



Multipurpose Shipping Forecaster

Quarter 2 • June 2023

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Multipurpose Forecaster

Research Team

Peter Molloy – Editor
molloy@drewry.co.uk

Diksha Goel – Fleet data
diksha@drewry.co.uk

Drewry Maritime Research

35-41 Folgate Street,
London E1 6BX

Tel +44 (0) 20 7538 0191

Fax +44 (0) 20 7987 9396

enquiries@drewry.co.uk

www.drewry.co.uk

MPV demand remains steady, increasing from 2025

2.1%_{pa}

increase in fleet YE2022
to YE2027

3.2%_{pa}

average increase in MPV rates
base case YE2022 to YE2027

0.9%_{pa}

downside scenario demand
growth YE2022 to YE2027

9.4%_{pa}

downside scenario decrease in
rates YE2022 to YE2027

MPV market share base case

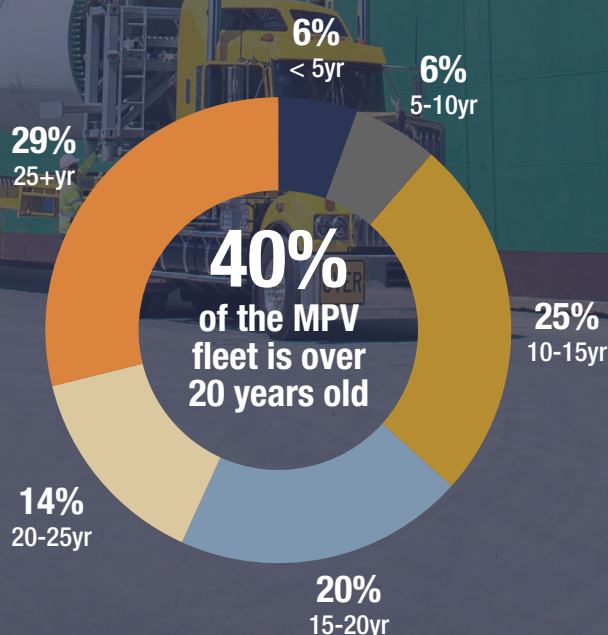
1,479_{mt}

2023

1,574_{mt}

2027

Fleet age profile



“Downside risk on outlook of inflationary pressures and weaker growth in economic activity remain”

1. Executive Summary

Overview and summary of main forecast

We remain optimistic for the MPV sector based on the robust demand generated in the project cargo segment. Day rates are expected to remain substantially above pre-Covid levels.

Half way through the year, many countries are grappling with the cost-of-living crisis and Russia's war in Ukraine is still ongoing. The regional bank crisis in the US has seemed to go quiet for now, but with the possibility of further interest rate hikes, other potential problems are still looming.

Inflationary pressures remain high, yet global GDP appears robust

The China wild card is still playing out, with recent data showing that the expected growth figure for the year might not be met. Both construction of new homes and exports were down in the recent economic data while youth unemployment is increasing.

Although some figures in our report indicate a better situation, many uncertainties for the global economic outlook described in the 1Q23 report are still present.

Table 1.1 Market summary

	2021	2022	2023	2024	2025	2026	2027	CAGR 2022-27
MPV Demand (million tonnes)								
Base Case	1,445	1,502	1,486	1,493	1,549	1,607	1,655	2.0%
Upside Scenario	1,445	1,502	1,498	1,516	1,583	1,647	1,707	2.6%
Downside Scenario	1,445	1,502	1,479	1,463	1,498	1,542	1,574	0.9%
MPV Fleet (million dwt)								
Total Fleet	29.57	30.28	30.39	30.93	31.46	32.21	33.58	2.1%
Supply Demand Index								
Base Case	105	107	105	104	106	108	106	-0.1%
Upside Scenario	105	107	106	105	108	109	108	0.3%
Downside Scenario	105	107	105	103	103	104	102	-0.9%
Average annual timecharter rate \$pd								
Base Case								
5-7,500 dwt	5,249	7,350	5,788	5,296	6,315	6,967	6,203	-3.3%
10-15,000 dwt	10,566	14,032	11,593	10,253	13,988	17,138	13,950	-0.1%
15-20,000 dwt	10,121	14,668	11,427	10,102	14,076	17,458	14,008	-0.9%
SH Prices \$million								
12,500 Dwt Multipurpose (geared)	3.8	4.5	4.1	3.8	4.5	5.1	4.5	0.1%
17,500 Dwt Project Carrier	17.0	18.6	17.6	15.7	19.8	23.3	19.5	1.0%

Source: Drewry Maritime Research

Overview and summary of main forecast

The division in the MPV fleet is becoming more pronounced as we see demolition figures increase, although still from a very low base. The Project Carrier segment has taken the majority of newbuild deliveries and orders, followed by smaller tonnage, while on the demolition side the mid-size low crane capacity vessels are the main candidates. Both MPV newbuilding slippages and demolitions remained low in 2022 leading to a fleet growth of 0.8%. We have revised and increased our expectations for slippages in 2023 and, coupled with increased demolitions, the fleet is expected to remain roughly the same in 2023. We do however expect this to change with the fleet returning to growth in 2024.

The outlook for MPV demand remains steady for the long term showing a slight increase since our last report. The forecast for our base-case scenario now shows an average growth of 2.0% per year to 2027. The energy industry (both renewables and oil and gas) will remain the most important driver of MPV demand in the following years, especially post 2024.

Both 2021 and 2022 were exceptions to the historical proportions of containerised, dry bulk and non-containerised general cargo carried on MPVs as both the container and dry bulk carrier sectors had particularly high levels of utilisation. Since the fall in charter rates of container ships in 2022, the more normal distribution has returned. Both container and dry bulk carriers are firmly back as competitors to MPVs for certain cargoes.

Project cargo demand which is difficult for other sectors to compete for is supporting MPV utilisation and day rates. However, not all vessels in the MPV sector are suitable for such projects and are increasingly feeling the effects of the higher competition. The expectation is still for charter rates to decline further in 2023-24.

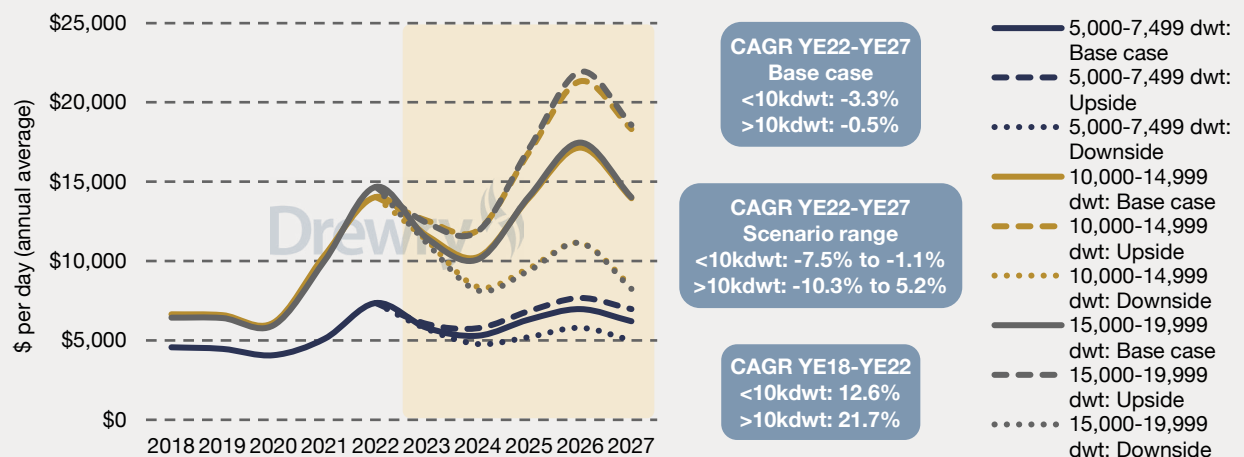
Figure 1.1 details our long-term forecast for charter rates in our base-case, upside and downside scenarios. Although the base-case CAGR figures are negative, 2022 as the start year of the period represents record high levels in day rates. However, the distance between the upside and downside scenarios has nearly doubled. For all our scenarios, time charter rates are still not expected to go below 2020 levels.

Growth of fleet is still good, at 2.1% CAGR to 2027

Base-case MPV demand to grow 2.0% per year to 2027

Charter rates reflect the increasing competition for cargoes from the container and bulk carrier sectors

Figure 1.1 MPV timecharter rate forecasts



Source: Drewry Maritime Research (derived from brokers reports)

Rationale for forecast changes

Low orderbook and increased demolitions have changed our original outlook for supply. This in turn led to adjustments in the forecast in other areas.

Our base-case forecast for demand has increased and is now 0.1% above what we had forecast in 1Q23. The downside risks that were present at the beginning of the year remain, but growth expectations are slightly better than we had expected. The expected addition to the global GDP with the opening up of China has not materialised fully, and the initial momentum is now showing signs of slowing down. We remain optimistic as we are in line with our base-case scenario forecast which still shows MPV demand by 2027 will grow by 10% vs 2022.

We have significantly revised our assumptions on newbuild orders since our 1Q23 report. Based on discussions we have had recently with various stakeholders, with a few exceptions, interest in ordering new vessels is still limited. Uncertainty remains regarding what ship to build when considering the development of future environmental regulations. New technology has its risks and choices of fuel could restrict the operational area of a vessel to the specific bunkering locations. We think this is now more likely to persist due to the weaker economy expected for 2023-24, and by the time we see a stronger MPV market in 2025, it will be too late to have new vessels delivered, leading to particularly strong day rates in 2026.

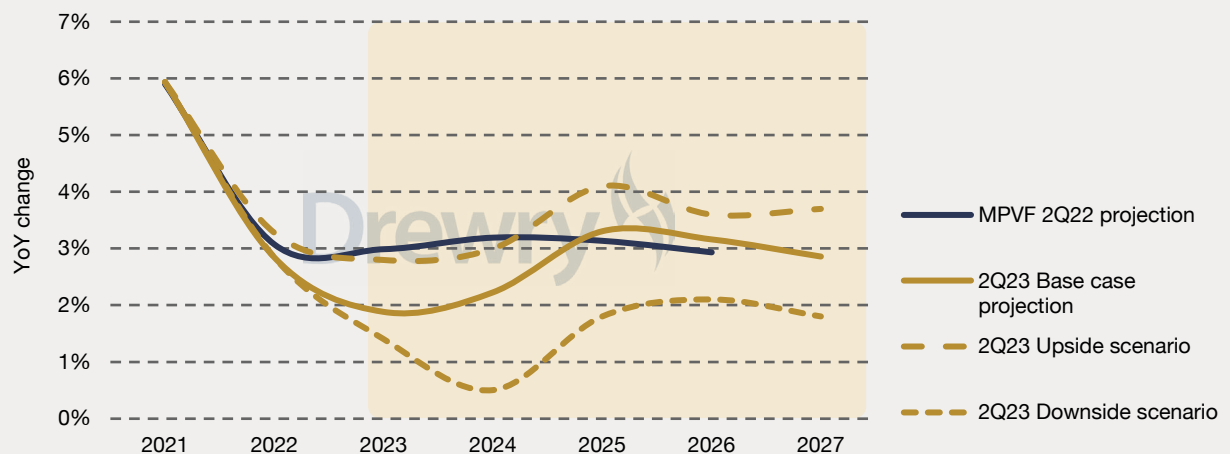
The same situation will bring an increase in demolitions for 2023-24 before robust utilisation limits the number of demolition candidates as the fleet awaits vessels to be delivered.

