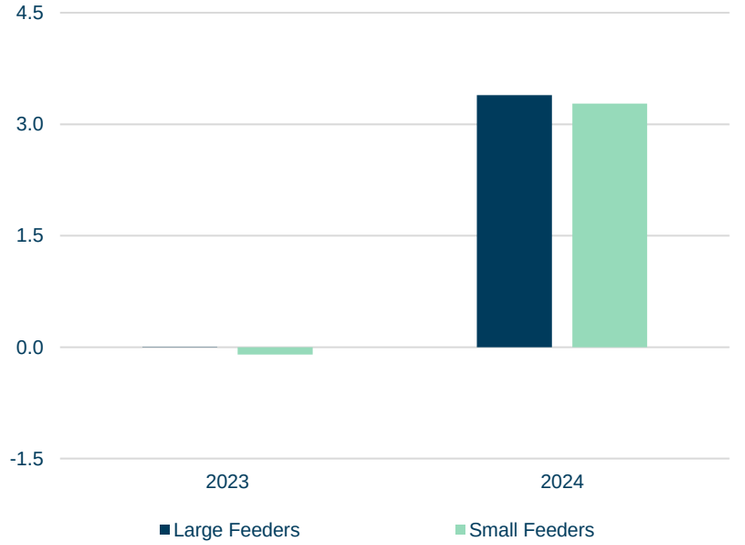
Global inflation rates (%)



Retail sales (index) and inventories (USD billion)



Demand projections for feeder vessels (%)



Source: IMF, St. Louis Fed, United States Census Bureau, Eurostat, AlixPartners, AXS Marine, Clarksons, Danish Ship Finance

Demand deep dive: Will China remain the “factory of the world”?

A move away from China may benefit demand for Container Feeder vessels

Following the recent supply chain disruptions coupled with geopolitical factors, there are tentative signs of a shift away from China being the “factory of the world”. This may lift demand for Container Feeder vessels in the short to medium term.

Pandemic showed how risky it is putting all your eggs in one basket

The Covid-19 pandemic caused major disruptions in the global supply chain. Retailers experienced lengthy delays in the supply of products, as the risks of centering large parts of their supply chains in and around China materialised. Consequently, the Global Supply Chain Pressure Index (GSCPI) reached an all-time high in 2021.

The rapidly changing geopolitical situation is also playing its part

Fears that escalating tensions between China and Taiwan may trigger new trade wars are also pressuring companies to relocate their supply chains. More Western companies are either reshoring (moving to domestic production) or shifting production facilities to “friendlier” regions. Comparing the average Purchasing Managers’ Index (PMI) before and after the start of the pandemic suggests that the score has increased in Western and “Western-friendly” regions (such as India, Thailand, South Korea, etc.).

Emerging market economies are now gaining traction in the manufacturing space

Container exports from Vietnam to the US have increased significantly and now account for around 8.0% of total US Container imports – this share was only 4.0% in 2017. Likewise, India accounted for around 4.7% in 2022 compared to 3.3% in 2017. Conversely, China’s share declined from 40.0% in 2017 to 31.4% in 2022 – although it still accounts for the biggest share. China’s total exports of Containers have also seen a diminishing growth in recent months. Note that these figures do not take into account indirect exports to the US.

China is focusing on other drivers to boost its economy

China has traditionally been known as the “factory of the world”. However, manufacturing has become less important for the Chinese economy, as manufacturing’s share of GDP has declined, from over 30% in 2014 to around 25% in 2022. Furthermore, to boost China’s autonomy from the West, the government is expected to focus on other drivers of the economy. Nevertheless, China remains the largest manufacturing country in the world, accounting for about 28% of global manufacturing output.

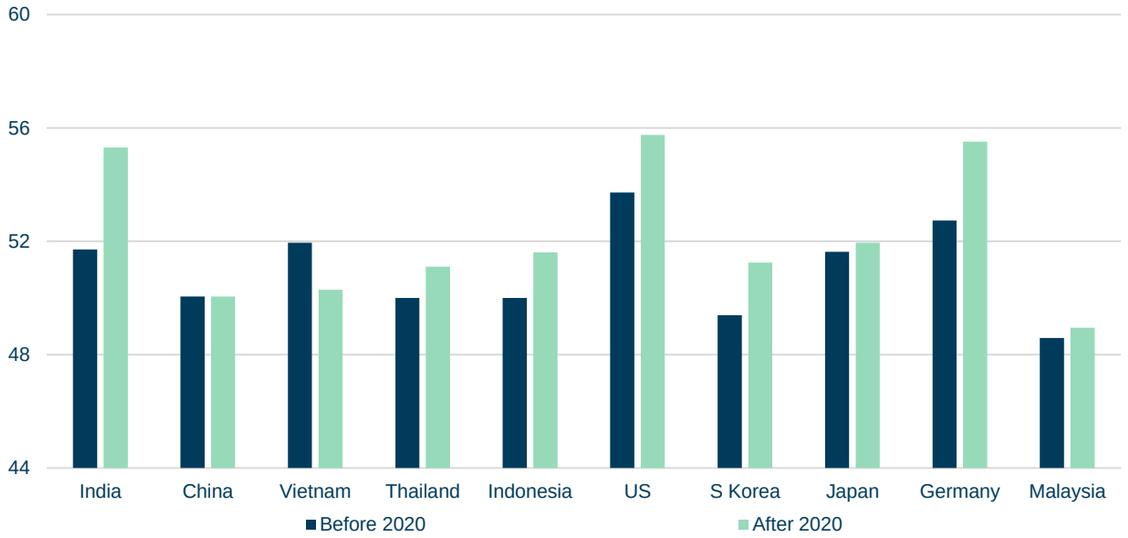
Emerging market economies are still constrained by infrastructural inefficiencies

Although we are seeing an uptick in manufacturing in emerging market economies, they still lag behind China in terms of port size/capacity and supply chain inefficiencies. Chinese investments in overseas ports and infrastructure have also increased in recent years. Thus, emerging market economies currently have limited port infrastructure to accommodate the largest Container vessels, which may hamper their potential to compete with China in the manufacturing space.

Inflow of large vessels may drive feeder demand up

The trend of relocating manufacturing from China to other emerging market economies is expected to continue. As it may take a couple of years for port infrastructure and capacity to be scaled up, we expect this relocation to support demand for Container Feeder vessels. Furthermore, the high inflow of large vessels is likely to increase surplus vessel capacity on mainlane trades. As such, we may see larger vessels call at fewer ports, which may further benefit demand for Feeder vessels.

Purchasing managers’ index for selected countries (neutral=50)



Source: IMF, Drewry, NY Fed, World Bank, AlixPartners, S&P Global, AXS Marine, Clarksons, Danish Ship Finance

Dry Bulk

Shipping Market Review – May 2023

Dry Bulk

The market is being supported by positive supply-side dynamics

The Dry Bulk market has finally settled, having experienced significant declines during 2022. Weakened market fundamentals due to declining demand and easing port congestion led to sharp falls in freight rates. The Baltic Dry Exchange Index reached a two-year low of 650 in February 2023. Secondhand prices have remained resilient, though, supported by expectations of higher earnings. Fundamentals now seem positive on the supply side, as the orderbook has reached new lows, limiting future fleet growth in the short term. But there is still uncertainty on the demand side, particularly for Capesize vessels, as the Chinese real estate market continues its plunge. The demand outlook seems more positive for smaller segments, driven by the transition towards green energy.

Freight rates and secondhand prices

Average earnings reached a two-year low of USD 8,600 per day in January 2023 before partially recovering to USD 12,800 per day in April 2023. Freight rates for Capesize vessels have fallen below median levels, while secondhand prices have remained fairly stable increasing price-to-earnings ratios. Despite recent falls in freight rates in the smaller and midsize segments, earnings have remained within the top 40% since 2000.

Capesize: Heavy rainfall in Brazil and weak demand from China lowered the one-year timecharter rate to a two-year low by the end of 2022. However, the rate has since increased by 30% in the first four months of 2023 to USD 20,000 per day. The price of a five-year-old vessel has risen by 22% in the same period to reach USD 53 million.

Panamax: Demand for Panamax vessels has been supported by a shift in global trade flows of coal. The one-year timecharter rate has increased by 18% in the first four months of 2023 to USD 18,400 per day. The price of a five-year-old vessel has increased by 8% in the same period to reach USD 32 million.

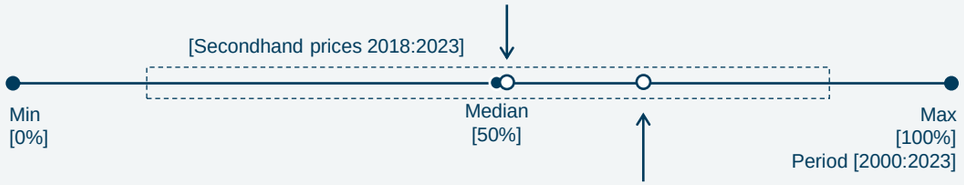
Handymax: A rebound in grain trade has lifted the one-year timecharter rate by 16% in the first four months of 2023 to USD 15,700 per day. The price of a five-year-old vessel is up 11% to USD 31 million.

Handysize: Freight rates have increased by 6% in the first four months of 2023 to USD 15,200 per day. The price of a five-year-old vessel has increased by 6% to USD 26 million.

DS:FUNDAMENTALS

MARKET CYCLE POSITION – May 2023

Having decreased by 11% in the past six months **freight rates** are still at the median



Secondhand prices have increased by 13% in the past six months and are above the median

Global seaborne demand for Dry Bulk commodities increased by 0.4% in the first four months of 2023, having fallen by 2.7% during 2022. Travel distances have added another 0.6% to demand growth in 2023. The Dry Bulk fleet expanded by 1% in the first four months of 2023, while easing port congestion also added capacity to the active fleet. Average vessel speeds have remained fairly steady so far in 2023. Fleet utilisation has, so far, remained steady during the period.

Deliveries: Around 9.6 million dwt was added to the fleet (0.9% of the fleet) in the first four months of 2023, compared to 11.2 million dwt in the first four months of 2022. An additional 27 million dwt is scheduled to be delivered this year.

Scrapping remained more or less stable in 2022, going from 5.2 million dwt in 2021 to 5.0 million dwt in 2022. So far, 1.5 million dwt has been scrapped in 2023.

Contracting decreased by 50% from 52 million dwt in 2021 to 26 million dwt in 2022 (corresponding to around 3% of the fleet). So far in 2023, 2.4 million dwt has been contracted.

Orderbook: The orderbook continued to decline in 2022 and is now at a historical low of 67 million dwt (7% of the fleet).

Demand: Seaborne trade volumes decreased by 2.7% in 2022, owing to lower seaborne trade of iron ore and grain. In the first four months of 2023, volumes were up by 0.4% compared to the same period in 2022.

Travel distances increased by 1.0% in 2022, driven by long-haul trade of coal. The trend seems to have continued, as distances were up 0.9% in the first four months of 2023 versus the same period last year.

Market dynamics in the last six months

The war has taken a toll on seaborne demand for Dry Bulk commodities

Weakening demand and easing port congestion has prompted a significant decline in freight rates compared to its peak levels in 2022.

War and weak growth have impacted demand

Demand for Dry Bulk vessels weakened during the second half of 2022. Grain trade declined by around 3% in 2022, as the Russia-Ukraine war caused seaborne grain exports from Ukraine to decline by over 50%. Global iron trade also dropped during this period by just over 2% as a result of the weakening Chinese real estate sector. The BDI index usually experience an average fall of about 25% from May to January due to seasonality, but in 2022 there was a significant drop of 70% during this period. Since January 2023, the BDI index has recovered, increasing by 61%.

Coal still trading at a more favourable price than LNG

High LNG prices have led many European and Asian countries to substitute LNG with thermal coal in the power generation sector. At one point in mid-2022, spot prices for LNG delivered in Asia were trading at a premium of USD 140/mwh (+400%) to thermal coal prices in Australia. The premium has since decreased by 80% and in April 2023 fell below the average for the past five years.

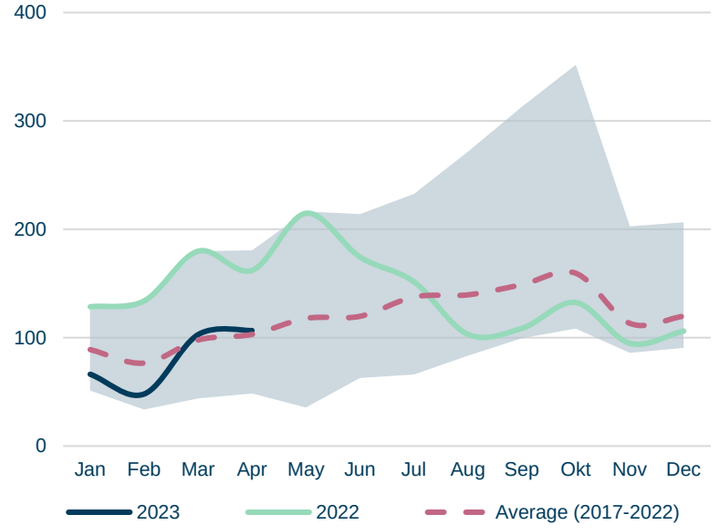
Easing port congestion has increased active supply

Global supply chain disruptions saw congestion at ports reach new heights in 2021. However, as demand for Dry Bulk vessels weakened, we also saw average waiting times at ports decline. The average waiting time to discharge at Chinese ports has declined by 40%, from over four days in Q1-22 to around 2.5 days in Q1-23. Likewise, the average waiting time to load cargo at Australian and Brazilian ports has decreased by 10-16% during the same period. Easing port congestion has thus increased the active supply of Capesize and Panamax vessels by 3-4%.

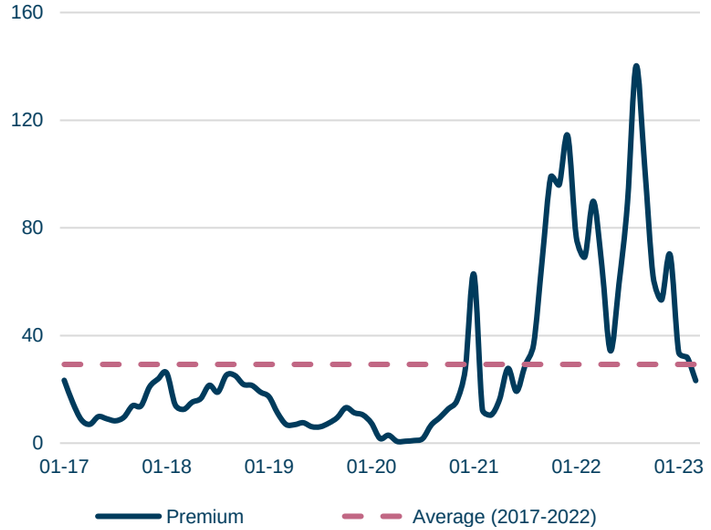
Heat is coming off the secondhand market

High earnings during 2021 and the first half of 2022 saw demand for secondhand tonnage increase. The average turnover ratio reached a little over 7% during this period. As earnings started to decline, we also saw fewer vessels being transacted in the secondhand market. In the first quarter of 2023, the turnover ratio reached the historical median of 5%. Moreover, there are indications that older secondhand tonnage is less demanded by shipowners.

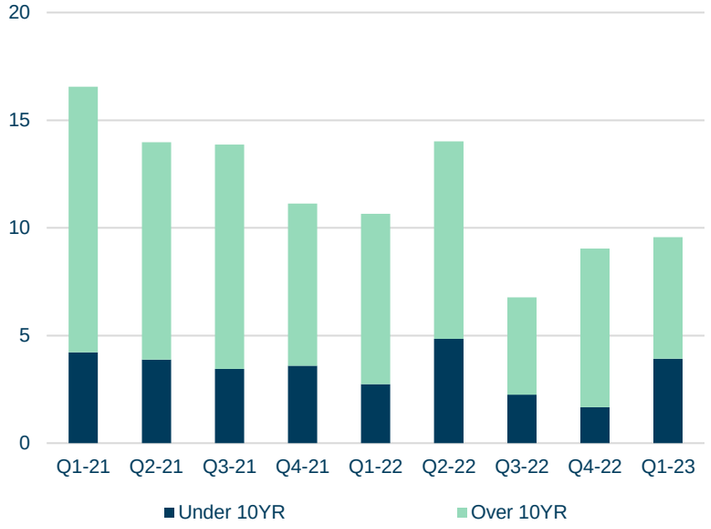
Baltic exchange dry index (2000=100)



Spot LNG to thermal coal price premium (USD/mwh)



Sales by age group (million dwt)



Source: U.S. Department of Agriculture, AXSMarine, Clarksons, Danish Ship Finance

Summary: Dry Bulk market outlook

Earnings will likely increase, driven by positive supply-side dynamics

Market fundamentals are being supported by the positive supply-side dynamics, as the orderbook continues to decline. A combination of low yard availability and uncertainty about future fuels will likely keep contracting low for some time. However, uncertainty remains on the demand side, particularly for larger vessels, as the Chinese real estate market continues to deteriorate. Demand for vessels in the smaller segments seems to be supported by the transition towards green energy.