Not a bad situation for vessel operators, although they might have some opportunity costs.

It will be particularly challenging for shippers on the other hand.

Demolition sales increased but the fleet is still expected to grow over the forecast period

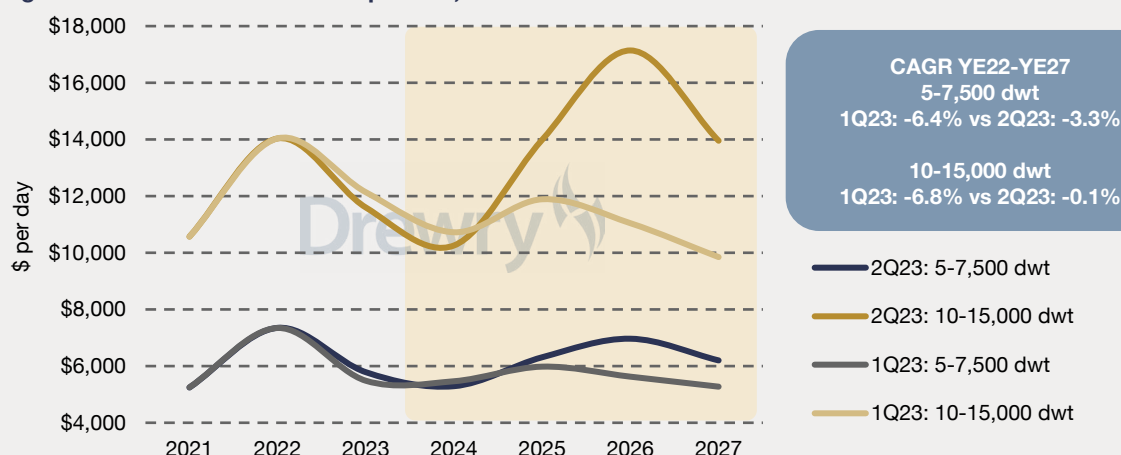
Figure 1.2 Drewry global economic assumptions (real GDP, base year = 2015)



Source: Drewry Maritime Research (Base Case derived from Oxford Economics)

Rationale for forecast changes

Figure 1.3 TC rate forecast comparison, 2Q23 vs 1Q23



Source: Drewry Maritime Research

Risks to the forecast and forecast sensitivities

The challenges we saw at the beginning of 2023 remain and therefore the global GDP growth expectations are weak for 2023 and 2024. With the Chinese economy showing signs of weaker growth and the war in Ukraine continuing, the cost-of-living crisis and low consumer confidence represent downside risks.

Despite the immediate challenges, GDP growth numbers from Oxford Economics imply a strong economy in the later part of the 2023-27 forecast period. Our view on the probability of our scenarios has not changed since the previous report. Although some figures are moving in a positive direction, many of the same challenges remain. With inflation as a major risk, some weakening of the economy is expected before inflation can be truly pushed down. Hence, we only assign a 55% probability to our base-case scenario.

Similar to the previous statement, for our upside scenario, we will need to see inflation steadily decreasing back to sustainable levels while economies remain strong. With the continued war in Ukraine, the direct effects are still felt. However, the secondary geopolitical effect of growing tensions between nations that do not share the same views regarding the war, are a growing concern. The primary being the disruption as a direct result of the conflict and the secondary effects of nations realising they are not on the same page when it comes to certain conflicts. These growing tensions make envisaging the upside scenario even more challenging. We assign a 5% probability to the upside scenario.

The main negative drivers described for our base-case scenario are the ones that we would expect leading economic activity down in the downside scenario, to which we assign a 40% probability.

Currently the biggest risk to the global economy we see is lower consumer demand resulting from inflation and a cost-of-living crisis. This will be compounded by the main tool to fight inflation – higher central bank rates.

High inflation remains the core risk to economic activity

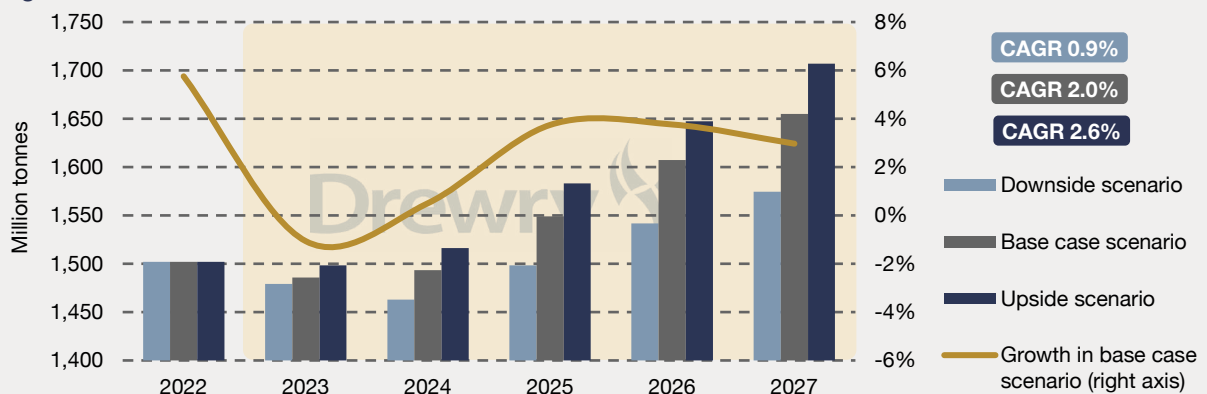
Risks to the forecast and forecast sensitivities

This said, for the MPV market we are expecting a good portion of demand to come from energy industry projects which even in a weaker economic environment would still go ahead. The same geopolitical tensions which introduce a risk to economic growth are adding to the need for such energy projects as governments look for energy security and reduce their reliance on imported commodities for their energy needs. MPV demand in this scenario is at lower but still acceptable levels for the above reasons, but some vessels will lose market share to container ships and bulkers for certain cargoes.

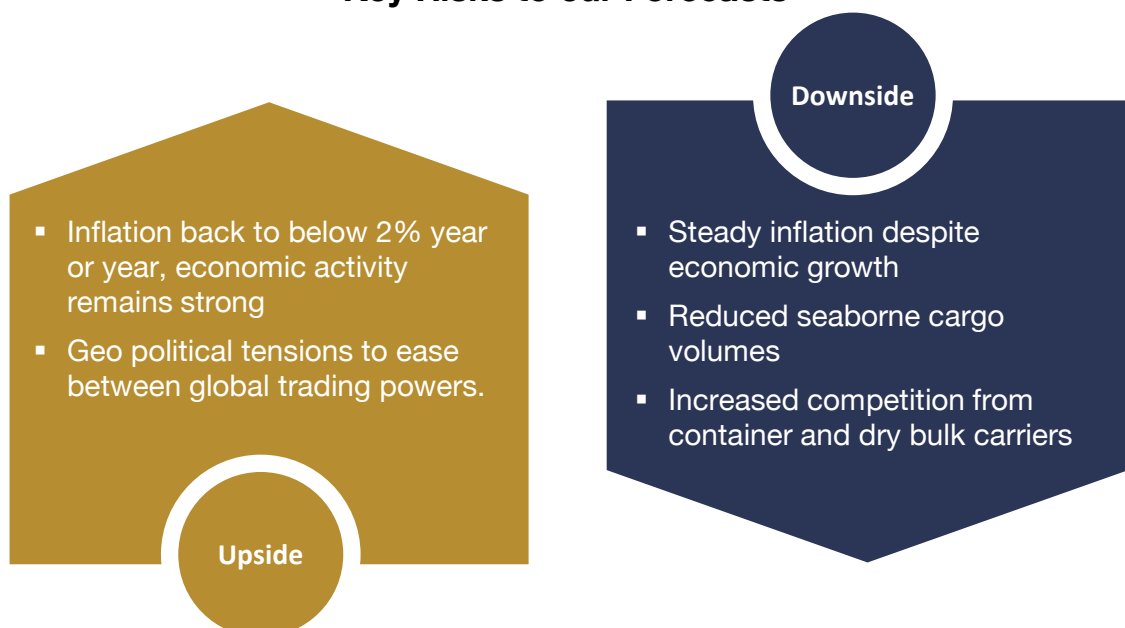
The other concern besides the economic situation is vessel operating costs. Due to the oil price spike in 2022, lube oils saw substantial price increases and are not currently showing comparable reductions despite the fall in oil price. This followed a significant increase in manning costs because of the spread of Covid in 2020-21. Similar supply-side shocks could represent significant upside risks for operating costs in our forecast period, during which we expect a 1.6% increase per annum on average.

MPV day rates to remain above pre-Covid levels in all our scenarios

Figure 1.4 MPV demand sensitivities



Key Risks to our Forecasts



Scenarios: assumptions and outcome

Decreasing probability

Drewry Baseline

Scenario B Downside

Scenario A Upside

Drewry probability

55%

40%

5%

Economic impact

Inflation remains at current levels and uncertainty in the global economy keeps consumer confidence low. Negative effects from the economic issues in China balance the positive effects of cessation of Zero-covid, resulting in a muted change to global GDP.

Positive effect of Chinese reopening on global economy only limited as demand for goods is hit by sticky inflation. Central banks increase interest rates however inflation continues at high levels despite slower economic growth.

Inflation below 2% year on year, with robust economic activity. Geo political tensions to ease between global trading powers.

Effect on competing sectors

The worst of the drop in rates for both containers and bulkers have happened. Rates will balance out and the two sectors resume the historical levels of competition with MPVs.

Low performing GDP and its correlation with seaborne trade means the containers take a further drop in rates. This coupled with more supply, both sectors increase competition with MPVs as they look for potential earnings.

Both bulkers and Container vessels achieve sustainable utilisation. The current container orderbook would need to be limited to achieve this. Competition with MPVs would be slightly lower than historical levels.

Effect on MPV/HL demand

Weaker demand growth in breakbulk, however robust utilisation of small tonnage. Projects related to energy give MPVs suitable for such cargoes steady demand though 2023 and 2024, followed by a strong increase post 2024.

Utilisation and dayrates remain at pre-2020 levels however lower demand for MPVs. Vessels not suitable for projects will see even lower demand.

2023 and 2024 have low demand before GDP growth brings high MPV demand an utilisation, demolitions and a low orderbook result in utilisation levels that increase rates and new orders increase.