Positive supply-side dynamics are expected to lift earnings in the short term

The historically low orderbook-to-fleet ratio of 7% is expected to limit fleet growth in the coming years. A combination of low yard availability at the top-tier yards and uncertainty about future fuels for Dry Bulk vessels has discouraged shipowners from contracting new vessels. The few LNG-capable vessels in the orderbook have been secured on long contracts. In the short term, earnings are expected to be boosted by the positive supply-side dynamics.

Reopening of China may not provide the anticipated uptick for Capesize vessels

China has traditionally accounted for a large part of the growth in Dry Bulk volumes. The market is thus anticipating a boost in Dry Bulk volumes after the reopening of the economy. However, an uptick in demand may not materialise, at least not for larger Capesize vessels, which have been dependent on the Chinese real estate market's demand for steel. The ongoing real estate crisis in China saw real estate investment decline by 10% in 2022 – a drop not seen since 1997. China also emphasises the need for sustainable domestic growth via private consumption in its latest five-year plan. Boosting economic growth through fixed investments in real estate is not expected to be a central part of future plans. We may therefore not see the required growth in iron ore trade.

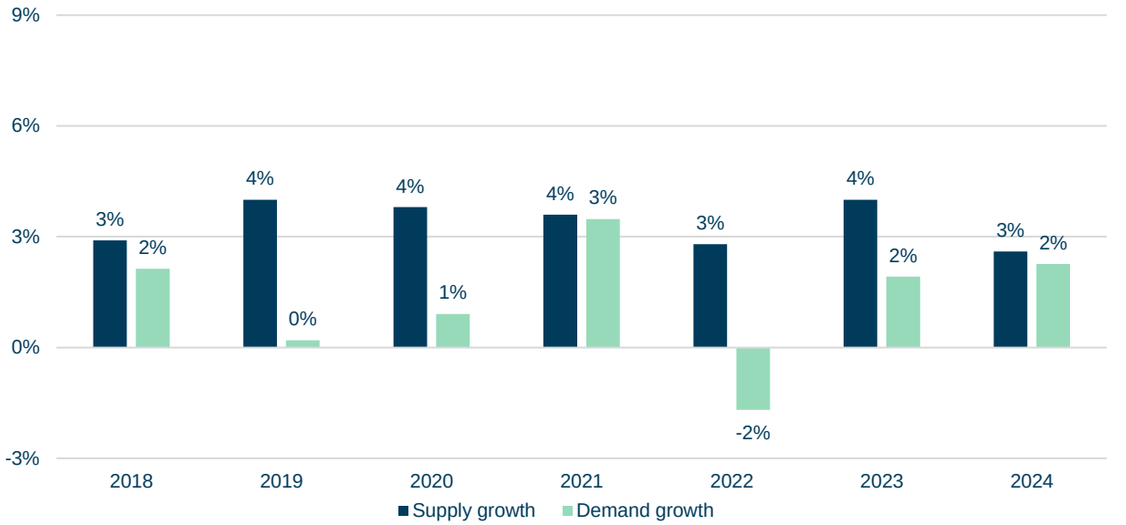
Increased pressure to renew fleet for the Handymax and Handysize segments

The Dry Bulk fleet is gradually ageing, with the Handysize and Handymax segments most exposed. Around 20% of Handysize vessels will be over 20 years old by 2025. Furthermore, countries like India are expected to regulate against older vessels calling at their ports, which may provide further impetus for fleet renewal. When there is more clarity about future fuels, we may begin to see a major fleet renewal take place in 2025-26, when more capacity at top-tier yards becomes available.

The green transition provides an opportunity for smaller segments

Demand for raw materials (e.g. nickel, cobalt and rare earths) is expected to increase significantly, as the green transition will shift markets from a fuel-intensive to a material-intensive system. China currently dominates a large part of the global supply chains for green technologies. However, we expect to see both North America and Europe boosting their domestic industries for these raw materials. In the event of this, we may see a significant increase in demand for Handymax and Handysize vessels, as they account for a large part of the seaborne trade of these raw materials.

Supply and demand balance (dwt and tonne-miles)



Source: AXSMarine, Clarksons, Danish Ship Finance

Dry Bulk fleet outlook

Supply-side dynamics are being supported by the low orderbook and regulations

Fleet growth is expected to remain low in the short to medium term. But an ageing Dry Bulk fleet may soon lead shipowners to renew their fleets.

Supply outlook is being shaped by low fleet growth

The orderbook remains at nearly an all-time low of 7% of the fleet, which will limit fleet growth in the coming years. With the current orderbook, the fleet is set to expand by 3.8% in 2023, 2.7% in 2024 and a mere 1.1% in 2025 before scrapping. Upcoming hull surveys and scrubber retrofits may periodically offset the fleet growth by a little over 1% annually in 2023 and 2024. Many Capesize and Handymax vessels are due for hull surveys in 2025, which is estimated to offset fleet growth by 2%, leading to a temporary reduction in the fleet.

Ageing vessels may increase pressure to renew fleets…

The Dry Bulk fleet is ageing, especially in the smaller segments. In 2025, around 13% of the fleet will be over 20 years old (based on the current orderbook). For the Handysize segment, this share will be almost 20%. Environmental regulations have set the course in terms of operational activities for older vessels, but some countries (such as India) are expected to go further by restricting port calls of Tankers and Bulkers over the age of 25. Should this trend continue, we may see more shipowners being pushed into renewing their fleets, either by contracting new vessels or secondhand tonnage.

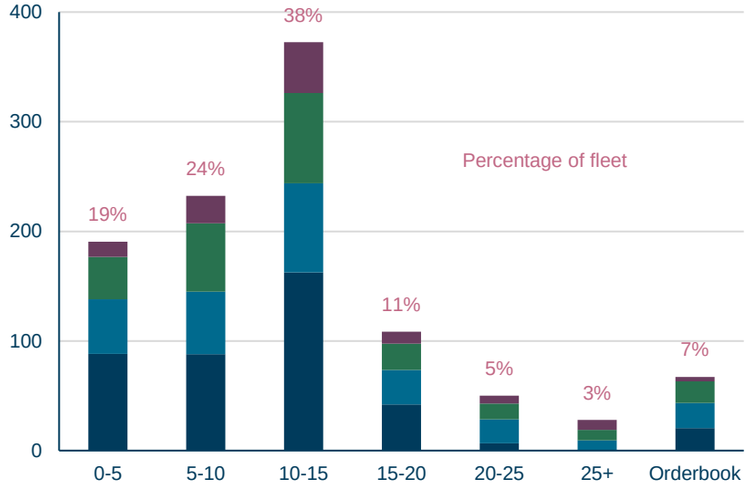
…but yard capacity is currently not available

Should shipowners choose to renew their fleets by contracting new vessels, this may realistically be possible in the next couple of years. Yard capacity at the top ten yard groups, which have experience in building Dry Bulk vessels, is not expected to become available until 2025-26. Capacity at the other yard groups is gradually becoming available, but they have less experience in building Dry Bulk vessels (c.f. fleet deep dive). This may limit contracting activity in the short term.

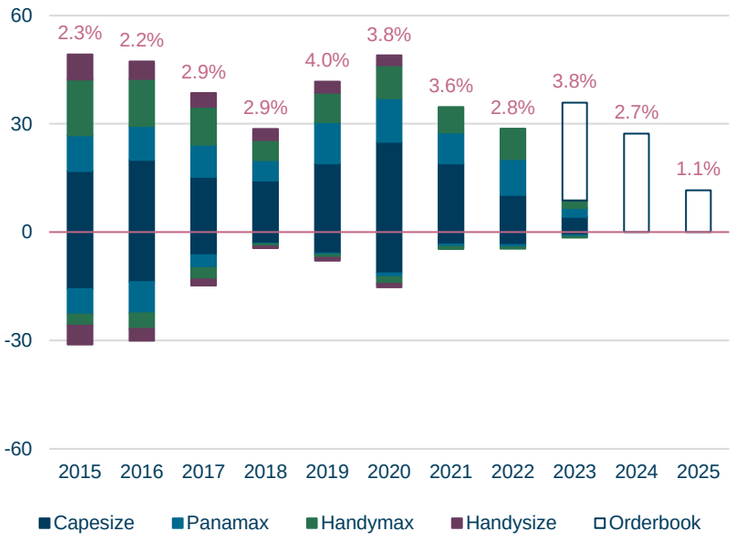
GHG regulations may also lower active supply

Average speeds have decreased by 2.5% in the past 12 months, which can primarily be attributed to the lower demand for Capesize vessels. However, in order to comply with EEXI/CII regulations, older vessels are expected to reduce speeds further reducing the active supply.

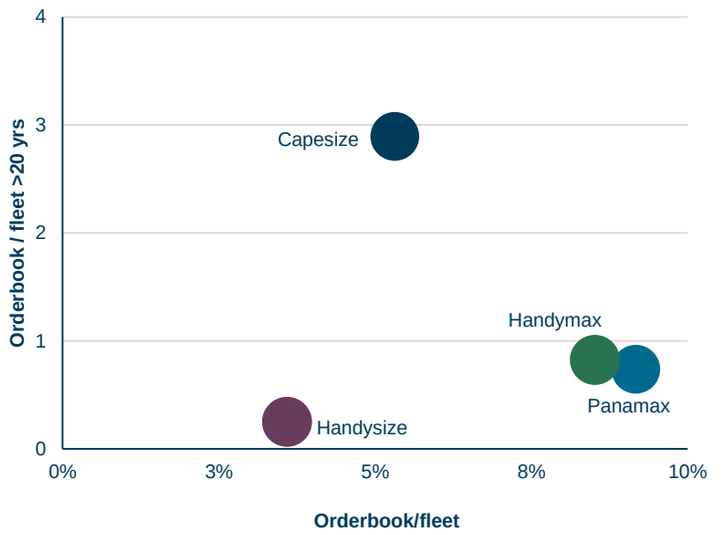
Age distribution of fleet (million dwt)



Fleet development (million dwt)



Fleet renewal potential (dwt)



Source: AXSMarine, Reuters, Clarksons, Danish Ship Finance

Fleet deep dive: Dry Bulk fleet renewal potential

Many “traditional” Bulk yards will soon run out of orders

An ageing fleet and the introduction of new regulations may lead to a push for fleet renewal, but capacity at top-tier yards is declining rapidly.

Decarbonisation set to spur fleet renewal

India is planning to introduce stringent regulations for older vessels calling their ports. We may see more countries follow suit, either at a local or regional level in the next couple of years. We therefore expect the decarbonisation agenda to induce more shipowners to renew their fleets.

Choice of shipyard partly depends on asset risk

The new environmental regulations require fleets to become more energy-efficient on an annual basis. New vessels are more and more frequently being ordered with dual-fuel engines and a range of energy-saving technologies. To reduce asset risks, shipowners are expected to increasingly order new vessels at top-tier yards with a track record of high-quality shipbuilding capabilities.

Vessels built at the top ten yard groups…

The top ten yard groups that have experience of building Dry Bulk vessels have built around 70% of the Dry Bulk fleet. They account for around 60% of the current Dry Bulk orderbook, and also attracted around two-thirds of orders in 2022.

…are being kept for longer periods by owners

Historical data suggests that vessels built at the top ten yards trade for longer than their peers. 53% of vessels over 20 years old were built at these yards, while they only account for around 38% of the vessels demolished since 2016.

Active yard capacity is rapidly declining

The consolidation process among yards is clearly visible. Ordering is tightening around a small group of top-tier yards, while the remaining yards that have previously built Dry Bulk vessels are quickly running out of orders. 78 yard groups are already projected to run out of orders in the coming two years. This constitutes a fall in total active yard capacity for Dry Bulk vessels of around 10% – from 50.3 million cgt in 2023 to 45 million cgt in 2024.

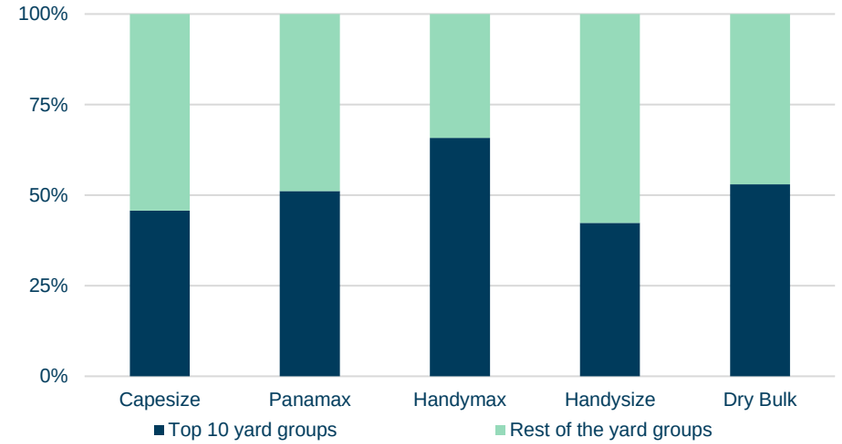
Replacing older tonnage may not take long…

Capacity at the top Chinese yard groups is taken up with the building of Container and Gas Carriers. These vessel segments currently account for around 70% of the yards’ orderbooks. However, vacant capacity is expected from 2025 in both China and Japan. Shipowners wanting vessels built at top-tier yards will therefore find it difficult to replace their older tonnage (over 25 years) until 2025-2026.

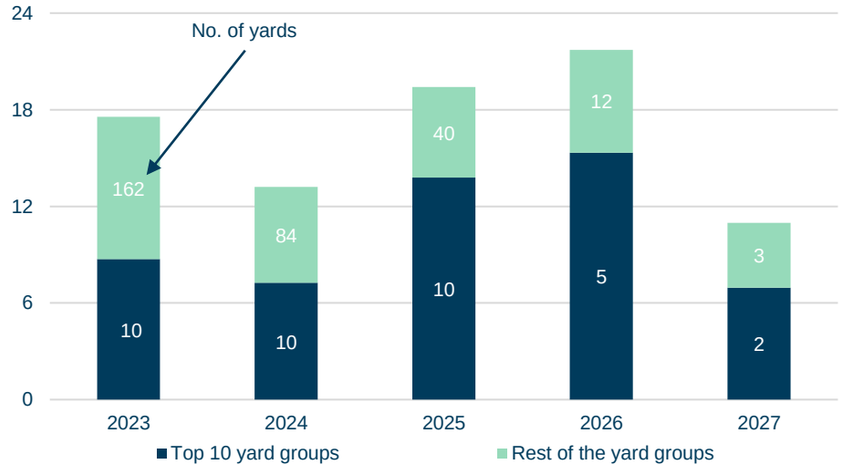
…but contracting is likely to remain low

Investors’ appetite for ordering new Dry Bulk vessels could remain low even after yard capacity becomes available. The energy transition and the likely shift towards sustainable fuels mean that investment visibility will be low until a clear fuel pathway has been established for tramp owners. Early investments are likely to be supported by long employment contracts. But shipowners face a long term dilemma. Stricter environmental regulations is expected to increasingly impact active supply through operational limitations, if a significant part of the older fleet is not renewed in the long term.

Share of vessels over 20 years by yard group (cgt)



Available yard capacity (million cgt)



Source: Clarksons, Danish Ship Finance

Dry Bulk demand outlook

The long-awaited rebound in the Chinese economy may leave some shipowners disappointed

The demand outlook is positive for commodities traditionally traded by smaller vessels, while seaborne trade of iron ore is expected to remain low.

All eyes are on the Chinese economy…

Over the past ten years, China has accounted for about half of the growth in seaborne Dry Bulk trade. A large part of the growth from China can be attributed to the high investments in the real estate sector. Dry Bulk players are waiting for the big rebound in the Chinese economy after its reopening after COVID lockdowns.

…but the rebound may not benefit dry bulk volumes

The IMF currently projects the Chinese economy to grow by 4% from 2022 to 2027. However, much of this growth is expected to come from private consumption (and not fixed investments, such as real estate). Investments in the real estate sector experienced – for the first time since 1997 – negative growth of 10% in 2022, as a result of the ongoing real estate crisis. Little seems to indicate that government stimuli will lift the real estate sector. The rebound in the Chinese economy may therefore not benefit Capesize and Iron Ore Carriers to any great extent, although they carried around 90% of total iron ore volumes to China in 2022.

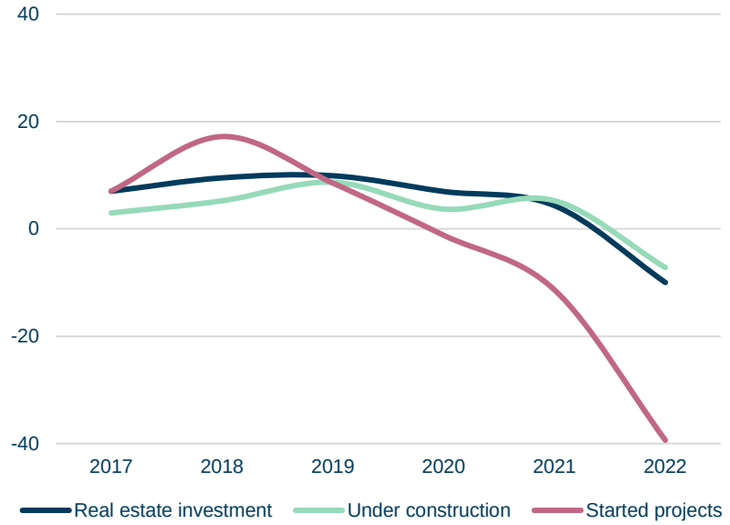
Coal demand expected to remain steady up until 2025

Global coal demand is expected to remain fairly stable up until 2025. Demand in China and India is expected to grow by almost 4% from 2022 levels, driven by the power generation sector. However, additional demand will stem primarily from an increase in domestic coal production. Higher investments in renewable energy are currently expected to reduce coal demand in Europe and the US by 20%. This may have an impact on demand for Panamaxes, as around 40% of total coal volumes discharged in Europe in 2022 were carried by these vessels.

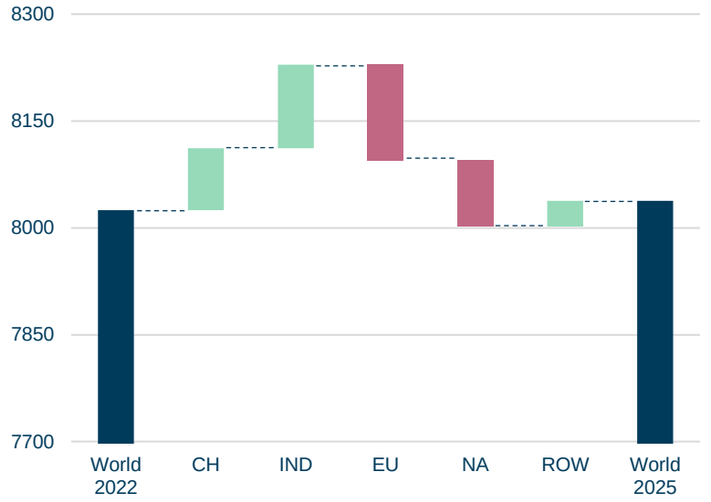
Strong harvest season in Brazil may lift grain trade

Strong harvest seasons in Brazil and Australia are set to lift seaborne grain trade in the short term. In particular, higher Chinese imports of Brazilian soybean are expected to boost tonne-miles for Panamax vessels, which accounted for around 90% of this trade in 2022.

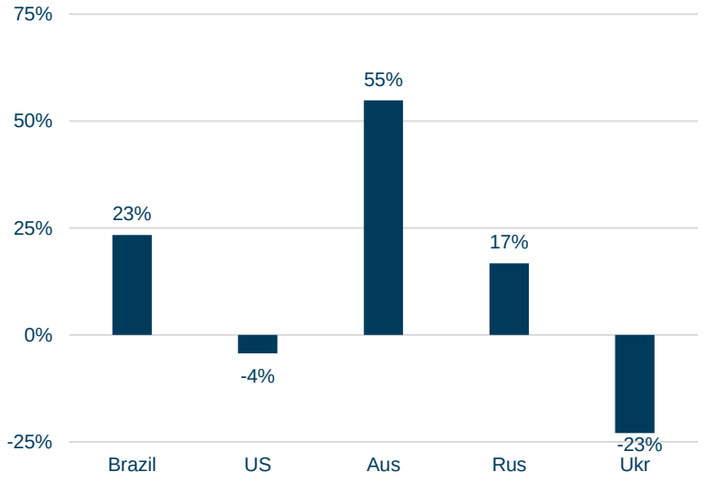
Chinese real estate investment (Y-O-Y growth)



Coal demand up to 2025 (million tonnes)



Grain production, 2023 vs. Five-year average (%)



Source: IMF, AXS Marine, Clarksons, National Bureau of Statistics of China, IEA, U.S. Department of Agriculture, Danish Ship Finance

Demand deep dive: Geopolitics to shape the future of renewables

Securing energy independence in the green transition may provide a new opportunity for smaller and midsize segments

The green transition will transfer markets from a fuel-intensive to a material-intensive system. The shift in global trade flows of certain raw materials will create an opportunity for small and midsize segments.

The green energy transition will increase demand for certain raw materials

The energy transition will shift industries away from fossil fuels but significantly increase demand for certain raw materials. Lithium, cobalt and nickel are essential components in today's battery technologies, while rare earth elements are vital for wind turbines and EVs. Furthermore, the quantity of raw materials used in these technologies is also higher. IEA estimates show that an EV uses over six times as many minerals compared to a conventional car.

China dominates a large part of the global supply chains for green technologies

Securing energy independence is one reason for the accelerated investments in green energy. However, in their efforts to secure energy independence from fossil fuel-producing countries, many western economies are instead facing an increased risk of becoming too reliant on China. Today, China is the most dominant player within processing of the most vital raw materials used for green technologies. 87% of the global refinery output for rare earth materials comes from China, while it also accounts for about 65% of global cobalt processing activity. Consequently, a significant part of the seaborne trade of these commodities is determined by China. For instance, 81% of seaborne trade of nickel ore in 2022 was discharged in the country.

The US and the EU to boost their domestic industries for critical minerals

In acknowledgement of these challenges, the US and the EU have implemented new policies to boost their domestic production and processing of critical minerals. With the Inflation Reduction Act (IRA), the US has introduced heavy tax credits for local miners that produces and processes these minerals. Additionally, buyers of EVs can also obtain a tax credit if a certain percentage of the critical minerals used in the EV are produced or processed in the US. Likewise, the EU is expected to strengthen its autonomy in global supply chains for green technology by 2030 with its Critical Raw Materials Act. Nevertheless, given China's sheer dominance, we expect the US and the EU to remain dependent on green technologies from China for some time still.

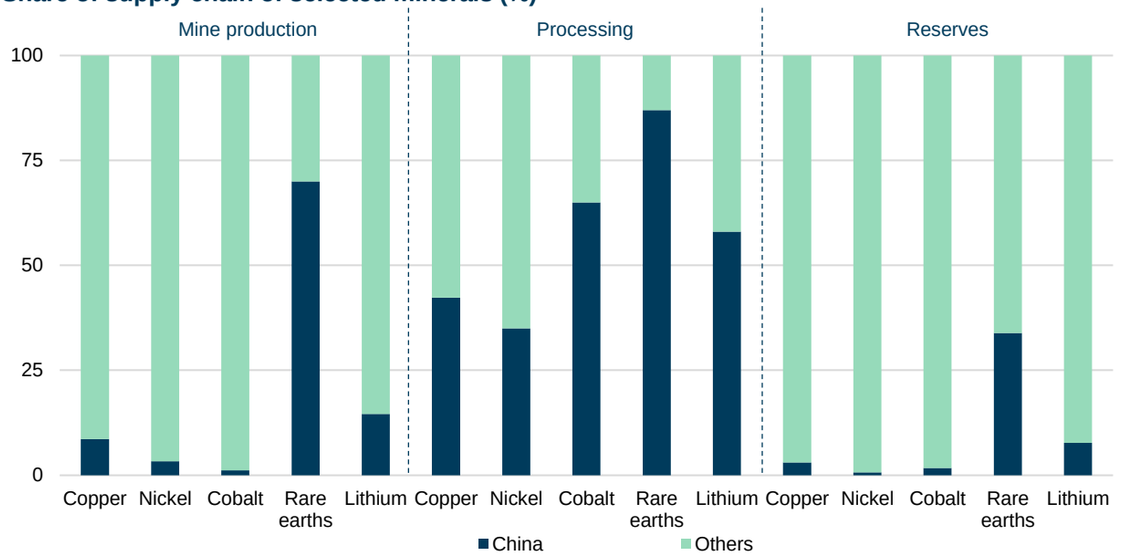
A shift in global trade flows of critical minerals is positive for smaller segments

China does not hold many of the existing reserves itself. 36% of global lithium reserves are in Chile, while Australia has large reserves of both cobalt and lithium. DR Congo holds around 50% of global cobalt reserves, but given China's mine project commitments in the country, a large part of that cobalt is supplied to China. Assuming the US and the EU manage to build up sufficient mineral refining capacity, this would benefit demand for Dry Bulk vessels, as Australia and South American countries would most likely supply them with the raw materials, increasing average tonne-miles. In particular, demand for Handysize and Handymax vessels is expected to grow, as they transport over 90% of seaborne trade volumes of these raw materials.

Recycling of raw materials will also play an important part

Recycling rates vary by raw material. Nickel has a recycling rate of 60%, whereas the rate for lithium is less than 1%. Increasing these rates even further will reduce dependence on foreign supply. But if recycling facilities are regionalized in the consumer markets, then increased recycling of, say EV batteries, may impact seaborne trade negatively.

Share of supply chain of selected minerals (%)



Source: AXSMarine, IEA, McKinsey, USGS, IRENA, the EU Commission, Wood Mackenzie, Danish Ship Finance

Crude Tanker

Shipping Market Review – May 2023

Crude Tanker

Crude Tankers look set to thrive in the next couple of years

The market outlook for Crude Tankers is bright. Market dynamics are being supported by longer travel distances, as sanctions on Russian oil exports are redirecting trade flows from short-haul European imports to long-haul Asian imports. The fleet's cargo-carrying capacity has been reduced as a result of the longer travel distances. Aframaxes and Suezmaxes are benefiting the most, but VLCCs are likely to prosper in 2023 if long-haul US export volumes cover the expected rebound in Chinese oil demand. The orderbook is historically low, representing only 3% of the fleet. Most of the vessels on order are scheduled to be delivered in 2023. There is little to indicate the fleet expansion will not be absorbed in 2023, and very few vessels are on order for 2024 or beyond.

Freight rates and secondhand prices

Crude Tanker earnings have increased across all segments. Longer travel distances following the rerouting of seaborne crude oil trade flows continue to benefit Suezmax and Aframax Tankers. Softening restrictions in China and expectations of a rebound in Chinese imports of seaborne crude oil have injected some traction into the VLCC segment.

VLCC: After a long period of low earnings, freight rates have gained traction. In the past six months, the one-year timecharter rate has increased by 6% to USD 44,200 per day. The price of a five-year-old VLCC has risen by 12%, reaching USD 100 million. This level was last seen in 2008.

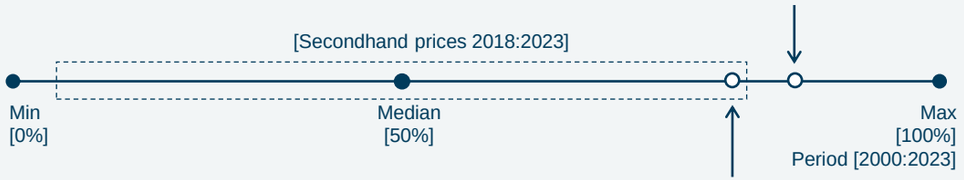
Suezmax: Demand for Suezmax vessels has firmed as the Russia-Asia trade and the US-Europe trade have solidified. The one-year timecharter rate has climbed by 28% in the last six months to USD 42,500 per day. The price of a five-year-old vessel has increased by 10% to USD 68.5 million.

Aframax: Increased mileage on the average Aframax trade voyage (notably the Russia-Asia trade) has pushed freight rates up significantly. Over the past six months, the one-year timecharter rate has reached an all-time high, rising 54% to USD 50,000 per day. The price of a five-year-old Aframax has risen by 10% to USD 62.5 million.

DS:FUNDAMENTALS

MARKET CYCLE POSITION – May 2023

Freight rates are well above the median and have increased by 30% in the past six months



Secondhand prices are well above the median and have increased by 10% in the past six months

Fleet utilisation increased during 2022 and the first four months of 2023. Seaborne crude oil volumes grew by 7% in the first four months of 2023, but longer distances raised distance-adjusted Crude Tanker demand to 8%. The fleet expanded by 1% in the same period and effective supply increased further, since higher speeds boosted the fleet's cargo-carrying capacity.

Delivery: 4.6 million dwt (1% of the fleet) was added to the fleet in the first four months of 2023, compared to 5.4 million dwt in the same period in 2022. An additional 6.7 million dwt is scheduled to be delivered this year.

Scrapping slowed from 10 million dwt in 2021 to 4 million dwt in 2022. This trend has continued, with no vessels demolished in the first four months of 2023.

Contracting reached a record low of 3.2 million dwt in 2022 (almost half of this in the last quarter of the year), down from 15.2 million dwt in 2021. In the first four months of 2023, six Suezmaxes were contracted.

Orderbook: 12.6 million dwt is currently on order, indicating a 30% decline over the last six months. The orderbook represents 3% of the fleet – an all-time low.

Demand: Seaborne trade volumes increased by 6% in 2022 compared to 2021, driven by higher demand in OECD countries. In the first four months of 2023, volumes were up by 7% compared to the same period in 2022.

Travel distances have solidified at higher levels against the backdrop of the Russia-Ukraine war. This has effectively lowered Crude Tanker availability in an already tight market.

Market dynamics in the last six months

Freight rates have been on the rise and the secondhand market continues to boom

Freight rates went from multi-decade lows to near historical highs during 2022, as higher volumes and, in particular, longer travel distances (and thereby longer ballasting times) increased fleet utilisation. Newbuilding activity has been low, but many shipowners have been active in the sale and purchase market.

Both rates and values have increased

Freight rates and vessel prices showed an upward trajectory from November 2022 to April 2023, reflecting the recovering oil demand, increased mileage and the ensuing reduction in the fleet's annual cargo-carrying capacity. Secondhand prices have risen, with Tanker owners expecting earnings to remain firm in the medium term owing to a favourable supply-demand balance.

Contracting has been weak…

Limited yard availability at top-tier yards, together with high newbuilding prices (at 13-year highs) and low visibility into future demand, has dampened investors' appetite for ordering new vessels in 2022 and 2023. Only 21 Crude Tanker orders were placed in 2022, 19 of them for new Aframax and Suezmax Tankers. As of April 2023, only six Suezmax Tankers had been contracted. The most recent VLCC order was placed in August 2022, when two vessels with LNG-capable engines were ordered.

…owners have been active in the S&P market instead

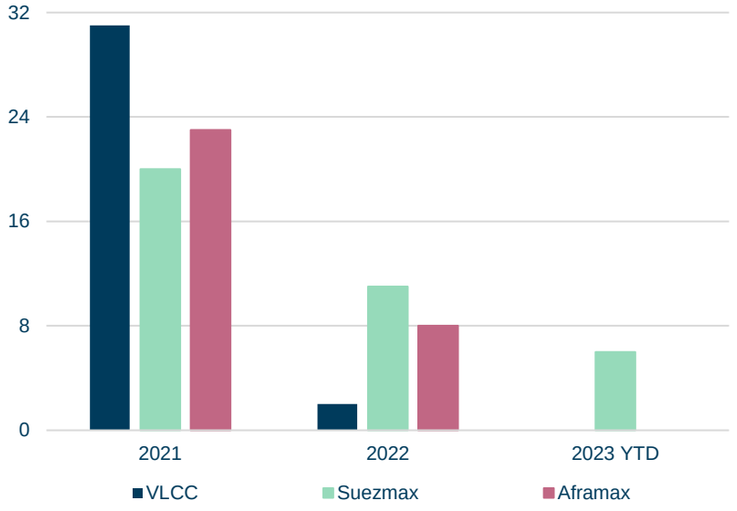
272 vessels with a combined market value of USD 10 billion changed hands in 2022, 80% higher than the five-year average. Older vessels were the main driver of transaction volumes, with 70% of the vessels sold older than 15 years.