MPV/HL demand forecast

2023 vs 2022

-1.1%

-1.5%

-0.2%

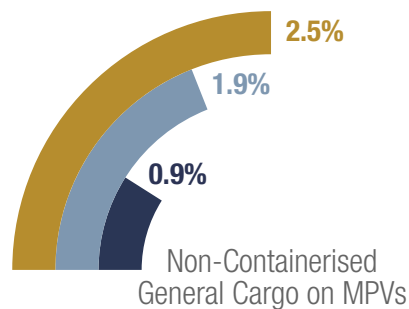
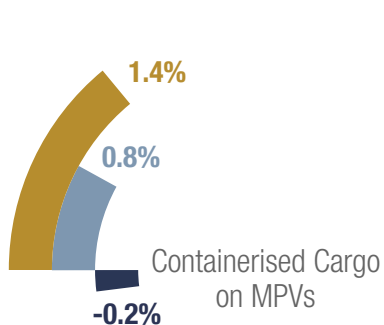
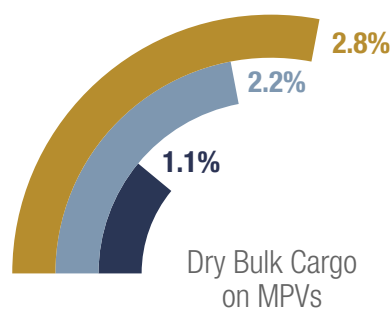
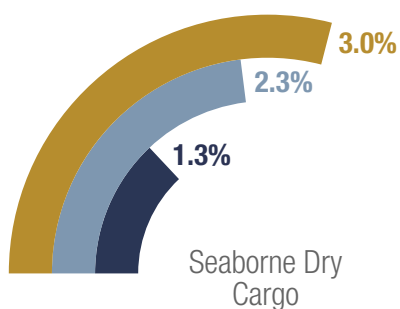
2024 vs 2023

0.5%

-1.1%

1.2%

Trade (CAGR YE2022 to YE2027)

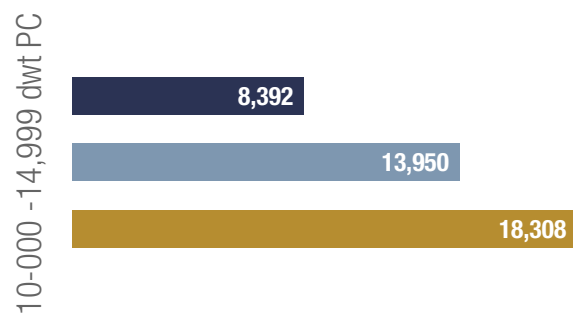
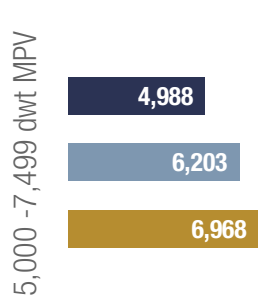


Downside scenario

Base Case

Upside scenario

Charter rate (\$/day)



Second-hand prices (\$ million)



2027 - Downside scenario

2027 - Base case

2027 - Upside scenario

Drewry Maritime Advisors provide expert advice to owners, operators, financial institutions, port authorities, terminal operators and governments covering the full spectrum of commercial and technical facets across all maritime and shipping sectors. Our combination of deep knowledge and understanding of the market sectors we serve, allows our clients to make the right commercial decisions at the right time.

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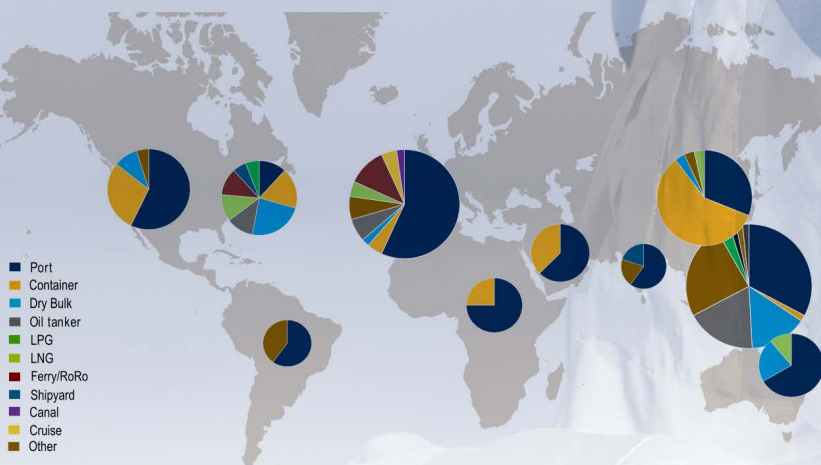
Project assignments (Jan 2021-Dec 2022)

203 project assignments completed

88 port sector assignments

52 bulk sector assignments

25 container/ship leasing assignments, environmental and sustainability assessments



2. Trade

Overview

Global GDP growth is expected to remain weak in 2023-24, with uncertainties abound. Economic activity in developing countries is still robust, but consumers in the West are losing buying power.

The foundation of our demand forecast and historical analysis is the relationship between global economic activity and seaborne dry cargo volume. By considering various economic activity scenarios, we can provide guidance on future demand and the uncertainties that surround it.

We are still upbeat about global GDP during our forecast period. However, the previous outlook has slightly weakened based on the slower recovery of the Chinese economy following the cessation of the zero-Covid policy. This confirms our view described in our previous report that the recovery of the Chinese economy is to initially take place driven by domestic demand and not materialise in large seaborne trade changes.

The ongoing issues that threaten economic growth are the cost-of-living crisis, inflation, consumer confidence and the destabilising effect of Russia's continued war in Ukraine. Rising central bank rates after years of extremely low levels have increased the cost of finance, increasing the risk of default and causing problems for borrowers and lenders alike.

We still see many positive and negative uncertainties for the global economic activity outlook. Although we did not consider the opening up of China after the pandemic as a significant event as others did, we still see it as a big influence moving forward. With not meeting its initial growth targets, the Chinese government is likely to boost manufacturing, but its effects are questionable if the consumption of goods remains muted.

Base-case scenario:

Drewry's demand outlook for the MPV fleet is based on the global economy and dry cargo trade outlook. To determine the demand for MPVs, we also have to assess the demand and capacity available for competing sectors of container and bulk carriers. For the base-case scenario, we use GDP forecasts from Oxford Economics with 2015 as the base year (see Table 2.1 for details on the 2023-27 forecast period).

GDP forecast was revised upwards at the beginning of the year, resulting in the likelihood of a global recession in 2023 being significantly lowered. That said, the majority of the risk factors that first suggested the possibility of recession are still out there, giving uncertainties in economic forecasts.

After the pandemic, the Russia Ukraine war has extended the period of instability. Both events affected global supply chains, causing large whip effects of different highs and lows. On top of these events, the extremely low central bank rates with large amounts of quantitative easing within Western countries have resulted in high price inflation rates, which have not been seen for 40 years.

Base-case global GDP growth is expected at 1.9% in 2023

Overview

The cessation of the zero-Covid policy in China and the subsequent recovery was expected to add to global GDP. We were hesitant to give this the same importance as weakness in the economies importing from China were not expected to resolve in the near term. Furthermore, domestic demand for goods and services in China was not expected to create an uptick in seaborne cargo.

Despite the near-term outlook, Oxford Economics' GDP growth figures imply a strong economy towards the end of the forecast period. We however find an outlook of such economic strength challenging to maintain with inflation at its current levels, for inflation to be pushed back down, it is likely that first, a weakening of economic activity is needed.

We have increased global container box throughput from 0.4% in our previous report to 1.0% in 2023, after 0.5% in 2022. However, this upward revision hides some significant regional changes, with North America and Northwest Europe seeing drops in throughput. Southeast Asia, East Mediterranean and West Coast South America have seen increases. Greater China throughput is also expected to rise but only at a historically low rate of ~1%.

For the other main competing sector for MPVs, the dry bulk carrier sector, expectations for 2023 are somewhat better. Despite this, we anticipate the dry bulk sector to encroach further into the breakbulk sector over 2023.

MPV demand is expected to remain robust due to cargoes suited for MPVs, such as components for wind and solar power generation and oil and gas projects. Vessels in the MPV fleet which are not best suited for these project cargoes may find increased competition and market loss caused by container ships and bulkers.

Container port throughput set at 1.0% growth for 2023

The dry bulk market is likely to register healthy demand in 2023, with an increase in supply causing fluctuations in rates

Base-case dry cargo growth at 2.3% CAGR YE2022 to YE2027

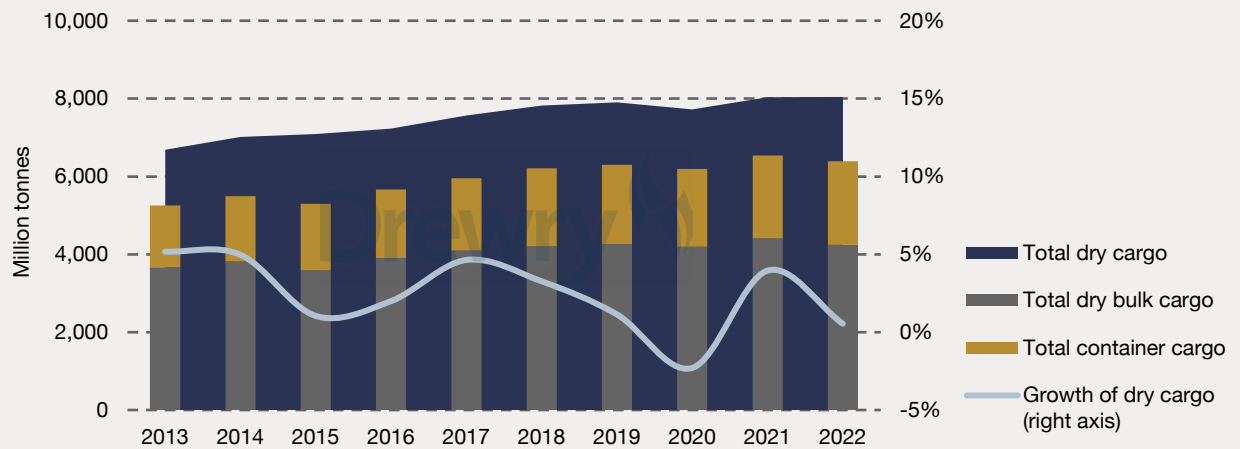
Table 2.1 Development of economic activity, seaborne dry cargo and MPV share

	CAGR							
	2021	2022	2023	2024	2025	2026	2027	YE2022-YE2027
REAL GDP GROWTH Base Case (% YoY, base year = 2015)	5.9%	3.3%	1.9%	2.2%	3.3%	3.2%	2.9%	2.7%
TOTAL DRY CARGO Base Case (million tonnes)	8,033	8,043	8,094	8,263	8,544	8,814	9,031	2.3%
TOTAL DRY CARGO GROWTH Base Case (% YoY)	4.0%	0.1%	0.6%	2.1%	3.4%	3.2%	2.5%	
MPV Market Share (million tonnes)								
MPV Market Share of Container Cargo	26	32	27	28	30	31	33	0.8%
MPV Market Share of Dry Bulk Cargo	540	545	541	547	568	589	607	2.2%
MPV Market Share of Non-Containerised General Cargo	880	925	917	918	951	987	1,015	1.9%
TOTAL MPV MARKET Base Case	1,445	1,502	1,486	1,493	1,549	1,607	1,655	2.0%

Source: Drewry Maritime Research

Overview

Figure 2.1 Development of seaborne dry cargo demand, 2013-22



Source: Drewry Maritime Research

Downside scenario

In our base-case scenario, the main negative drivers will decelerate economic activity in the downside scenario.

Lower consumer demand due to inflation, coupled with higher interest rates as the main tactic used to fight inflation, presents the biggest risk to the global economy. If consumers are experiencing a cost-of-living crisis, growth will be greatly affected. This is separate from considering another potential black swan event, such as Covid-19 or the Russian-Ukraine war.

Even in a weaker economic environment, energy projects are still expected to go ahead, especially renewables. For strategic energy security, domestic energy production that does not require the ongoing import of commodities is an additional demand on top of the green agenda, which bolsters demand in this project area. This is expected to keep MPV demand at acceptable levels, albeit lower, after losing market share to container ships and bulkers for some cargoes.

Upside scenario

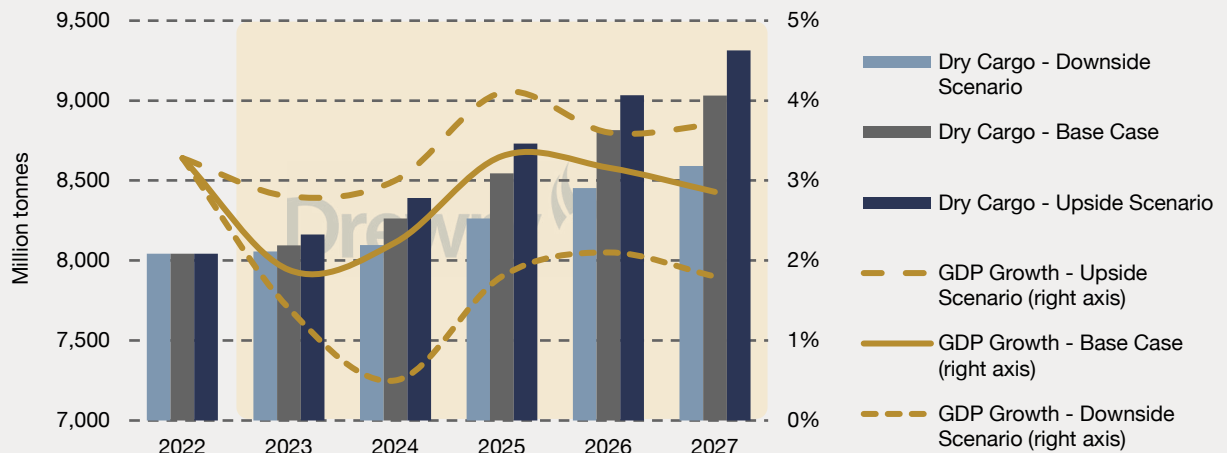
For a more optimistic outlook than our base-case scenario, a soft landing is required after the interest rate hikes that have been experienced globally. The current tense geopolitical atmosphere makes envisaging this scenario even more challenging. However, the reality is that negative events such as wars can positively impact certain shipping sectors and routes, like we have recently seen with crude tankers. Furthermore, the additional concern of energy security giving rise to projects to reduce reliance on a limited number of fossil fuels sources.

Downside dry cargo growth at a CAGR of 1.3% YE2022 to YE2027

Upside dry cargo will grow at a CAGR of 3.0% YE2022 to YE2027

Overview

Figure 2.2 Seaborne dry cargo under different economic activity scenarios, 2022-27



Source: Drewry Maritime Research

MPV share

As the container boom ended, the number of containers carried on MPVs has been decreasing.

Using historical data along with upcoming regulations, we can assume that the proportion of certain cargo types will be carried on MPVs.

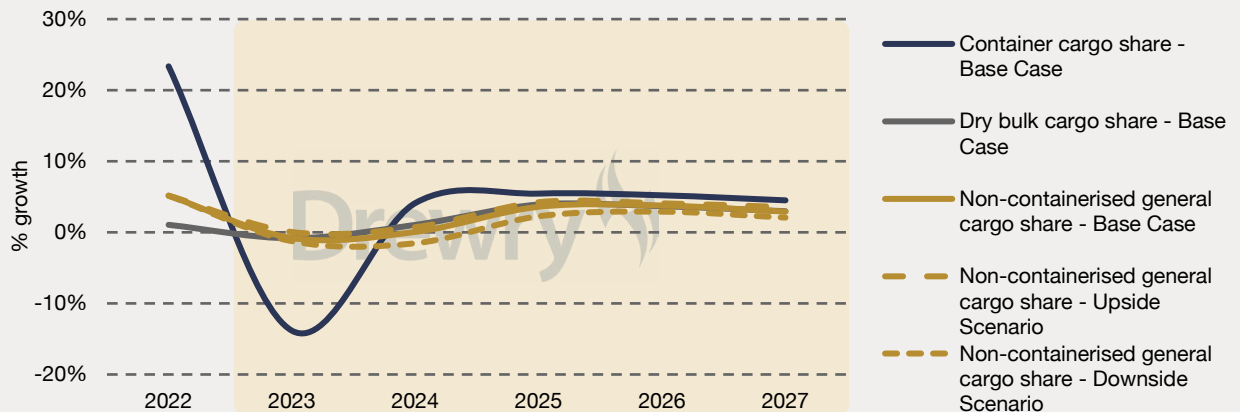
Except for the 2021 and 2022 container boom, the long-term proportions of containerised, dry bulk and non-containerised general cargo carried on MPVs have been fairly stable. As the container market adjusts to the reset in demand, we expect share in carrying containers to dip before settling back at the historical trend.

Figure 2.3 details the changes in growth in the market share over the forecast period and shows a clear difference between the scenarios by 2027. All areas are expected to be areas of growth for MPVs. In some cases, MPVs are the only suitable vessels for certain cargoes for breakbulk and general cargo; the growth in the share of cargo will be exposed to the container market. As these cargo types can also be carried in containers, a very weak container market presents competition and risk to the growth of this cargo segment's share for MPVs.

After an initial demand correction, more containers are expected to be carried on MPVs than in pre-2021

MPV share

Figure 2.3 Future growth of MPV share of the dry cargo market, 2022-27



Source: Drewry Maritime Research

Forecast MPV demand

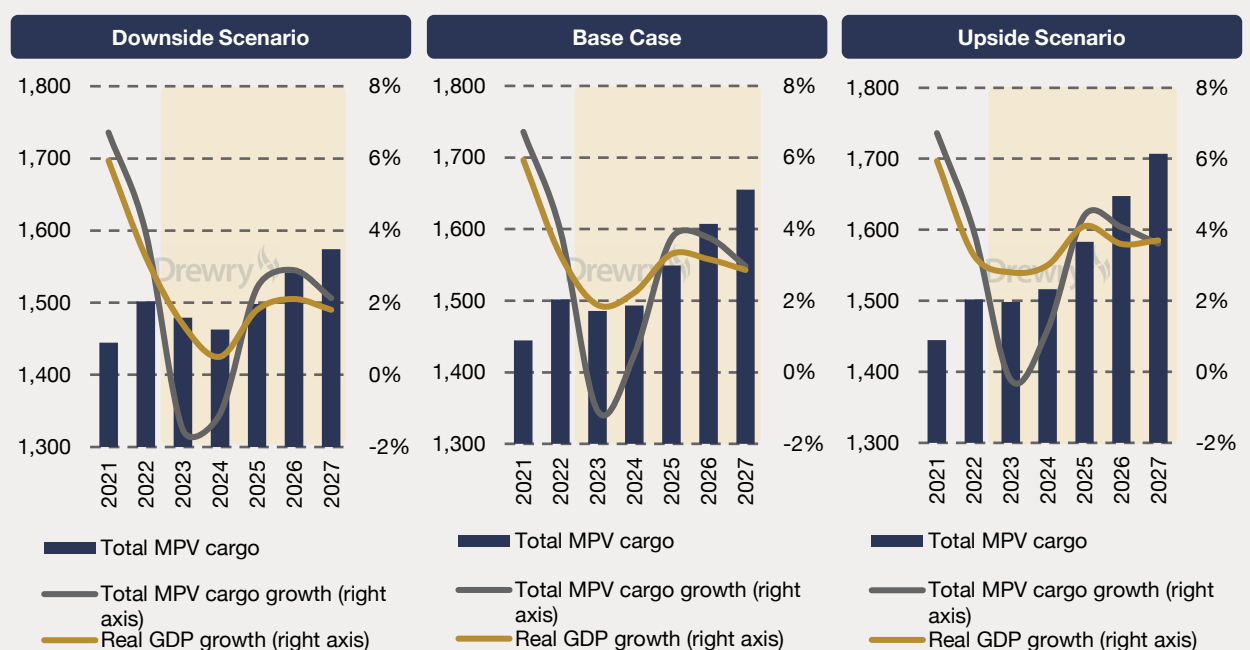
For our base-case scenario, the outlook for MPV demand remains steady, with an average growth of 2.0% per year to 2027.

Drewry's forecast from 2022-27 is detailed in Figure 2.4. The three scenarios for demand growth and GDP growth outlined above can be seen clearly.

All segments are expected to find 2023 difficult, with total MPV demand likely to decrease by 1.1% in the base-case scenario. Under the three scenarios, demand will grow at a CAGR YE2022 to YE2027 for the forecast period under the three scenarios we described above are 2.0%, 0.9% and 2.6%, respectively.

For all scenarios, demand growth is muted in the short term before it increases significantly

Figure 2.4 Estimated development of MPV demand, 2021-27 (million tonnes)



Source: Drewry Maritime Research

Key MPV trades

This section looks at some of the main commodities carried on MPVs and assess the global trade associated with each. Some of these cargoes are carried based on volume and not just weight.

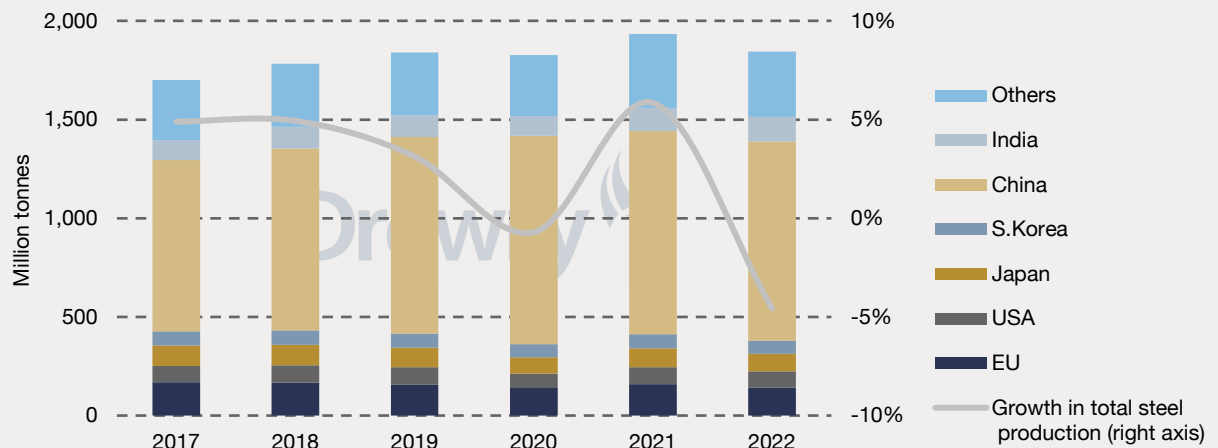
Steel

The construction sector placed a strong downward pressure on global steel production in 2022, resulting in 4.2% below 2021. This is historically a particularly negative number (see Figure 2.5).