Premium-to-scrap on older vessels are expanding

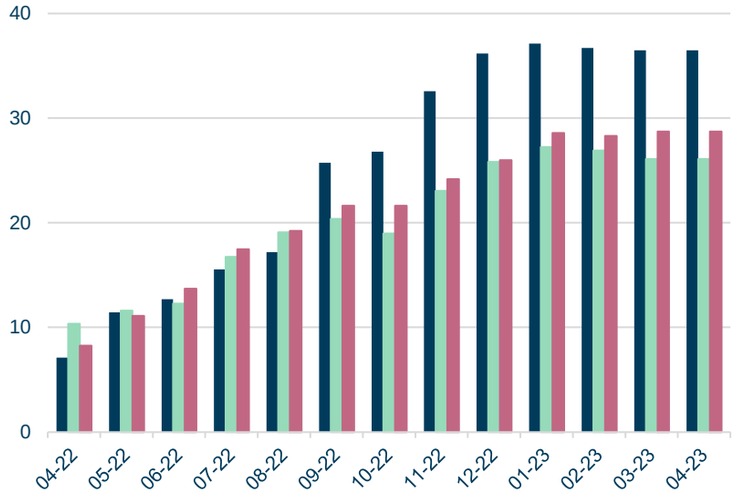
In the last six months, buyers have increasingly been tapping into the firm market, while sellers have taken advantage of high vessel prices. The high demand for older tonnage has increased the average value of a 15-year-old vessel across all Crude Tanker segments. Meanwhile, low demolition activity and a decrease in steel prices have cut scrap values from 14-year highs since the beginning of 2022. Even though the scrap value is still high, the premium on a 15-year-old VLCC relative to its scrap value has reached USD 36-37 million – a historical high.

Secondhand price and TC Index (2000 = 100)

Contracting by subsegment (no. of vessels)



15-yr-old vessel price-to-scrap by subsegment (USD million)



Source: Clarksons, Alphatanker, Danish Ship Finance

Summary: Crude Tanker market outlook

Earnings look set to remain high in the short to medium term – supply-side fundamentals may even be supportive in the longer term

In the long run, the world is still headed towards net zero, but the short-term outlook for Crude Tankers is bright, since sanctions on Russian export volumes have resulted in longer travel distances and reduced the cargo-carrying capacity of the world fleet. By the next decade, energy security will be much more aligned with sustainability goals, with a shift away from fossil fuels to domestically produced low-carbon energy and the supporting supply chains.

Global oil demand up by 2% in 2023

IEA currently projects global oil demand to grow by 2% in 2023, while distance-adjusted Crude Tanker demand is expected to increase by 6% both this year and next. The expected uplift in global oil demand is mainly attributable to a recovery in Chinese demand following the softening of Covid-related restrictions. The shift in crude oil trade flows, following sanctions on Russian oil and gas exports, has increased the average travel distance and reduced the fleet's cargo-carrying capacity.

Low orderbook supports earnings outlook

The pace of the global energy transition continues to be the biggest source of uncertainty for Crude Tanker owners. The orderbook-to-fleet ratio has been on a downward trajectory since 2021 and has now reached 3%. The orderbook is historically low and deliveries are frontloaded, resulting in only a modest increase in fleet capacity in the coming years. Limited yard availability, elevated newbuilding prices and uncertainty about future fuels combined with the global energy transition have discouraged owners from contracting new vessels. Without a clear pathway towards net zero, the orderbook could remain low – even in the medium term. The outlook for earnings and secondhand prices in the short to medium term seems bright.

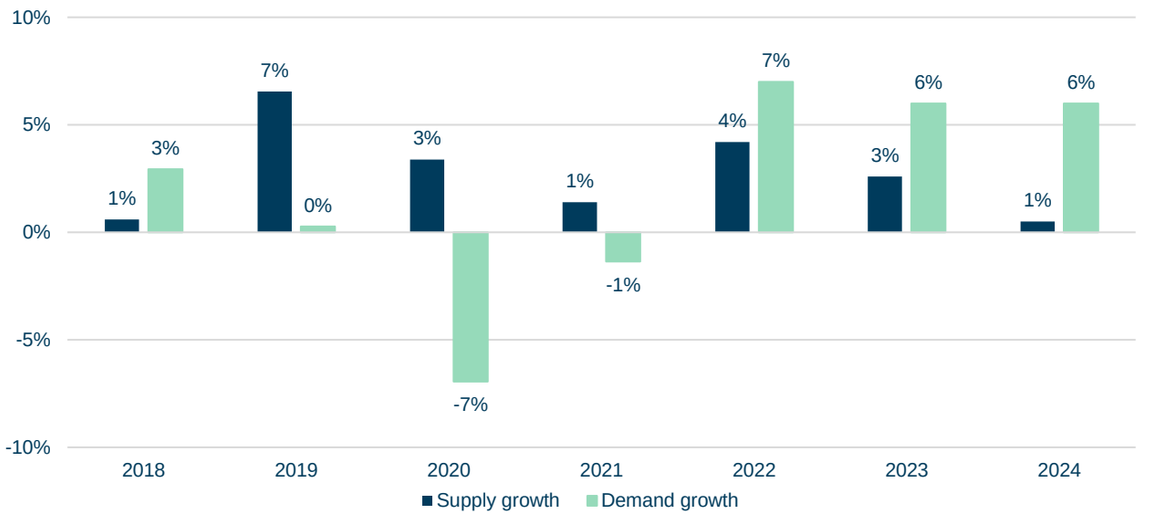
Strong appetite for older Aframax and Suezmax Tankers

Tanker owners, together with oil and gas companies, are currently generating massive cash flows. Still, new investments are facing a real threat from declining demand next decade and beyond. Shipowners are reluctant to order new vessels and have instead switched their focus to the sale and purchase market. S&P activity reached an all-time high in 2022: 272 vessels were transacted during the year with a combined market value of almost USD 10 billion. Older tonnage has been traded most frequently, with older Suezmax and Aframax Tankers, in particular, in high demand, as they are increasingly being employed on sanctioned trades out of Russia.

VLCC demand is expected to recover in 2023

VLCC demand is predicted to increase by almost 7% in 2023, compared to 4% in 2022, since higher US crude production is expected to be exported on long-haul routes bound for China. Downside risk to the VLCC outlook will increase if Russian export volumes do not decline and Russia continues to supply more crude to China. In the event of this, Suezmax and Aframax vessels will benefit at the expense of VLCCs.

Supply and demand balance (dwt and tonne-miles)



Source: Clarksons, IEA, Alphatanker, Danish Ship Finance

Crude Tanker fleet outlook

Supply-side fundamentals are continuously tightening – leaving room for additional contracting

The orderbook is running low, representing only 3% of the fleet. Five out of every six vessels on order are scheduled to be delivered this year, and few new vessels are being contracted. The fleet could contract next year if the new environmental regulation forces older, less efficient vessels out of service.

Fleet growth is continuously limited

The fleet is set to expand by 2.6% in 2023 and a mere 0.6% and 0.5% before scrapping in 2024 and 2025, respectively. Older ships may be forced to slow steam to remain compliant (EEXI) as early as 2023, but additional slow steaming could be required in 2024 and 2025 to maintain CII ratings better than E. In the event of this, fleet availability could shrink in 2024 and 2025, even if no vessels are scrapped or taken out for special survey. Vessels temporarily taken out for hull surveys and retrofits is estimated to absorb capacity that mirrors 1.6% of the fleet in 2023, 1.5% in 2024 and 1.4% in 2025.

Contracting will likely remain tentative

The low fleet growth and continued low appetite for ordering new vessels have translated into an inverted pricing mechanism between secondhand vessels and newbuilding prices, whereby newbuildings are currently priced lower than their older sisters. Still, contracting has remained low, whereas a similar market dynamic in previous cycles has reignited interest in newbuildings.

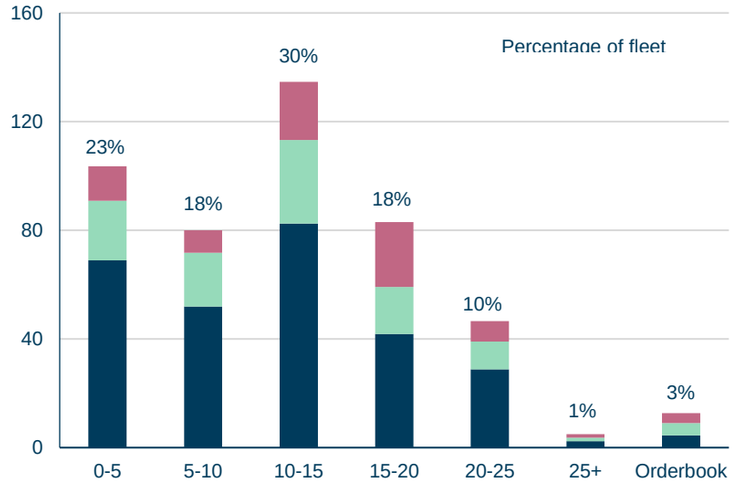
Prolonged delivery times

The most likely explanation for the low contracting activity relates to the energy transition and the associated risk of ordering new vessels powered by an alternative fuel that turns out to have been the wrong choice for the dual fuel engine. Low yard availability and high prices are clearly also playing a role. Newbuilds ordered today at a top-tier yard seem unlikely to be delivered until late 2025 or 2026.

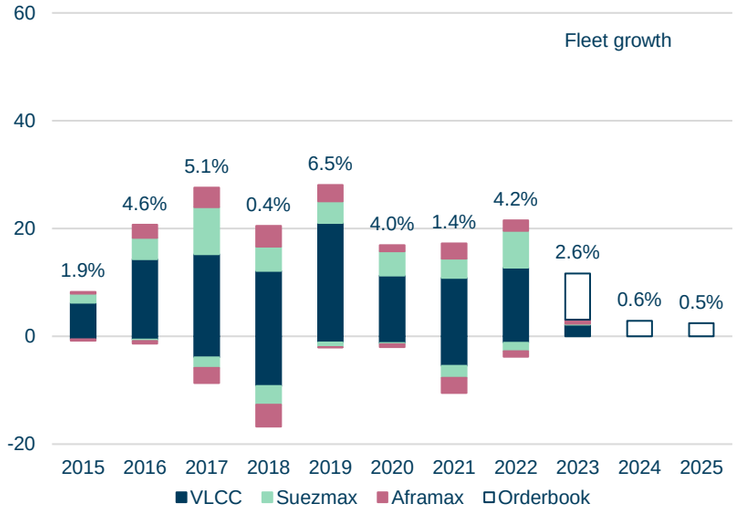
Limited risk of surplus vessel capacity

The risk of ordering vessels for a “sunset” fleet, where the volumes of crude oil transported are shrinking, is currently considered manageable, since around 25% of the fleet will become scrapping candidates (older than 20 years) within the next three to four years.

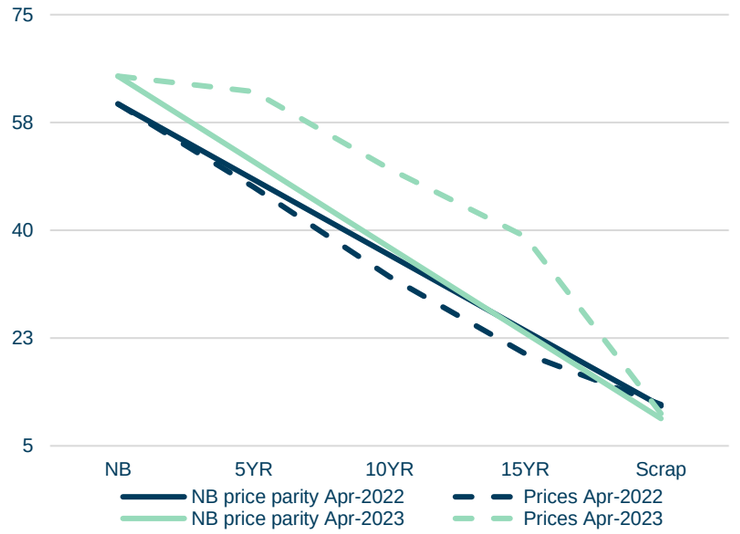
Age distribution (million dwt)



Fleet development (million dwt)



Aframax NB parity vs. secondhand prices (USD million)



Source: Clarksons, Danish Ship Finance

Global oil outlook

Low-cost, short-cycle, fast-payback oil projects, with a below-average emissions footprint

The pace of the global energy transition continues to be the biggest uncertainty for Crude Tanker owners. The road to net zero was always going to be bumpy, as the Russian invasion of Ukraine has proved. Energy security has shot up to the top of government agendas, leapfrogging sustainability. The only way to keep Europe's lights and heating on in the short run is unfortunately more oil, gas and coal.

Short-term strength

Oil and gas companies are currently generating massive cash flows. Still, new investments are facing a real threat of declining oil and gas demand next decade and beyond. Any incremental investment in oil and gas will continue to be in low-cost, short-cycle, fast-payback projects with a below-average emissions footprint.

Supply currently exceeds demand…

Global oil supply is predicted to increase by 1% in 2023. Supply is likely to outpace demand in the first quarter of the year, as production in the US, Norway and Brazil is ramping up. High inventory levels already suggest that supply is outpacing global demand.

…but not for long

Global oil demand is set to rise to an all-time high in 2023 after China relaxed its Covid-19 restrictions. Global oil demand is predicted to exceed supply in the last three quarters of 2023.

Production cuts are on the way

Matching the increase in global oil demand is considered a challenge, since members of OPEC+ have announced further oil production cuts as of May. The total volume of cuts is at 3.1 million barrels per day (3.6 mbpd including Russia), lasting until the end of 2023. For Crude Tankers, OPEC+ production and Chinese demand dominate the outlook. If Chinese demand materialises as OPEC+ supply slows, oil market fundamentals could tighten considerably in 2023.

Russia is restricting oil exports

Russia’s oil production remained near pre-war levels in February 2023, but its combined crude and refined product exports were down by more than 6% to 7.5 million barrels per day.

Crude oil travel distances may decline

Buyers in India and China have been importing Russian oil, which has been sanctioned by the EU at discounted prices, but increasing volumes on the water suggest that the share of Russian oil in their import mix may be getting too big. Time will tell if long-haul volume demand for Aframax and Suezmax Tankers is about to soften.

Source: IEA, Alphatanker, Reuters, Danish Ship Finance

Crude Tanker demand outlook

Developments in China, OPEC+ and the US are expected to make an impact in the short to medium term

Distance-adjusted Crude Tanker demand is expected to grow by 6% in 2023, as seaborne volumes are predicted to increase by 2%, with longer distances adding another 4%. VLCCs may benefit more in 2023 than in 2022, while demand for Aframax and Suezmax Tankers could dampen, if seaborne Russian crude exports decrease.

Global oil demand up by 2% in 2023

Global oil demand is set to increase by around 2% in 2023, assuming the global economy escapes a deep recession and that Chinese GDP is not significantly challenged by the domestic property sector. Non-OECD countries are expected to drive growth in oil consumption, with China accounting for almost half the increase. China's oil demand is expected to surpass 2021 levels by the end of 2023.

Lower Russian export volumes may dampen demand

Rerouting of Russian exports is expected to result in changes to crude oil trades in 2023 that will benefit both Aframax and Suezmax Tankers. The IEA predicts that Russian oil production is likely to decline by 0.5 million barrels per day in 2023. If this scenario materialises, rerouting of Russian exports will support demand for Aframax and Suezmax Tankers less in 2023 than it did in 2022. Demand growth for Suezmax and Aframax Tankers is predicted to slow to 6% and 5% in 2023 (12% and 19% in 2022). Meanwhile, Suezmax and Aframax Tankers may continuously be in high demand on the US-Europe trade.

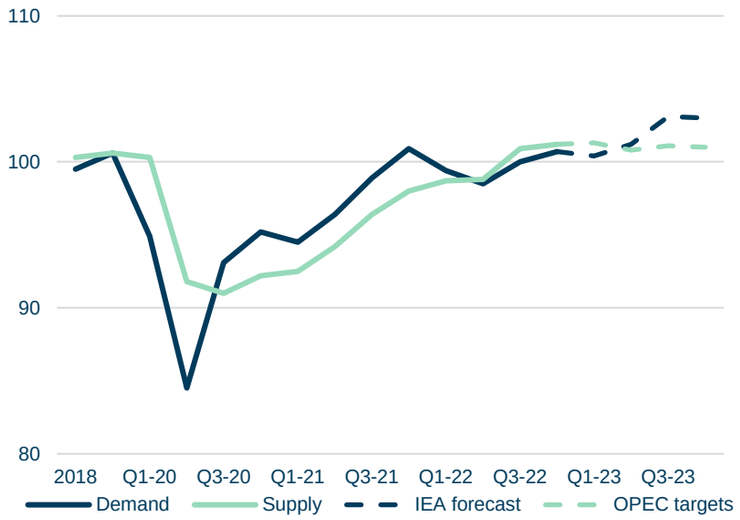
Strong VLCC outlook for 2023...