Figures 2.6a and 2.6b detail seaborne exports and imports of crude steel, respectively, with steel, articles of steel and iron trade shown in Figures 2.7 and 2.8. With the fall in steel production also came a fall in seaborne trade in 2022, which can be somewhat attributed to lower domestic than export demand in China.

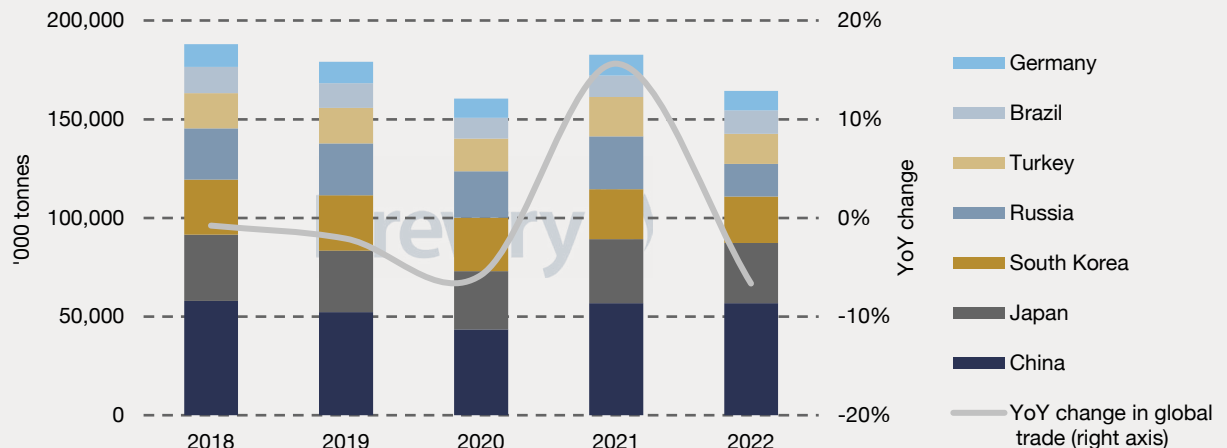
Total volume of seaborne trade in steel products was down slightly; however, average haul length registered a larger fall

Figure 2.5 Crude steel production, 2017-22



Source: Drewry Maritime Research

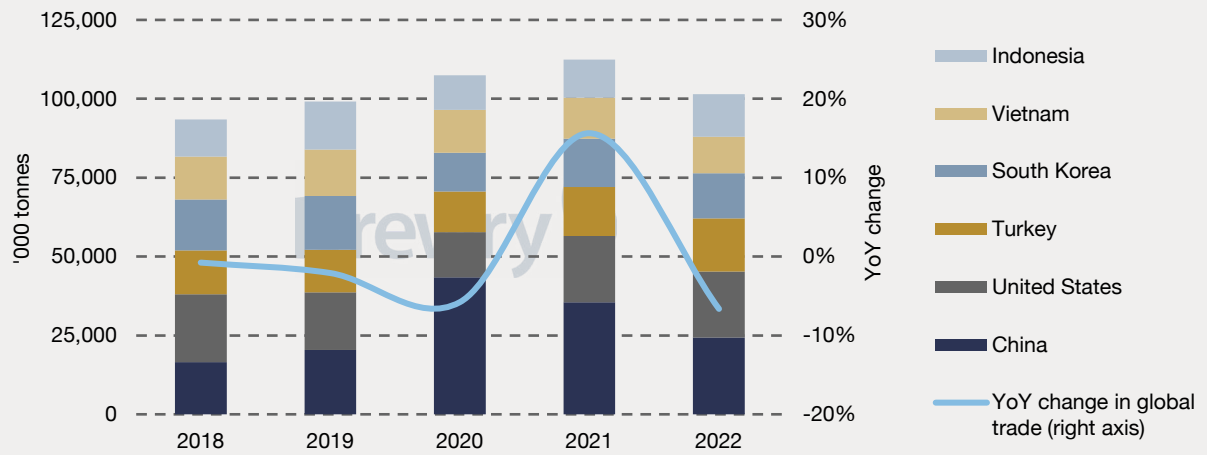
Figure 2.6a Major steel exporters, 2018-22



Source: Drewry Maritime Research

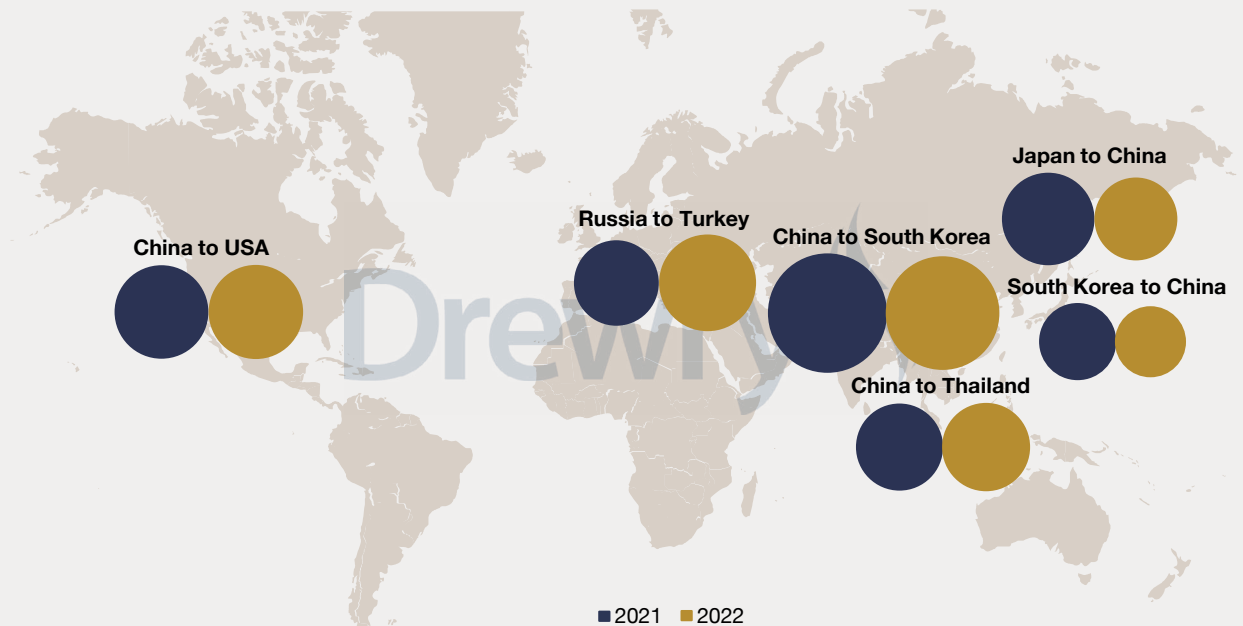
Key MPV trades

Figure 2.6b Major steel importers, 2018-22



Source: Drewry Maritime Research

Figure 2.7 Bilateral trade routes for crude steel and iron/ steel articles ('000 tonnes)

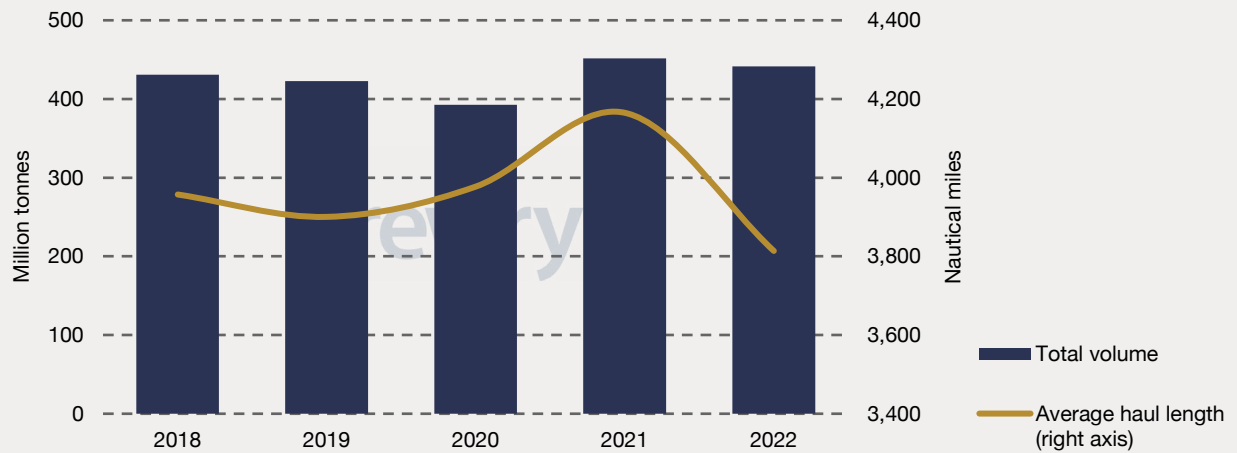


Exporter	China	Russia	Japan	China	China	South Korea
Importer	South Korea	Turkey	China	Thailand	USA	China
2021	8,553	4,382	5,161	4,551	5,314	3,592
2022	7,805	5,662	4,142	4,693	5,325	3,028

Source: Drewry Maritime Research

Key MPV trades

Figure 2.8 Seaborne trade in steel products and iron/steel articles, 2018-22



Source: Drewry Maritime Research

Table 2.2 Crude steel and iron/ steel articles seaborne trade

	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22
Total volume (million tonnes)	111	117	113	110	114	122	105	101
Total tonnemiles (Bn tonnemiles)	407	444	448	434	393	428	376	375
Average haul length (nm)	4,009	4,090	4,270	4,286	3,762	3,688	3,791	4,060

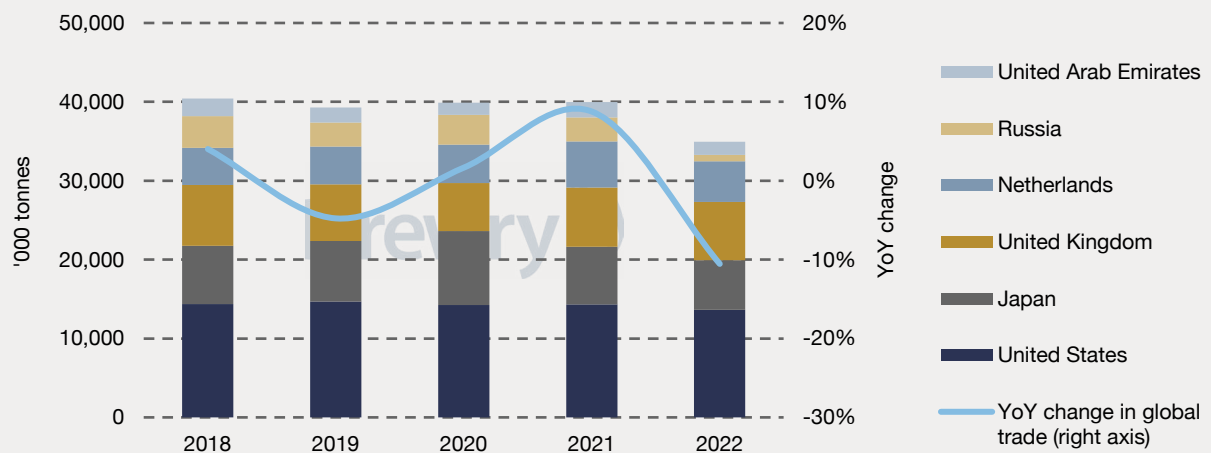
Source: Drewry Maritime Research

Steel scrap

A significant 10% drop in global seaborne scrap iron and steel trade was recorded in 2022. The largest exporting countries responsible for under 40% of the trade in 2021 reduced to under 35% in 2022. Following the invasion of Ukraine, Russian exports, which were 3.5% of the global trade, negligible in 2022, which most likely occurred before sanctions were imposed. Of the major imports, volumes reduced significantly, except for India, whose imports almost doubled.

Global iron and steel scrap average haul length below pre-Covid levels but increased from 2021 to 2022, while volume fell by 10%

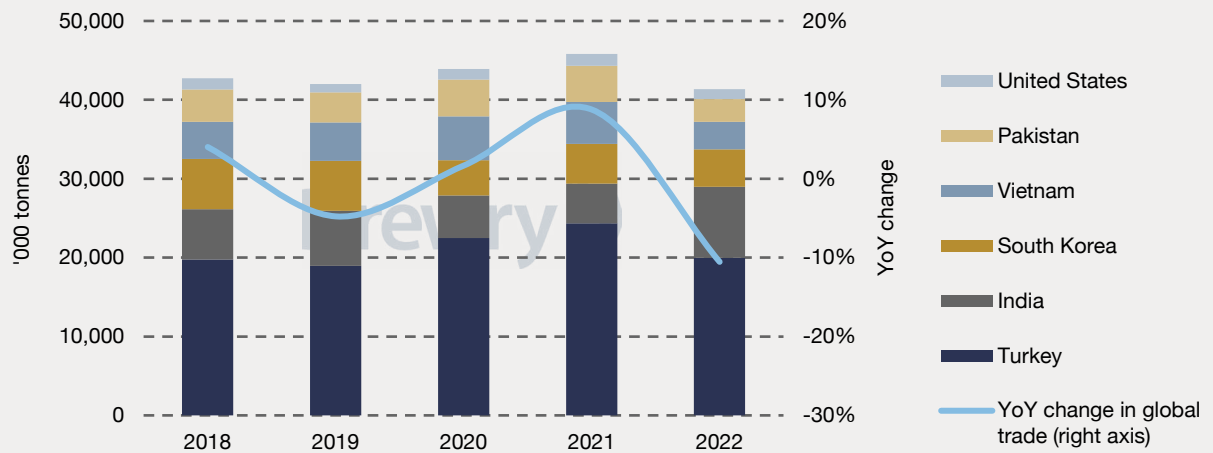
Figure 2.9a Major iron & steel scrap exporters, 2018-22



Source: Drewry Maritime Research

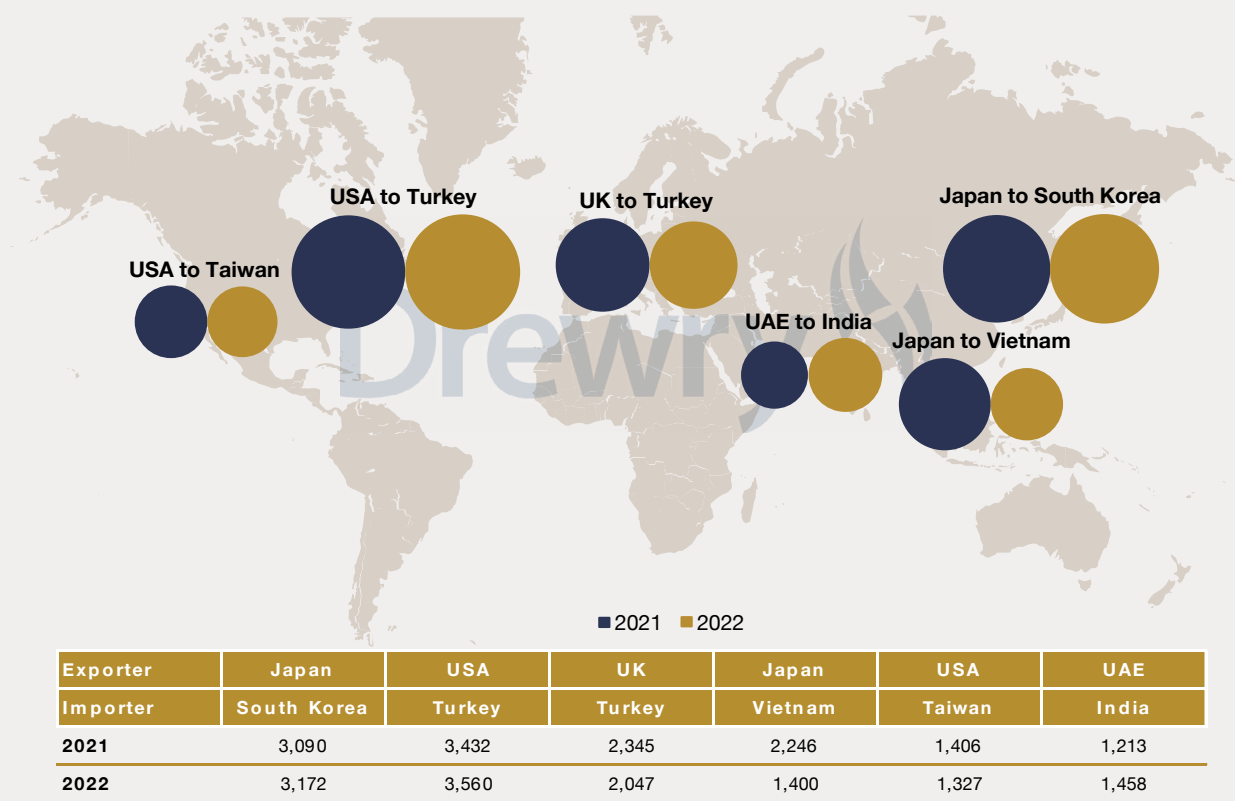
Key MPV trades

Figure 2.9b Major iron & steel scrap importers, 2018-22



Source: Drewry Maritime Research

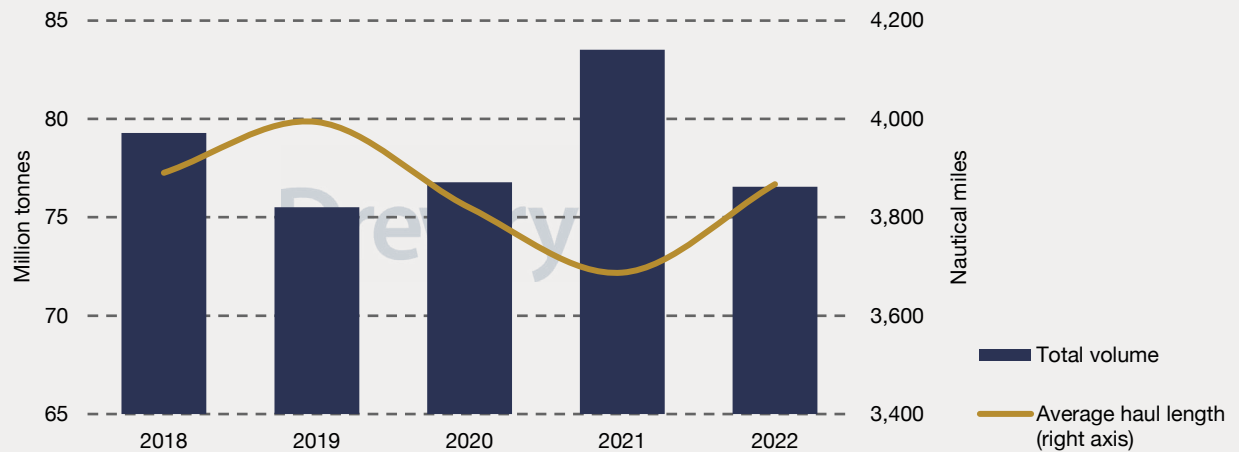
Figure 2.10 Bilateral trade routes for scrap iron & steel ('000 tonnes)



Source: Drewry Maritime Research

Key MPV trades

Figure 2.11 Seaborne trade in iron & steel scrap, 2018-22



Source: Drewry Maritime Research

Table 2.3 Iron and steel scrap seaborne trade

	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22
Total volume (million tonnes)	21	22	19	21	19	20	18	19
Total tonnemiles (Bn tonnemiles)	71	86	71	80	70	71	77	78
Average haul length (nm)	3,430	3,836	3,653	3,819	3,614	3,628	4,156	4,092

Source: Drewry Maritime Research

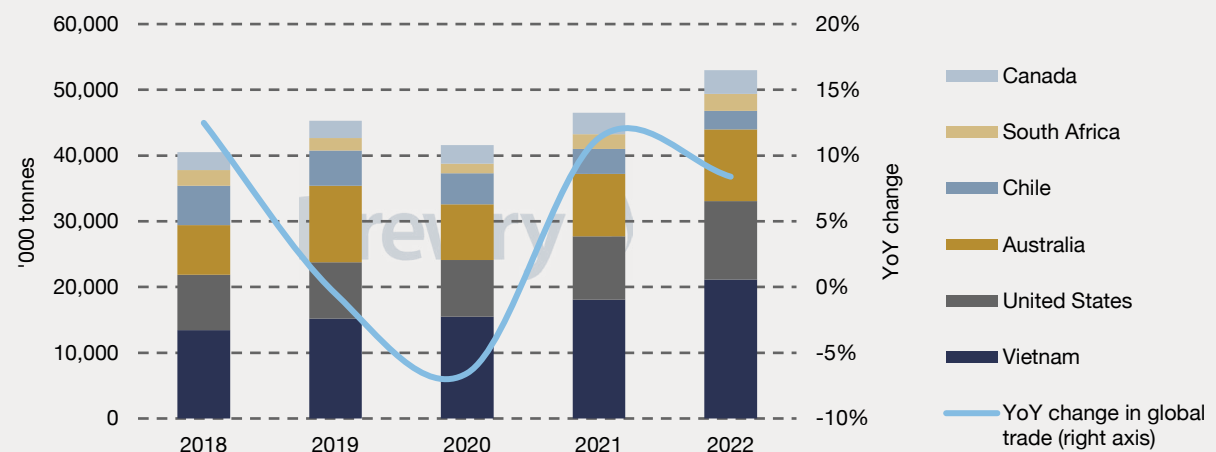
Forest products

Forest products is a wide and categorisation for a diverse range of commodities, from pulp and paper products to logs and different types of wood products. The quantity of shipped goods is often described in volume instead of weight. With a variety of product densities, and therefore, stowage factors, it can be challenging to determine the total trade. To analyse this cargo category, we focus on three main products - fuelwood, paper products and wood pulp (excluding scrap).

With the exception of 2020, trade in this sector has grown, with continued growth expected for our forecast period.