VLCC demand is projected to increase by almost 7% in 2023, versus 4% in 2022, since higher US crude production is expected to be exported on long-haul routes bound for Asia, and China in particular. China's refinery capacity is set to expand by 7% up to 2024, further supporting expectations of higher import volumes.

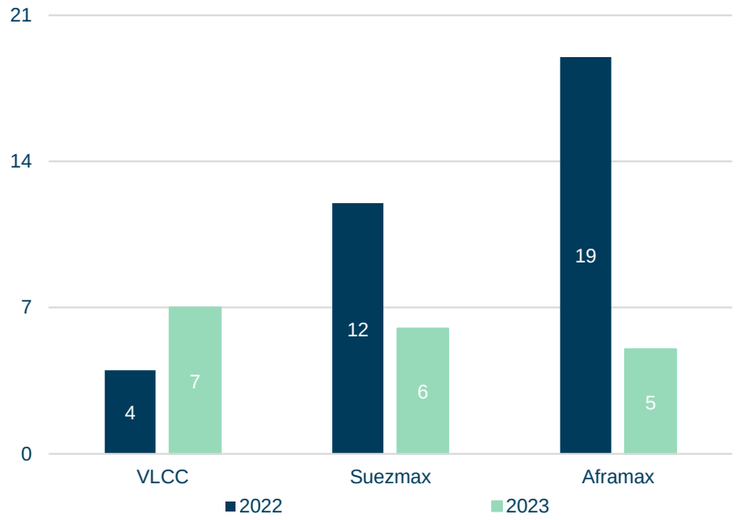
…but burdened by output cuts and Russia-China trade

Further production cuts in the Middle East amounting to 1.1 million barrels per day in 2023 may burden the demand for VLCCs, since three out of four VLCCs are loaded in the region. Downside risk to the outlook will also increase if Russian export volumes do not decline and Russia continues to supply more crude to China. In the event of this, Suezmax and Aframax vessels will benefit at the expense of VLCCs.

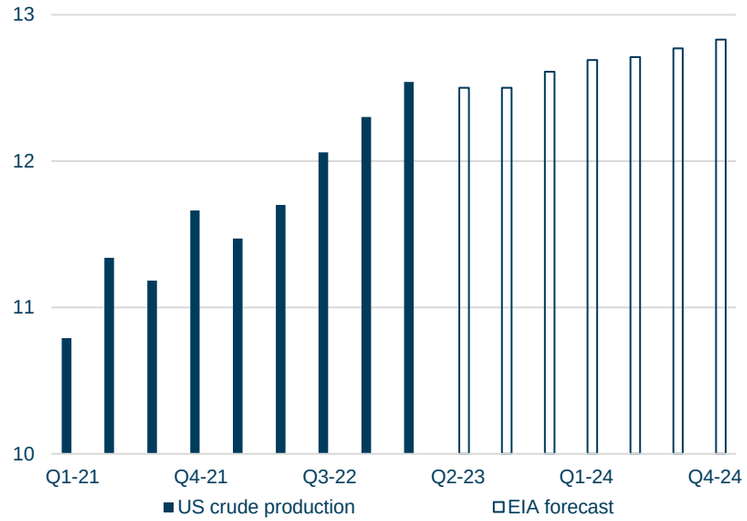
Oil supply and demand forecast (million bpd)



Y-O-Y demand growth by subsegment (%)



US crude production (million bpd)



Source: Clarksons, IEA, Alphatanker, EIA, S&P Global, Reuters, Danish Ship Finance

Demand deep dive: Older vessels on Russian trades

Older tonnage has gained market share on trades out of Russia, but this may not last

Despite sanctions, Russian crude oil exports have remained stable, as discounted oil from the Urals has increasingly been shipped on long-haul trades to China and India. Older Aframax and Suezmax Tankers have gained market share on these trades at attractive earnings premiums, but this may not last.

New destinations have kept Russian oil flowing

The EU and the G7 have imposed sanctions on Russian oil and gas exports. The impact on Crude Tankers has been positive, as Aframax and Suezmax Tankers have carried crude oil over longer distances. Around half of seaborne Russian crude oil is currently being shipped to Asia (notably China and India), up from 25% at the beginning of 2022. Sanctions took effect from December 2022, but Russian exports to Europe maintained momentum during the first four months of 2023 (relative to the corresponding periods during 2019-2022).

Older vessels have gained market share

The age profile of vessels serving Russian exports has changed since sanctions took effect in December 2022. Older Aframax and Suezmax Tankers have taken market share. In February 2023, 49% of crude oil loadings in Russia were on vessels aged 15 or older, compared to a five-year average (2018-2022) of 17%. The shift is even more pronounced for vessels headed for Asia. In Q1-23, Aframax and Suezmax Tankers of at least 15 years of age carried 60% of the volumes on the Russia-China trade and 46% on the Russia-India trade, compared to 15% and 10%, respectively, in Q4-21.

Less Russian supply – more Asian demand

Most Chinese and Indian seaborne imports of crude oil have traditionally been loaded in the Middle East, but discounted oil volumes from the Urals have enabled Russia to take more market share. However, the IEA estimates that Russian oil production is expected to decline by some 0.5 million barrels per day in 2023, while both China and India will increase oil demand by around 1.4 mbpd on aggregate.

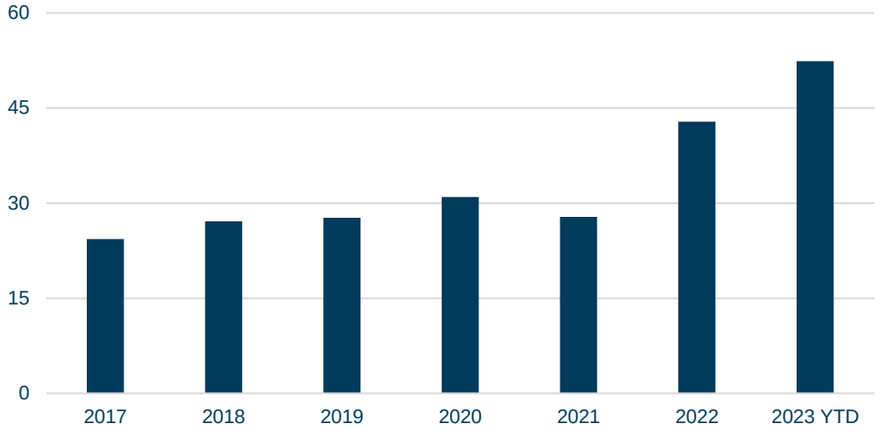
When Russian oil is omitted from EU ports…

Sanctions on Russian oil and gas exports are aimed at reducing and eventually stopping Russian oil exports to EU countries. When Russian barrels are omitted from every port in the EU, around 1.6 million barrels per day could be up for bidding. Travel distances will go up and the fleet's cargo-carrying capacity will decline if further Russian oil exports are redirected to China and India.

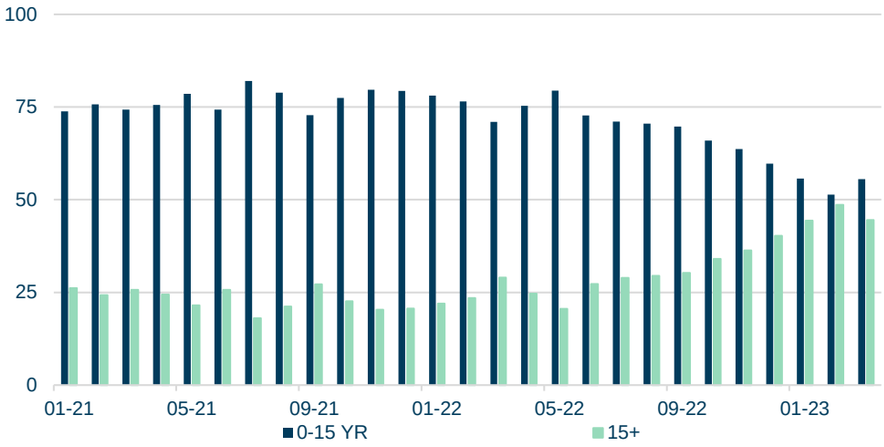
…younger vessels may regain market share

The age profile of vessels transporting Russian crude oil to India and China is likely to normalise during 2023 if vessels currently serving European imports from Russia transfer to these routes. The average age of vessels handling European imports from Russia was 10 years in 2022.

Asia's share of seaborne Russian crude exports (%)



Share of Russian crude oil loadings by vessel age (%)



Source: Clarksons, IEA, Alphatanker, Danish Ship Finance

Product Tanker

Shipping Market Review – May 2023

Product Tanker

Product Tanker owners enjoy favourable market fundamentals

The outlook for Product Tankers is bright. Market dynamics are being supported by longer travel distances, as sanctions on Russian oil product exports are redirecting trade flows from short-haul routes between Russia and Europe to long-haul trades to and from Asia and the Middle East. As a result, the fleets' cargo-carrying capacity has been reduced. High earnings have historically been hampered by a large orderbook, eventually resulting in supply-demand imbalances – but not this time. Freight rates are at multi-year highs, while the orderbook corresponds to just 6% of the fleet.

Freight rates and secondhand prices

Product Tanker earnings have grown further, hovering around all-time highs across all subsegments. Longer travel distances following the rerouting of seaborne oil product trade flows continue to benefit earnings, as sanctions on Russia's refined products have injected further momentum into the Product Tanker market. Secondhand values are high and have climbed to levels last seen in 2009, reflecting expectations of continued high future earnings.

LR2: More seaborne volumes from the Middle East to Europe and Asia have increased demand for LR2 Tankers. The one-year timecharter rate has risen by 45% in the past six months, reaching USD 46,500 per day. The price of a five-year-old LR2 Tanker is up by 13%, to USD 67.5 million (the same as for a newbuilding).

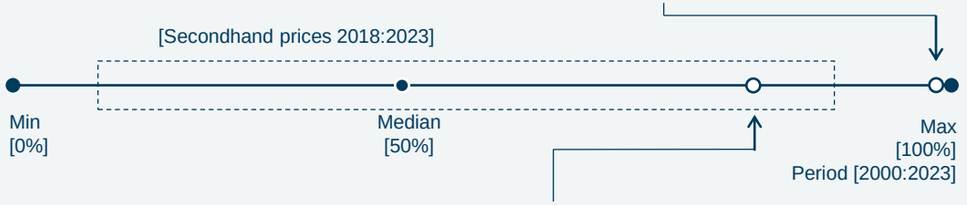
LR1: Average travel distances are steady (albeit at higher levels) for LR1 vessels, but fleet utilisation has strengthened on the back of increased European and Asian imports of refined products from the Middle East. The one-year timecharter rate reached a record high in December last year, but softened in the first months of 2023. Over the past six months, the one-year timecharter rate has declined by 5% to USD 35,500 per day. The price of a five-year-old vessel has increased by 14%, reaching USD 50 million.

MR: Over the past six months, more long-haul trade activity in the Atlantic Basin (e.g. Russia-Latin America) has continued to push the one-year timecharter rate up, by 13% to USD 31,000 per day. The price of a five-year-old vessel has increased by 8%, to USD 42 million.

DS:FUNDAMENTALS

MARKET CYCLE POSITION – May 2023

Freight rates are around all-time highs and have increased by 18% in the past six months



Secondhand prices are well above the median and have increased by around 12% in the past six months

Fleet utilisation increased during 2022 and the first four months of 2023. Seaborne oil product volumes grew by 3% in the first four months of this year, but longer distances raised distance-adjusted Product Tanker demand to 7%. The fleet expanded by 1% in the same period and effective supply increased further, since higher speeds boosted the fleet's cargo-carrying capacity.

Delivery: The fleet is scheduled to expand by 4.4 million dwt in 2023 (2.5% of the fleet), compared to 4.8 million dwt in 2022. Of the 4.4 million dwt, 1.3 million dwt was added in the first four months of 2023.

Scrapping slowed from 3.4 million dwt in 2021 to 1.8 million dwt in 2022 (1% of the fleet). This trend has continued, with just four MR Tankers demolished in the first four months of 2023.

Contracting activity amounted to 5 million dwt in 2022, with almost half of this contracted in the last quarter of 2022. As of April 2023, contracting amounted to 2.5 million dwt (1% of the fleet).

Orderbook: 10.9 million dwt is currently on order, a 25% increase since November 2022. Still, the orderbook corresponds to just 6% of the fleet.

Demand: Volumes increased by 1% in 2022 compared to 2021, driven by a rebound in travel activity. Seaborne trade volumes have grown and are currently above 2019 levels.

Travel distances have solidified at higher levels against the backdrop of the Russia-Ukraine war. This is effectively soaking up Product Tanker availability.

Market dynamics in the last six months

Average sailing distances are lengthening as Europe increasingly replaces products previously sourced from Russia

The Product Tanker market continues to be strong, mainly owing to steady volumes, longer travel distances and supportive supply-side fundamentals. Meanwhile, Russia and Europe are dealing with the fallouts of sanctions.

Different cycle in the Product Tanker market

Historically, high freight rates tend to sow the seeds of their own demise, encouraging more investments in newbuildings. Excessive fleet growth has been credited for most cyclical downturns in the Product Tanker market. But this cycle is different: freight rates are at multi-year highs, while the orderbook is steadily shrinking.

Europe is trying to replace Russian barrels…

Around 75% of Russian seaborne exports of clean petroleum products (CPP) were shipped to Europe in 2022, accounting for 30% of European seaborne CPP imports. In the first three months of 2023, Russia's share of European imports decreased to 20%. Europe's efforts to displace Russian refined products are proving to be supportive of Product Tanker tonne-mile demand, since short-haul routes from Russia are increasingly being substituted with long-haul routes from the Middle East and Asia.

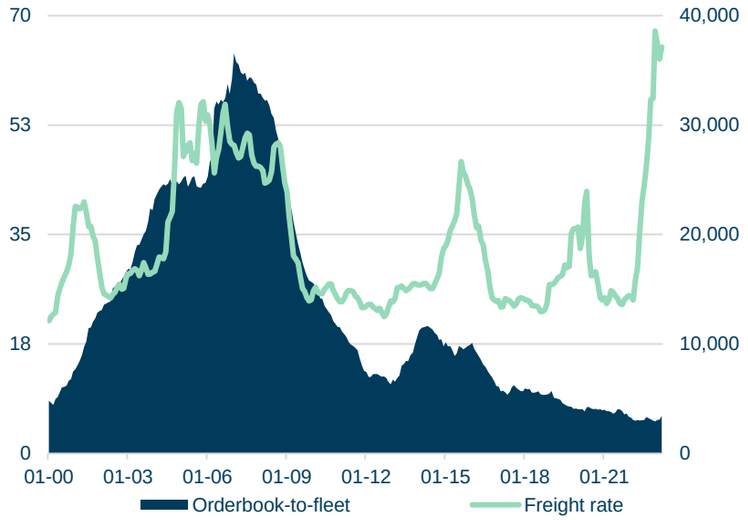
…while Russia is looking for other buyers

Similar to Russian crude oil, volumes of Russian seaborne CPP exports have held up well despite sanctions. Europe (mainly led by Turkey) remains the largest buyer of Russian seaborne refined products, even though the region's market share has dropped from around 75% in 2022 to below 50% in the first few months of 2023. Russian refined cargoes have increasingly been transported to markets in Asia, Africa and the Middle East, with Product Tanker cargo-carrying capacity being absorbed as distances lengthen.

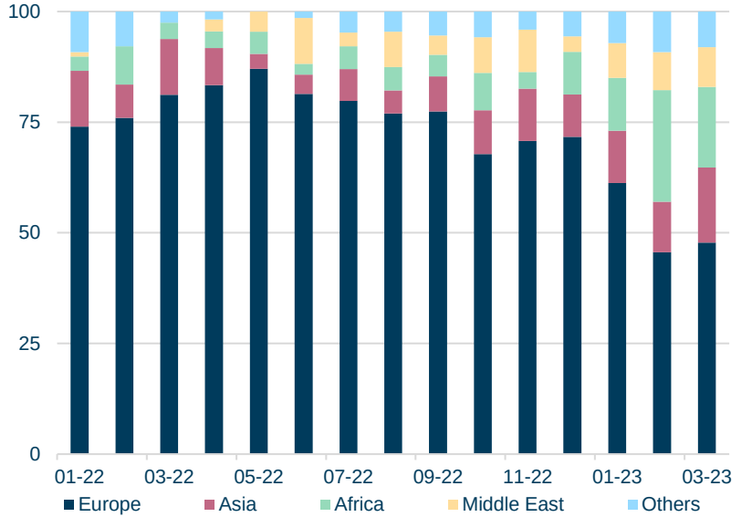
Both MR and LR tankers are benefiting from new trade flows

Continued global imbalances in supply chains have caused average voyage distances to settle at higher levels. MRs have covered an uptick in Asia-Latin America trade, while LR Tankers have carried more Middle Eastern products to Europe. In the last six months, tonne-mile demand has grown by 15-18% across all subsegments.