Growth of seaborne trade in forest products is expected to continue

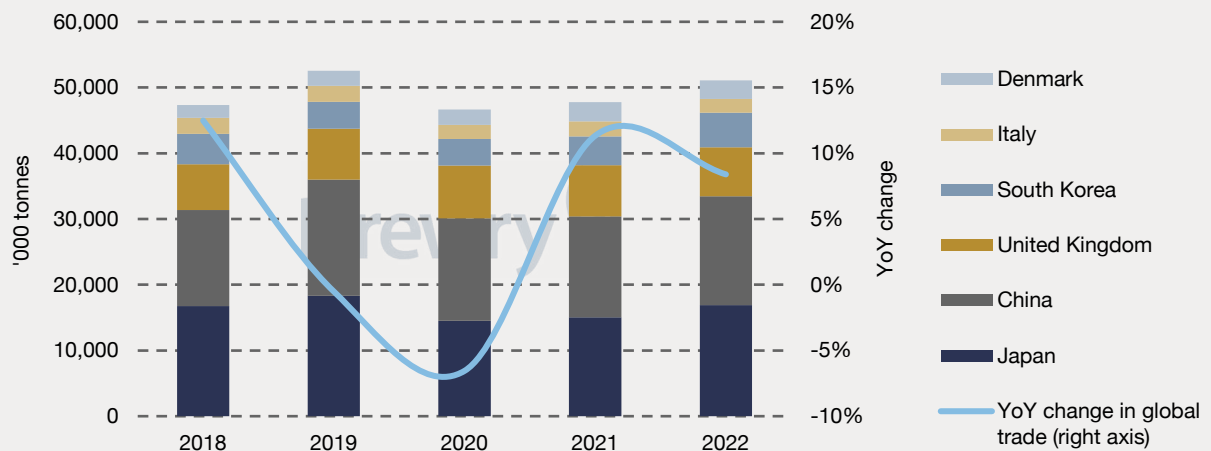
Figure 2.12a Major exporters of wood fuel, 2018-22



Source: Drewry Maritime Research

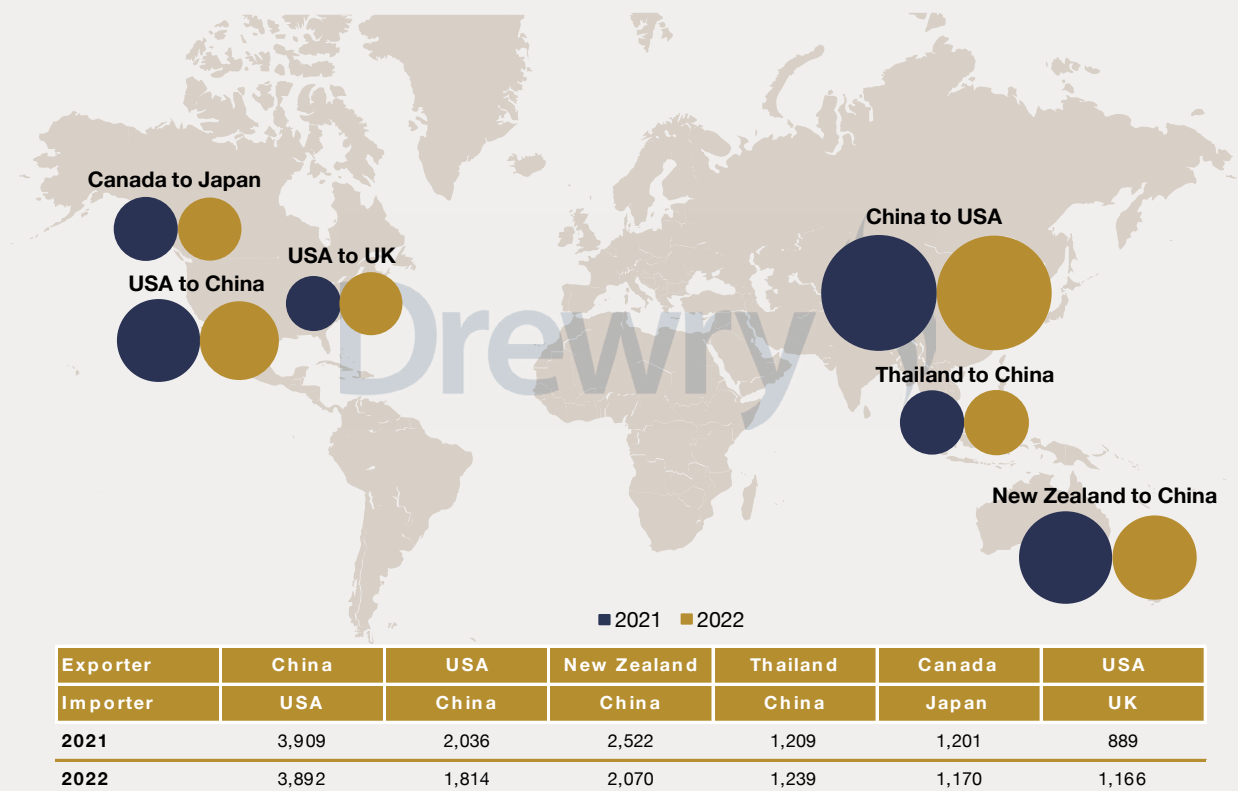
Key MPV trades

Figure 2.12b Major importers of wood fuel, 2018-22



Source: Drewry Maritime Research

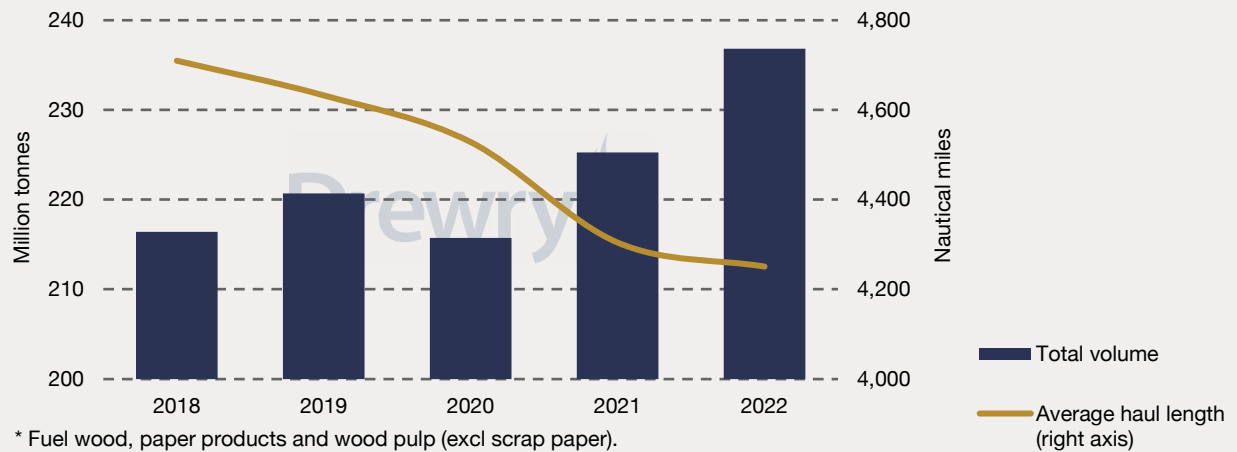
Figure 2.13 Bilateral trade routes for forest products (million \$)



Source: Drewry Maritime Research

Key MPV trades

Figure 2.14 Seaborne trade in selected forest products*, 2018-22



Source: Drewry Maritime Research

Table 2.4 Selected Forest products* seaborne trade

	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22
Total volume (million tonnes)	56	57	55	57	57	60	61	59
Total tonnemiles (Bn tonnemiles)	224	237	225	227	224	238	247	241
Average haul length (nm)	4,274	4,402	4,320	4,220	4,190	4,262	4,276	4,276

Source: Drewry Maritime Research

*Fuel wood, paper products and wood pulp (excl scrap paper)

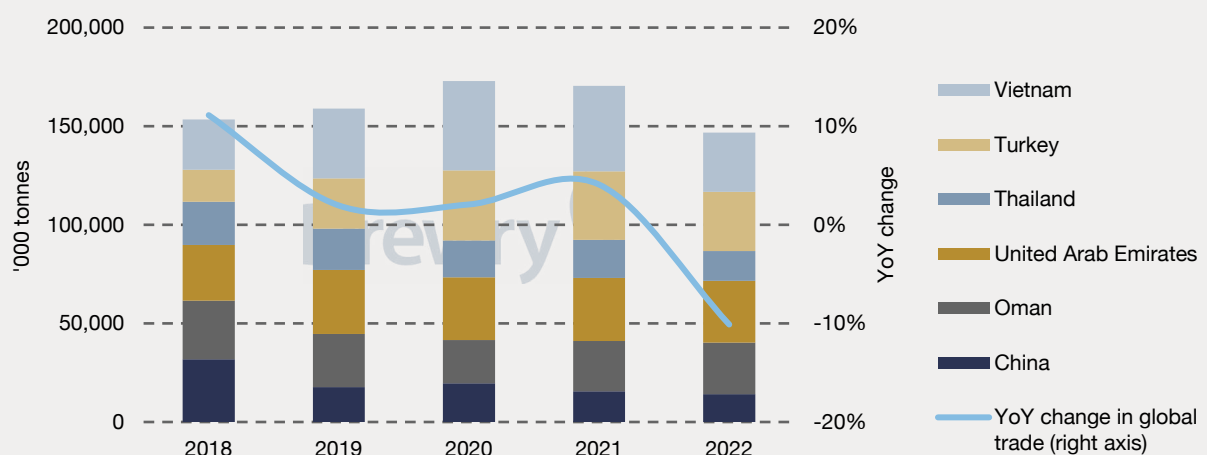
Construction materials

In that volumetric order, the commodities that make up this sub-group are aggregates, cement, clinker, limestone, gypsum and quartz but excludes steel and timber, which have their own sections.

Seaborne trade of construction materials saw strong growth from 2018 to 2021. However, 2022 recorded a significant drop in this trade and finished below 2018 levels.