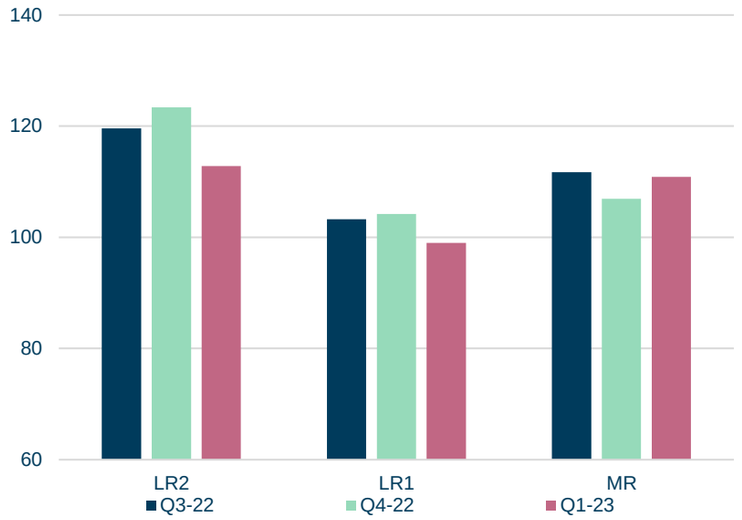
Orderbook-to-fleet (%) vs. freight rate (USD/day)



Russian seaborne product exports by discharge region (%)



Tonne-mile growth by subsegment (2019 = 100)



Source: Clarksons, Alphatanker, Reuters, Danish Ship Finance

Summary: Product Tanker market outlook

Low fleet growth, longer travel distances and more refinery capacity spell high earnings for Product Tanker owners

A pronounced divergence between supply and demand is likely to support strong earnings throughout 2023 and 2024. Longer trading routes and a tight Product Tanker market have driven earnings to record levels. Low fleet growth and a further shift towards long-haul trade routes are expected to keep earnings high in the short to medium term. Earnings may be supported further by a decline in fleet productivity as policymakers consider restrictions on fuel exports to counteract rising prices and refill low inventories.

Product Tanker demand is expected to increase due to sanctions on Russia

Similar to the Crude Tanker market, tonne-mile demand for Product Tankers is expected to increase in the short to medium term. Product Tanker demand in 2023 is projected to grow by 11% measured in tonne-miles (versus 4% in tonnes), compared to 5% in 2022 (3% in tonnes). Voyage distances are set to increase further, as European sanctions will shift part of the MR Tanker fleet from trading short-haul routes (Russia-Europe) to more long-haul trades such as from the Middle East or Asia to ports around Europe. LR2s are also expected to benefit from long-haul trades of middle distillates from Asia to Europe.

Low fleet growth in the short to medium term but contracting activity likely to increase

The orderbook-to-fleet ratio has been stuck at low levels since 2019 and is now at 6%. The orderbook is historically low and new vessels are not likely to be delivered before 2025, resulting in only a modest increase in fleet capacity in the coming years. The fleet is scheduled for gross growth of 2.4% in 2023, 1.7% in 2024 and 2.2% in 2025. Limited yard availability, elevated newbuilding prices and uncertainty about future fuels combined with the global energy transition have discouraged owners from contracting new vessels. Without a clear pathway towards net zero, the orderbook could remain low – even in the medium term. Still, on the back of a strong market and with most orders for Gas and Container Carriers delivered by 2024, Product Tanker owners may claim available yard capacity in the coming years. If contracting picks up again, the risk of surplus vessel capacity is limited, since 30% of the fleet will be candidates for demolition (older than 20 years) within the next three to four years.

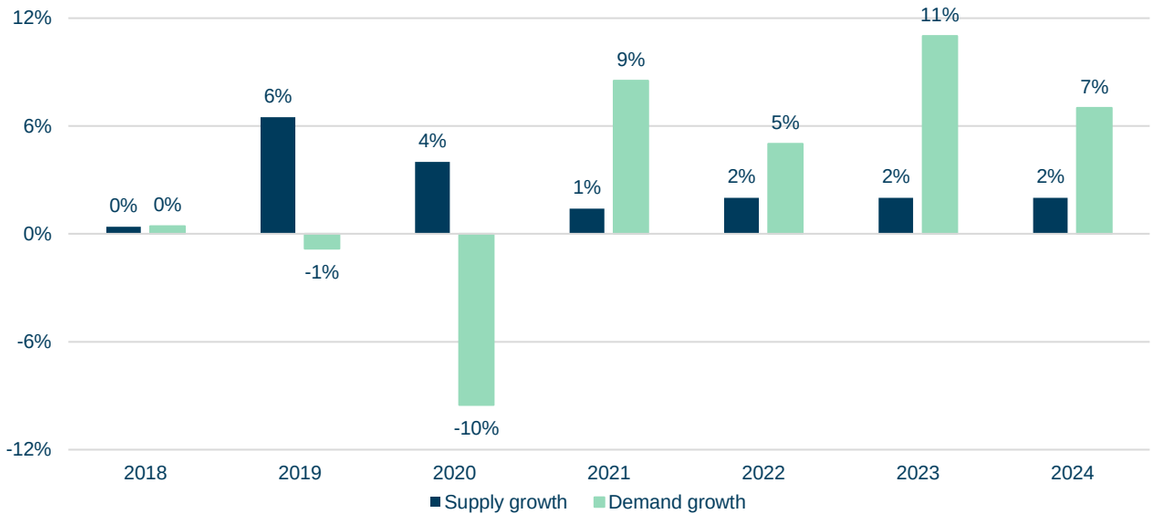
Restrictions on US fuel exports could support earnings in an already healthy market

Policymakers in global markets may take export restrictions into account in their decision-making processes to restore low fuel stocks and mitigate rising retail prices. The US may be a case in point. Looming fuel shortages (both gasoline and diesel) and higher expected retail prices due to OPEC+ cuts may force US policymakers to introduce restrictions on fuel product exports. If this scenario materialises, regions such as Latin America will likely have to import more over longer distances. Inefficiencies in trade flows will increase, bolstering fleet utilisation as the Product Tanker fleet's cargo-carrying capacity decreases.

Global refinery capacity is set to expand ahead of demand growth in 2023

Global refinery capacity is set to expand marginally ahead of demand growth in 2023. This divergence may see more volumes of refined oil products in seaborne trade. The Middle East, in particular, may add an additional 1 million barrels or so to the region's seaborne exports, mainly benefiting demand for LR2s.

Supply and demand balance (dwt and tonne-miles)



Source: Clarksons, Alphatanker, Danish Ship Finance

Product Tanker fleet outlook

Tight supply-side fundamentals continue to bode well for earnings in 2023 and 2024

A low orderbook will keep a lid on fleet growth in 2023 and 2024. While owners have utilised inexperienced yards, contracting is unlikely to rebound until 2025. If contracting should rebound, the risk of surplus vessel capacity is limited by the solid fleet renewal potential.

The orderbook remains low

The orderbook has been stuck at low levels since 2019, and currently corresponds to only 6% of the fleet. With the current orderbook, the fleet is set for gross expansion of 2.4% in 2023, 1.7% in 2024 and 2.2% in 2025. The active fleet will be temporarily reduced by 1.7% in 2023, 1.8% in 2024 and 1.7% in 2025, when vessels are taken out for special surveys and scrubber retrofits.

First LR1 contracts since 2018, but not back in fashion

Previous years have seen the LR1 segment slowly dwindle amid a non-existent orderbook, a diminishing fleet and owners increasingly seeking the economies of scale available through larger LR2s. Despite new orders, this will likely continue to be the case.

Contractors have utilised inexperienced yards

Limited availability at top-tier yards has pointed ship owners in the direction of yards (mainly in China) previously less engaged in Product Tanker newbuildings. 25% of the orderbook has been contracted at yards that have only built 2% of the fleet on aggregate. These yards have mainly built large Dry Bulk Carriers, which may leave them at a disadvantage relative to the main segment builders.

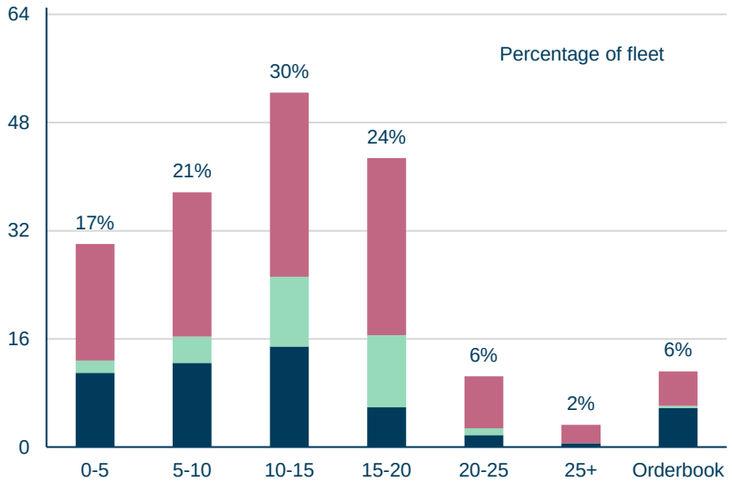
The delivery window for 2024 may be closed

The average delivery time for an MR or LR2 Tanker has increased by around one year since 2021. Newbuilds ordered today at both top-tier and inexperienced yards seem unlikely to be delivered until 2025 or beyond.

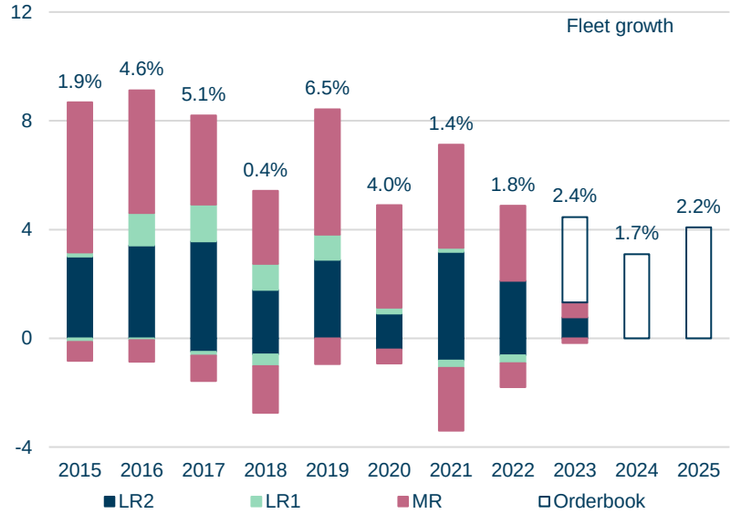
High renewal potential limits risk of surplus capacity

With over half of Gas and Container Carrier orders due to be delivered by 2024, Product Tanker owners may claim available (top-tier) yard capacity in the coming years. The risk of surplus vessel capacity is currently considered to be limited, as 30% of the fleet will be candidates for demolition (older than 20 years) within the next three to four years.

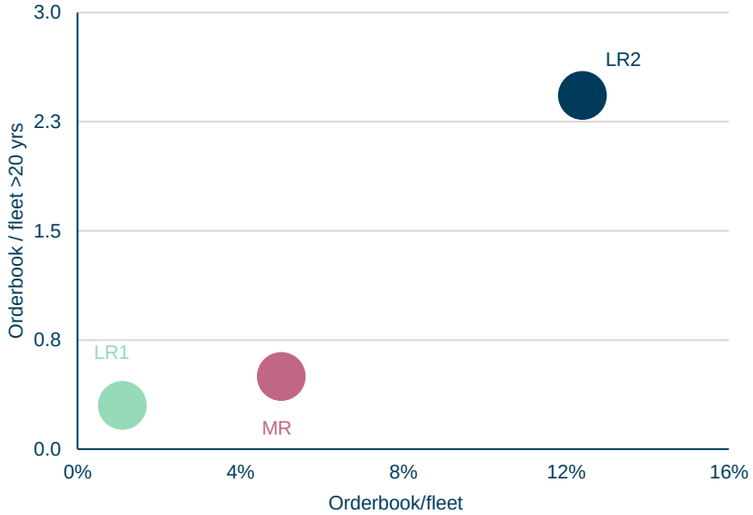
Age distribution (million dwt)



Fleet development (million dwt)



Fleet renewal potential (dwt)



Source: Clarksons, Danish Ship Finance

Product Tanker demand outlook

More seaborne volumes, longer voyage distances and low inventories dominate the outlook

The Product Tanker market could gain further support from both increased seaborne volumes and longer voyage distances in 2023. Pressure is mounting in Europe due to low inventories and fewer diesel imports from Russia.

Greater volumes as refinery capacity expands

Global refinery capacity is set to expand slightly ahead of demand growth in 2023. This divergence may see more refined oil products in seaborne trade. The Middle East, in particular, may add another 1 million barrels or so to the region's seaborne exports, mainly benefiting demand for LR2s. In 2022, 30% of oil product volumes transported by LR2 Tankers were loaded in the Middle East.

Longer travel distances look set to persist

In contrast to the redirection of Russian crude oil, few buyers can soak up large volumes of Russian CPP. China and India (the main importers of Russian crude since the outbreak of the war) are taking more, but both have ample domestic supplies. Russia will likely have to rely on more buyers as it deals with the sanctions on refined products. Either way, average voyage distances will grow. Product Tanker demand in 2023 is projected to grow by 11% measured in tonne-miles (4% in tonnes), versus 5% in 2022 (3% in tonnes).

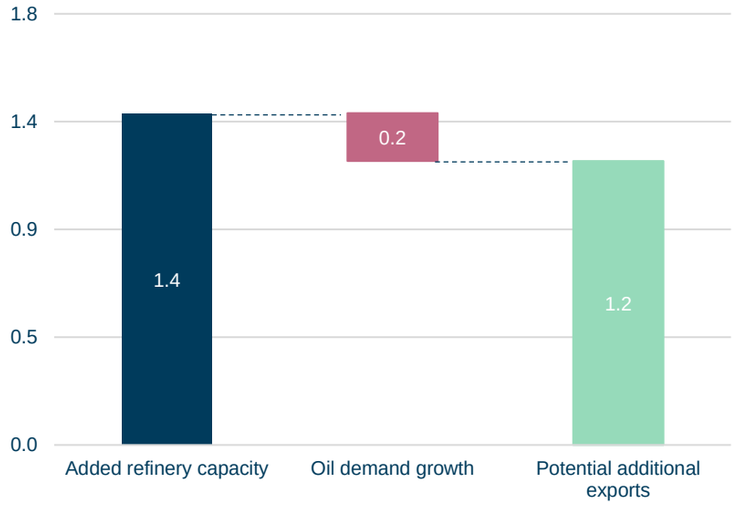
LR tankers may benefit from low inventories in OECD Europe

OECD Europe's inventories of middle distillates (of which diesel is the largest component) have been below the seasonal average since 2021. Although inventories have been replenished to some extent, sanctions will force EU countries to replace around 0.5 mbpd of Russian diesel imports in order to meet domestic demand. EU countries are likely to replace short-haul Russian diesel flows with long-haul shipments from the Middle East and Asia, boosting demand for LR Tankers at the expense of smaller MR Tankers.

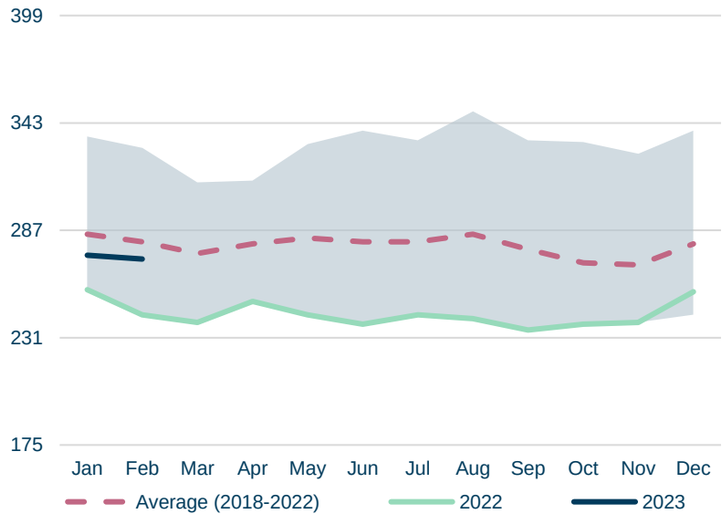
Jet fuel continues to drive global oil demand

An uptick in business travel and tourism in China is expected to bolster global jet fuel demand in 2023. Jet fuel consumption is projected to reach above 90% of the 2019 level in both OECD and non-OECD countries. While jet fuel demand in China may be covered by more domestic refinery capacity, LR Tankers could carry more from the Middle East to Europe.

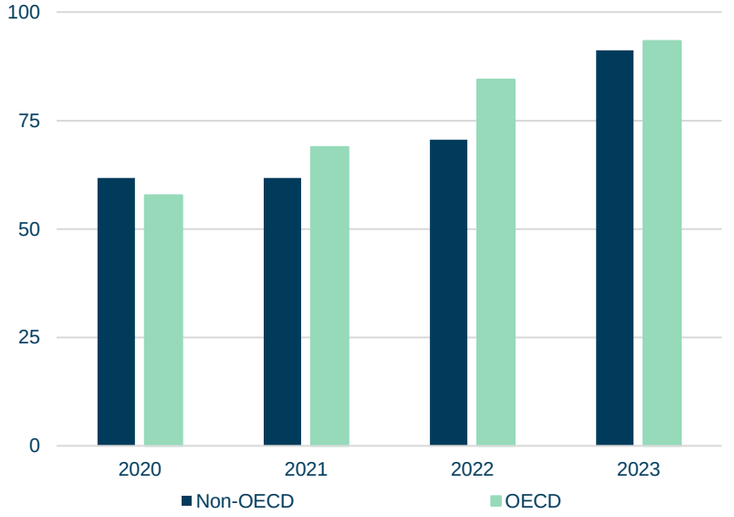
Additional seaborne exports from the middle east (mbpd)



OECD Europe middle distillate inventories (mb)



Jet fuel and kerosene demand growth (2019 = 100)



Source: Clarksons, IEA, EIA, Alphatanker, Reuters, S&P Global, Bloomberg, Danish Ship Finance

Demand deep dive: Limited US fuel exports?

Restrictions on US fuel exports could be on the cards, which may bolster fleet utilisation and earnings in an already healthy market

Looming fuel shortages and higher expected retail prices due to OPEC+ cuts may force US policymakers to reconsider restrictions on fuel product exports. If this scenario materialises, regions such as Latin America will likely have to import more over longer distances.

US fuel distillate inventories are 10 million barrels below the five-year average

Alongside Russia, the US is one of the main seaborne exporters of refined oil products, accounting for over 15% of total Product Tanker loadings in 2022. As of 2023, high US exports of seaborne oil products have continued, with volumes bound primarily for Latin American markets with a shortage of refining capacity and low refinery utilisation rates. US distillate fuel consumption has rebounded from low levels in 2020, while refineries have closed due to lower fuel demand during the pandemic and US energy policy intent on phasing out fossil fuels in the long term. High exports, increased fuel consumption (albeit still below the pre-pandemic level) and a loss of refinery capacity have contributed to drawdowns of distillate inventories in the US. Both gasoline and diesel inventories reached decade-lows in 2022 and are currently around 10 million barrels below the seasonal five-year average.

Restrictions on US fuel exports may be back on the table

In response to low inventories and high fuel prices in 2022, the US has previously weighed up the possibility of imposing restrictions on the country's exports of fuel products. US policymakers may be forced to revive such considerations in the wake of recent developments and the forthcoming presidential election. If the US economy avoids a full-blown recession (the IMF currently projects modest growth for 2023 and 2024), and domestic manufacturing and freight activity pick up further, shortages are likely to emerge, triggering price increases and fuelling inflation. The US could be further incentivised to counteract rising prices after OPEC+ announced more production cuts. Meanwhile, US refinery output looks to be sheltered from OPEC+ supply cuts, as refinery feedstocks are mainly sourced from domestic crude production.

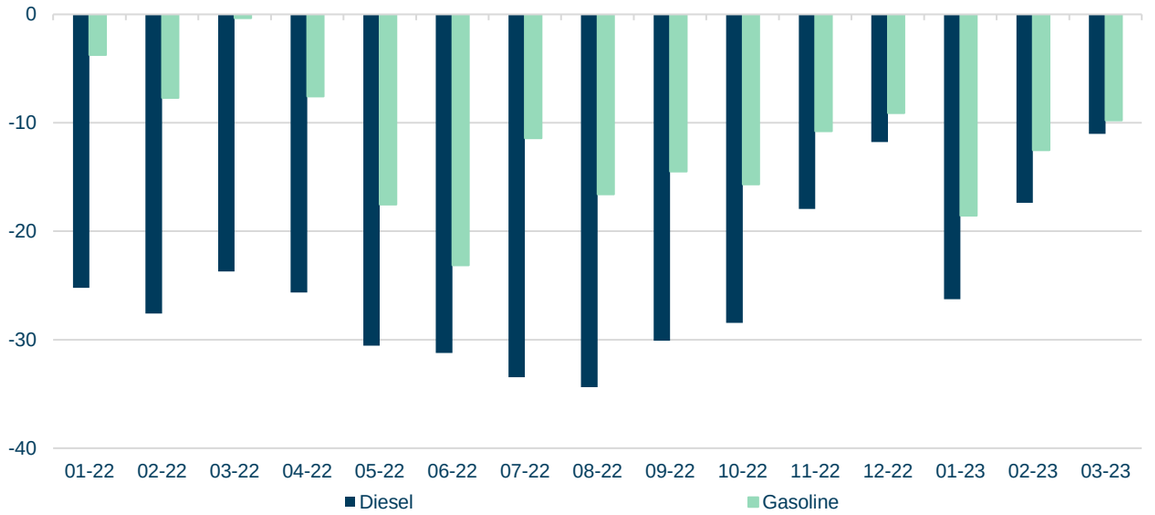
Latin America could look to China and Russia

In 2022, the US supplied around 60% of Latin America's seaborne fuel imports. If restrictions are imposed, Latin America will be quick to look for other sources, as it is – by far – the largest regional buyer of US seaborne fuel, relying on US imports to meet domestic demand for both gasoline and diesel. Given a divergence between Middle Eastern oil demand growth and refinery expansion in 2023, Latin America may use excess export volumes in the Middle East to plug a supply gap left by the US. It may also source more fuel from Russia. In Q1 2023, MR Tankers replaced LR2 Tankers in carrying almost all seaborne oil products from Russia to Latin America, while LR Tankers dominated the Middle East-Latin America trade. Should Latin America replace US barrels with seaborne imports from Russian ports in the Baltics, it would require around 2% of the MR fleet. Alternatively, should the fuel products be shipped from the Middle East, this could absorb 4% of the LR2 fleet. In either case, inefficiencies in trade flows will increase, bolstering Product Tanker fleet utilisation as available capacity decreases.

Potential ripple effects may reduce seaborne volumes

The diesel shortages in Europe pose a significant risk to the European economy, as diesel is one of the main components for the road and industrial sectors. As such, policymakers in other markets than the US may also take export restrictions into account in their decision-making processes to restore fuel stocks and mitigate rising fuel prices. However, export restrictions are a double-edged sword: they can force trade over longer distances, but if too many markets introduce export restrictions, Product Tankers may be negatively impacted.

Selected US fuel product inventories vs. five-year average (million barrels)



Source: Clarksons, Reuters, EIA, WSJ, IEA, IMF, Bloomberg, McKinsey, Alphatanker, S&P Global, Danish Ship Finance

LPG Carrier

Shipping Market Review – May 2023

LPG Carrier

High earnings but many new vessels are scheduled to enter the fleet

The LPG market had a strong year in 2022. Nominal supply expanded slightly ahead of demand, but infrastructural bottlenecks and changed trading patterns managed to balance overall fleet utilisation. The market outlook is weak, however, since a massive and front-loaded orderbook is scheduled to result in supply being well ahead of demand during 2023. Freight rates and secondhand prices are expected to weaken during the second half of this year. The outlook for 2024 is subject to the market's willingness to demolish surplus vessel capacity. The CII regulation is expected to soften the imbalance by reducing supply by 1.5-2% this year and next. Still, freight rates will be under pressure until demolitions or lay-ups restore fleet utilisation somewhat.

Freight rates and second hand prices

LPG earnings averaged USD 22,600 per day in 2022 (+33% compared to 2021). Although earnings were rather volatile at the beginning of 2023, they have stayed within the top 10% (since 2007). Newbuilding prices have continued their climb in 2023 after increasing by 11% in 2022 and are currently almost at an all-time high.

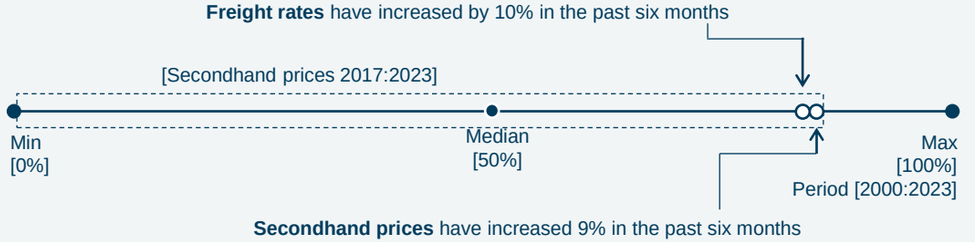
VLGC: Increased demand from Europe and Asia in 2022 resulted in spot rates reaching an eight-year high of USD 117,300 per day in December 2022. However, they have since fallen by 56% (partly due to seasonality) to USD 51,500 per day in April 2023. The one-year timecharter rate has gained 13% year-on-year and is currently trading at USD 38,800 per day. The price of a five-year-old vessel is up by 13% year-on-year, to USD 81 million. The S&P market has seen high activity for vessels aged between five and 15 years.

MGC: The one-year timecharter rate has increased by 11% to USD 26,300 per day year-on-year. Secondhand prices for younger vessels have been relatively stable, while prices for older vessels have risen significantly above the median, supported by increased long-haul trade.

SGC: Secondhand prices have remained steady and well below the median level. Prices for vessels over 15 years old are currently at historically low levels, indicating a depressed market outlook for older vessels and potentially premature scrapping before the age of 30 years.

DS:FUNDAMENTALS

MARKET CYCLE POSITION – May 2023



Freight rates were unusually high during 2022, even though the fleet expanded ahead of demand. The high inflow of new vessels during 2023 is expected to weaken fleet utilisation and lower freight rates. The fleet is scheduled to expand by 13% (cbm) before scrapping in 2023, while distance-adjusted demand is projected to grow by 5% in the same period. Scrapping is expected to intensify.

Deliveries increased by 17% to 2.8 million cbm in 2022 compared to 2021. The high inflow of vessels continued in the first quarter of 2023, with 1.5 million cbm delivered (4% of the fleet). Another 3.7 million cbm is scheduled to be delivered this year.

Scrapping rose during 2022, with 133,000 cbm demolished, distributed between 15 vessels. Mainly small vessels were scrapped; only one VLGC and one MGC were demolished. Scrapping has been almost non-existent so far in 2023.

Contracting activity in 2022 remained high at 3 million cbm, albeit short of the all-time-high level of above 6 million cbm in 2021. So far, 1 million cbm has been contracted in 2023.

Orderbook: The orderbook continues to expand and contains 8.7 million cbm distributed between 145 vessels, corresponding to 20% of the fleet. 57% of vessels on order are VLGCs. The orderbook is very front-loaded, with almost 64% of orders scheduled for delivery in 2023.

Demand: Seaborne trade volumes increased by 5% in 2022 and are expected to grow by 4% in 2023, with longer travel distances estimated to add the equivalent of 1.5% to volumes this year. European and Asian imports from the US are driving the expansion.

Market dynamics in the last six months

High volatility and changing market dynamics

The LPG Carrier market has experienced significant changes over the last six months: volatile spot rates and shifting trade flows for VLGC and MGC Carriers.

Soaring spot rates levelled off at the end of 2022

On top of tight supply levels and strong European imports, freight rates have been high and volatile. VLGC spot rates for the US-Europe trade route surged by 335% to USD 136,000 per day from March to December 2022, only to tumble to USD 69,000 per day in April 2023.

Strong demand and longer distances

Seaborne LPG demand increased by 5.4% during 2022. Travel distances remained essentially unchanged despite significant changes in trading patterns between segments. Distance-adjusted seaborne demand increased by 15% during the first three months of 2023, even though volumes only increased by 7%. The average speed was reduced by 2%.

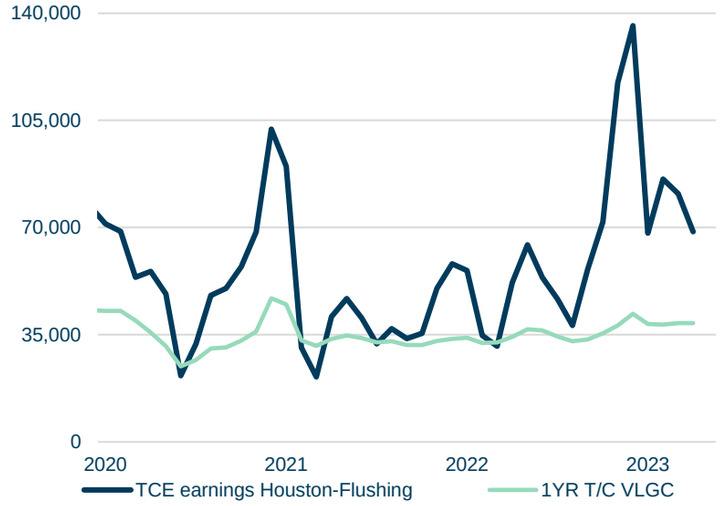
Increasing volumes and distances for VLGCs in 2023

VLGC demand increased by 12% during 2022, while distance-adjusted demand was only up by 5%, as US exports to Asia were replaced by exports to Europe and long-haul Asian imports from the Middle East. US exports to Asia returned during the first three months of 2023. Distance-adjusted VLGC demand increased by 17% during this period, while volumes grew by 12%.

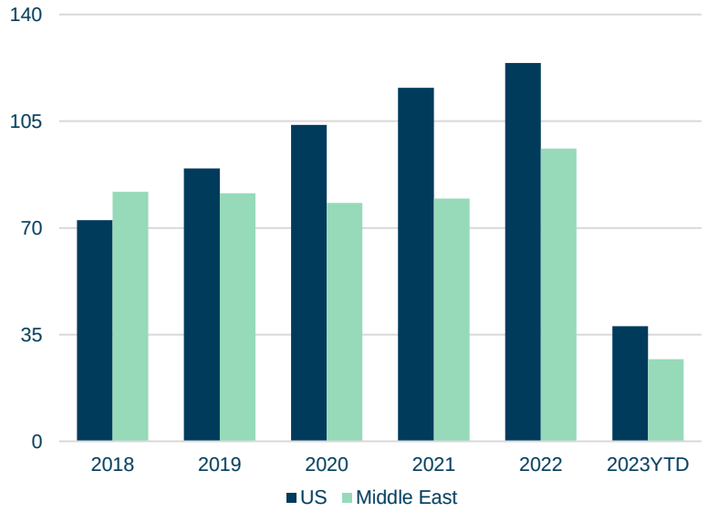
Longer distances have cut volumes for MGC carriers

Distance-adjusted MGC demand increased by 7% in 2022, even though volumes declined by 2%. The increase in travel distances was driven in particular by European imports from the US and Asian imports from the Middle East. Meanwhile, during the first three months of 2023, a rise in US exports to Europe and Asia boosted travel distances. Distance-adjusted demand increased by 11%, while volumes only grew by 1%. Intra-Europe trade volumes are still on a declining trend during the first few months of 2023.

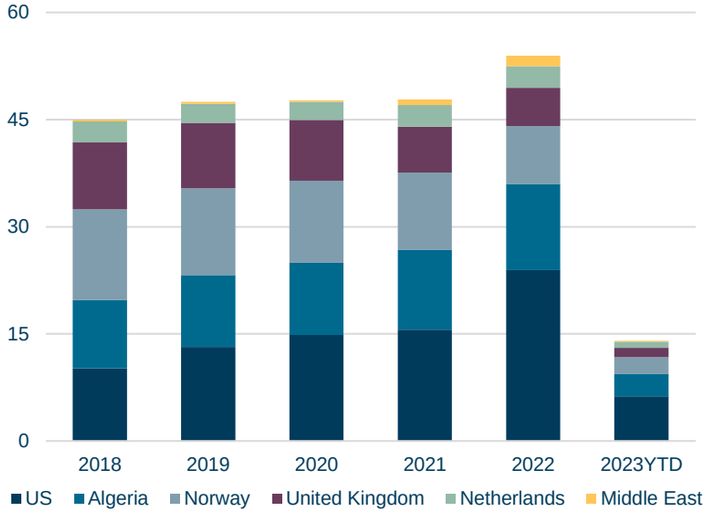
One-year timecharter and spot rates (USD per day)



US and Middle East export volumes (million cbm)



European import volumes by country (million cbm)



Source: EIA, IEA, Drewry, AXS Marine, Clarksons, Danish Ship Finance

Summary: LPG market outlook

Surplus vessel capacity is likely to result in short-term freight rate volatility and reduced economic lifetimes

A massive inflow of vessels is scheduled for 2023. This is expected to result in a period of surplus vessel capacity, with declining freight rates and secondhand prices, as well as increased volatility and reduced economic lifetimes of older vessels. In 2024, the market is likely to remain turbulent until the scrapping of older vessels brings supply and demand back into balance.

The orderbook currently represents 20% of the fleet and is heavily front-loaded. The fleet is scheduled to expand by 5.3 million cbm (13%) in 2023 and 2 million cbm (4%) in 2024 before scrapping. VLGC orders dominate the outlook with an orderbook-to-fleet ratio of 24%. The VLGC fleet is scheduled to expand by 14% in 2023, 4% in 2024 and 5% in 2025 (before scrapping).

Strong demand growth means the market will not balance in the short term

Distance-adjusted seaborne LPG demand is expected to increase by 5% in 2023 and 3.5% in 2024. The Chinese petrochemical sector remains the primary demand driver, with new PDH capacity opening in 2023 and 2024 and robust economic growth predicted to generate a 10% increase in imported volumes in 2023 and 8% in 2024. Most of the volume growth is expected to derive from long-haul imports from the US. Strong shale gas production, low domestic consumption and high domestic inventories continue to support arbitrage trading between the US and Asia (mainly China).

Surplus vessel capacity is building

The LPG fleet is set to expand ahead of demand in 2023. Freight rates and secondhand prices are expected to decline as a result. Volatility will likely intensify until surplus vessel capacity is absorbed by new demand or capacity is demolished. VLGCs seem most exposed, and may try to cascade onto MGC routes where possible.

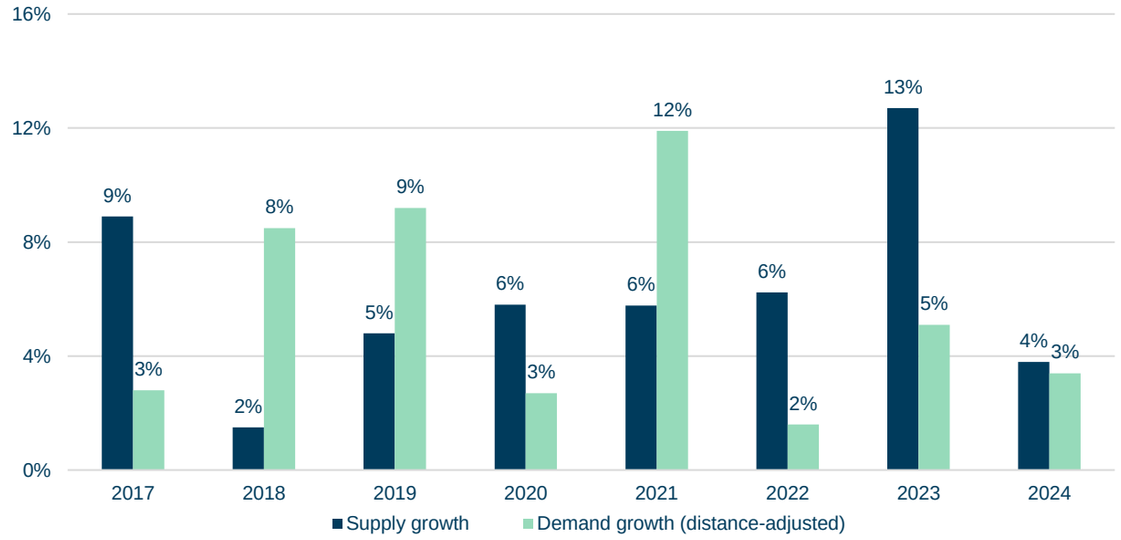
Older vessels are becoming scrapping candidates

Older vessels are likely to become scrapping candidates earlier than expected. Economic lifetimes for older vessels will shorten, which is likely to lower the value of the remaining older vessels in the fleet. Some may seek refuge as lay-up candidates in anticipation of a better balance between supply and demand.

Environmental regulation may reduce the active fleet by 1.5-2%

The commercial implications of the new environmental regulations (EEXI and CII) are likely to force some older vessels to reduce speeds. This is likely to lower the effective supply by 1.5-2% during 2023 and 2024. This is clearly not enough to balance the market, but it does alleviate some of the pressure to demolish older vessels prematurely.

Supply and demand balance (cbm and tonnes)



Source: Clarksons, Drewry, Danish Ship Finance

LPG fleet outlook

Massive fleet expansion, increased scrapping and shortened economic lifetimes

Surplus vessel capacity will likely build in 2023, with a massive inflow of new tonnage scheduled to be delivered. Increased demolition of older vessels is needed, even though the new environmental regulations are expected to reduce older vessels' speeds and thereby lower the effective supply by 1.5-2% in 2023 and 2024.

High fleet growth set to peak next year

The orderbook represents 20% of the fleet and is highly front-loaded. In 2023, the fleet is set to expand by 13% (before scrapping), levelling off to 4% in 2024 and 2025.

Large fleet expansion for VLGCs

The VLGC orderbook stands at 24% of the fleet, with all vessels on order being dual-fuelled. The fleet is scheduled to expand by 14% in 2023, 4% in 2024 and 5% in 2025 (before scrapping). There is little to indicate that demand will be able to absorb fleet expansion of this magnitude, and hence scrapping is expected to increase.

VLGCs older than 30 years are likely to be scrapped

The age profile of the VLGC fleet does not suggest there are large numbers of natural scrapping candidates. Only 4% of the fleet is 30 years or older. The economic lifetime of older VLGCs is therefore expected to decline when demolition begins to rebalance the market.

Massive orderbook for MGCs

The MGC orderbook represents 13% of the fleet. Most of the orders are due to be delivered in 2023. The fleet is scheduled to expand by 13% in 2023, 4% in 2024 and 0.5% in 2025. Approximately half of the vessels on order are dual-fuelled.

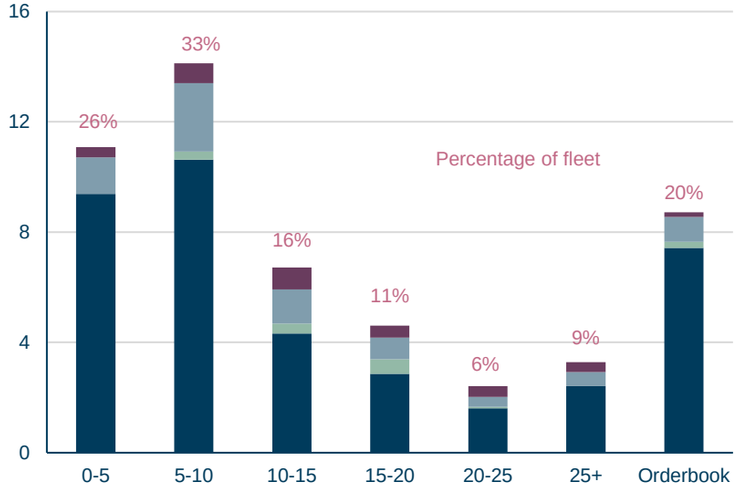
8% of the MGC fleet will be scrapped in 2023

Cascading of VLGCs onto MGC routes is expected to increase the need to scrap older MGCs. Capacity equal to all vessels older than 25 years – representing 8% of the fleet – is likely to be scrapped over the next few years.

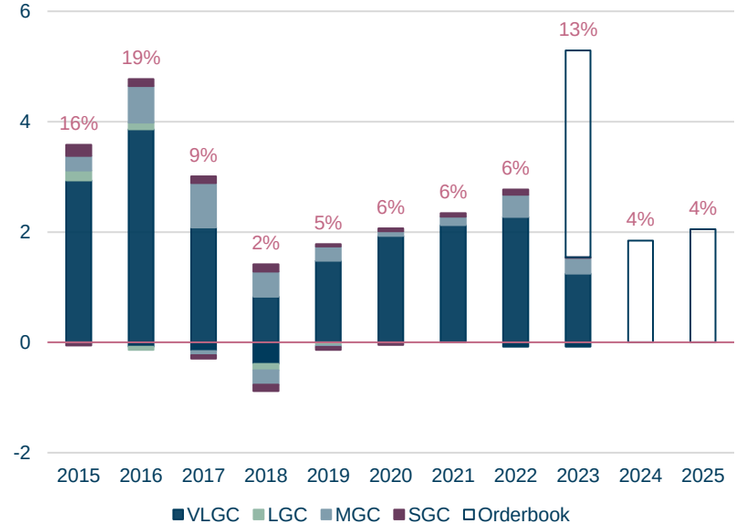
EEXI and CII will absorb 1.5-2% of the fleet

The new environmental regulations, EEXI and CII, are expected to require older vessels to sail at slower speeds, reducing supply by 1.5-2% of the fleet in 2023 and 2024.

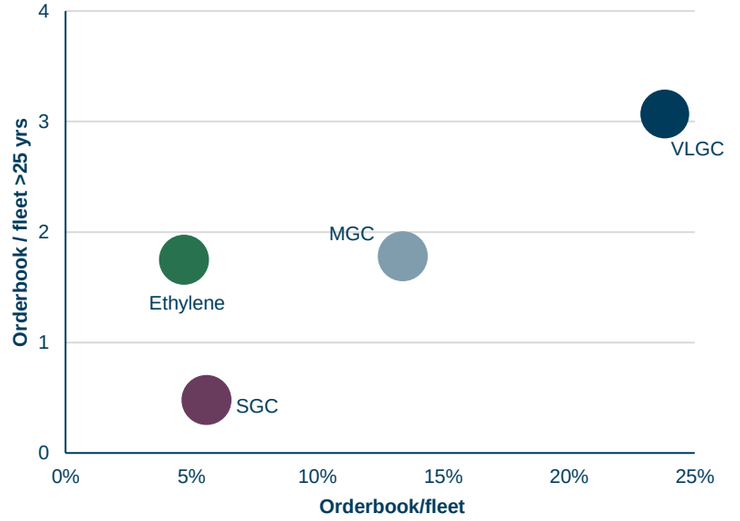
Age distribution of fleet (million cbm)



Fleet development (million cbm)



Fleet renewal potential (cbm)



Source: Clarksons, Danish Ship Finance

LPG demand outlook

Strong demand outlook but not strong enough to absorb the massive fleet expansion in 2023

Distance-adjusted seaborne demand is expected to show solid growth towards 2027 but will not be strong enough to employ the incoming fleet of new vessels in 2023. US export volumes bound for China are driving the outlook.

LPG demand is expected to growth by 3.5-4%

Distance-adjusted seaborne demand increased at an annual growth rate of 4.5% between 2000 and 2020. The demand outlook is weakening, but distance-adjusted seaborne demand is still expected to increase at an annual growth rate of 3.5-4% towards 2027.

US export volumes bound for Asia

Long-haul US exports to Asia, particularly China, are expected to drive most of the growth. The Chinese petrochemical sector remains the central demand driver, while US LPG exports are expected to deliver the volumes.

Attractive arbitrage trading

Strong US LPG production combined with low domestic consumption and high inventories is likely to continue supporting a favourable price arbitrage between the US and Asia.

Increased economic growth in China

China's economy has rebounded strongly following the lifting of Covid restrictions. The IMF predicts that the Chinese economy will grow by 5.2% in 2023 and 4.5% in 2024, compared to only 3% in 2022. Solid economic growth will support increased LPG imports.

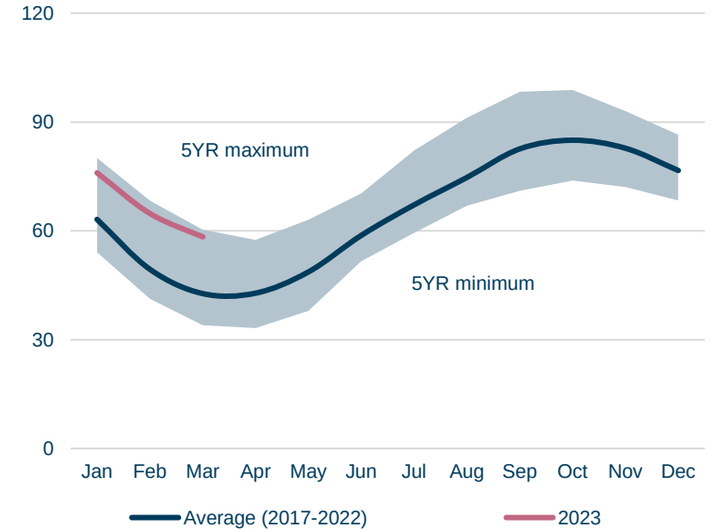
Chinese LPG imports up by 8%

Higher Chinese economic growth and new PDH capacity opening in 2023 and 2024 are raising expectations for imports. LPG imports grew by 8.5% in 2022 and are expected to increase by 10% in 2023 and 8% in 2024. Projections for 2027 indicate annual growth rates of 8% on average. Chinese LPG imports increased by 10% on average between 2001 and 2022.

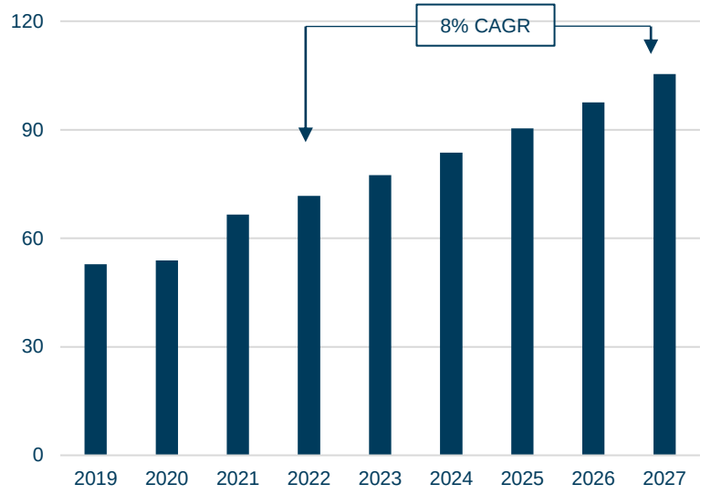
European imports up by 3.5%

In Europe, LPG import volumes surged strongly in 2022 (+7.4%) as the region halted Russian gas supply. Still, import expectations towards 2027 remain anchored around the annual growth rate between 2001 and 2022 of 3.5%.

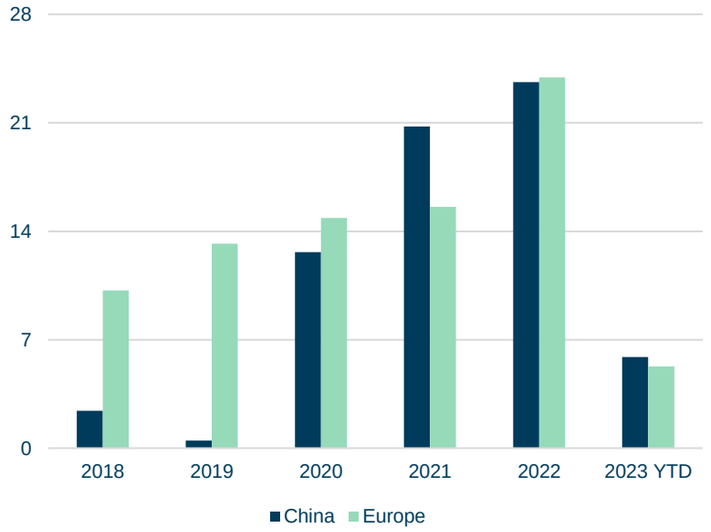
US LPG inventory levels (million barrels)



Chinese LPG import forecasts (million cbm)



US export volumes to Europe and China (million cbm)



Source: Clarksons, IEA, EIA, AXS Marine, Drewry, IMF, Danish Ship Finance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