The trade of construction material weakened in 2022

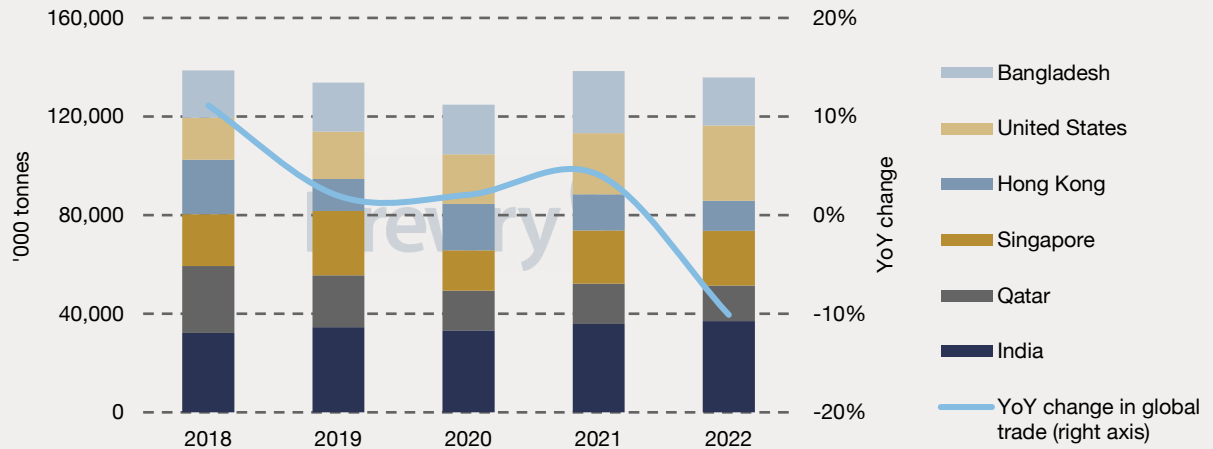
Figure 2.15a Major exporters of construction materials, 2018-22



Source: Drewry Maritime Research

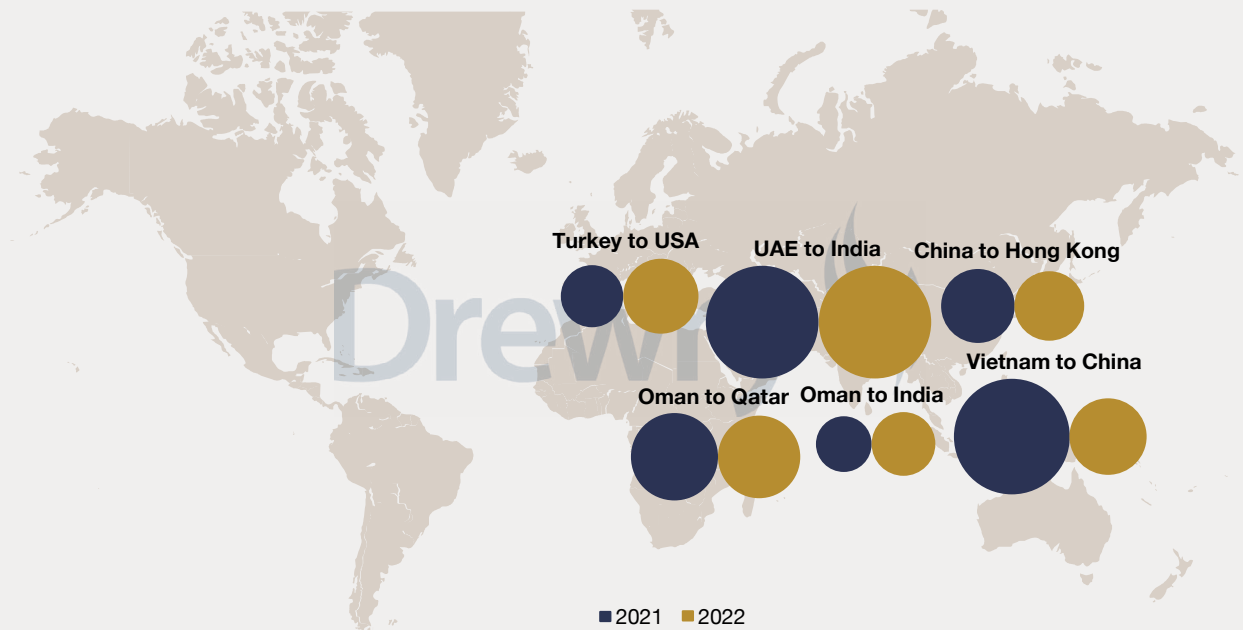
Key MPV trades

Figure 2.15b Major importers of construction materials, 2018-22



Source: Drewry Maritime Research

Figure 2.16 Bilateral trade routes for construction materials ('000 tonnes)

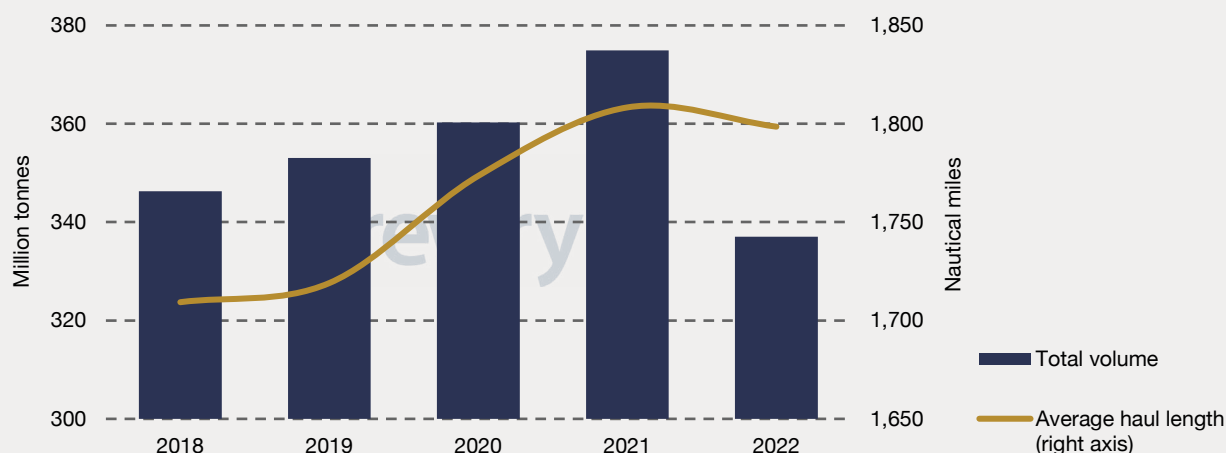


Exporter	UAE	Vietnam	Oman	China	Turkey	Oman
Importer	India	China	Qatar	Hong Kong	USA	India
2021	24,776	25,935	14,874	10,701	7,581	6,038
2022	24,563	11,546	13,178	9,366	10,953	7,917

Source: Drewry Maritime Research

Key MPV trades

Figure 2.17 Seaborne trade in construction materials, 2018-22 (not including steel)



Source: Drewry Maritime Research

Table 2.5 Construction materials seaborne trade

	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22
Total volume (million tonnes)	90	97	91	97	88	88	82	78
Total tonnemiles (Bn tonnemiles)	169	175	168	166	157	155	153	142
Average haul length (nm)	1,881	1,806	1,846	1,708	1,771	1,765	1,857	1,806

Source: Drewry Maritime Research

Project cargo: Key drivers

The growing global population pushes energy demand and the current infrastructure is under pressure to become more sustainable. The need for additional energy will need to come from renewables and new oil and gas projects, and the demand for a heavy-lift-capable MPV fleet to achieve these projects underpins the positive outlook.

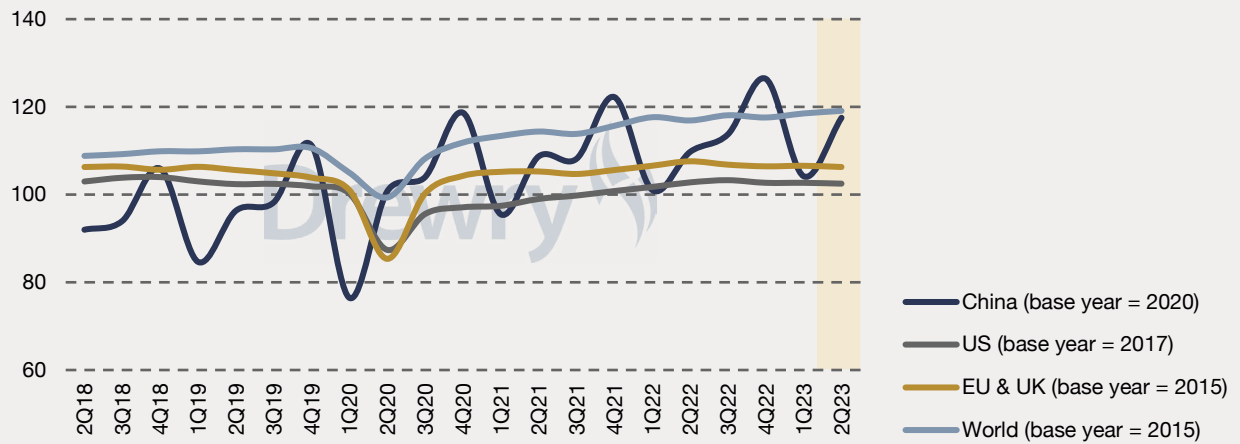
Project cargo is difficult to define accurately, and volumes remain one of the biggest uncertainties in this sector. The variety of the type, dimensions, weights and characteristics of different project cargos are endless; some examples include steel pipes, earthmovers, drilling rigs to wind turbine blades. Our best assumptions for the trends within this sector lie with the drivers of this cargo.

The global economy is the foremost driver for project cargoes. Assessing its strength or weakness helps us determine how it affects everything from investments in new projects to consumer spending on manufactured goods.

A key part of that economic activity is industrial production. Figure 2.18 shows the Industrial Production Index (IPI) for China, Europe and the US. The world base for IPI has increased steadily, and the seasonal fall in China is already over, offsetting the slight IPI decreases in the EU, the UK and the US.

Project cargo: Key drivers

Figure 2.18 Industrial production index, 2Q18-2Q23



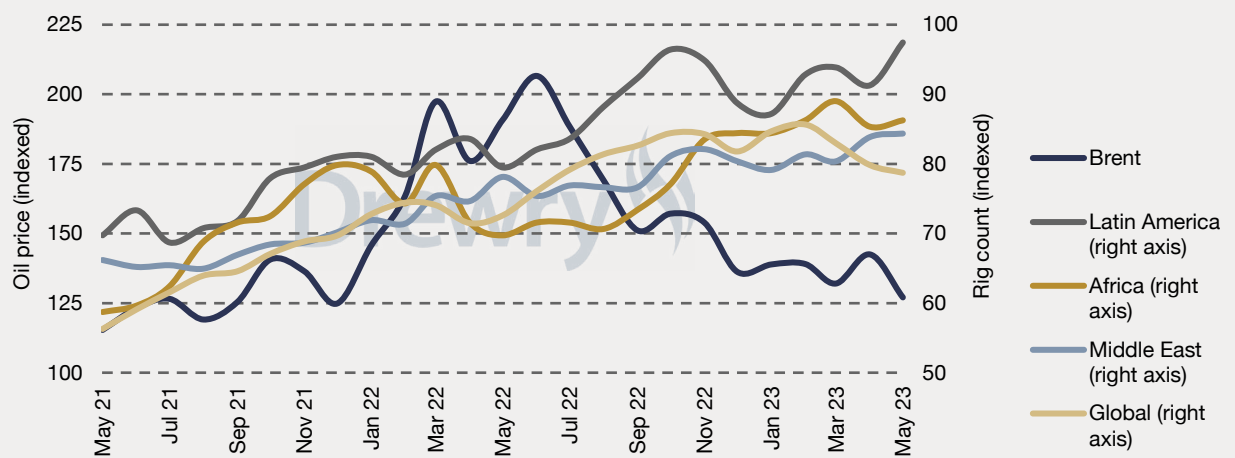
Source: Oxford Economics

Prices of oil are the key driver and will determine the investment levels in oil and gas projects and the industrial activity in the sector. The long lead time for such large development projects results in long-term opportunities for MPV vessels.

As previously mentioned, demand growth is one of the drivers for additional oil and gas projects. In addition to this, there is the strategic interest in energy security. Exposure to volatile energy markets due to the potential de-globalising geopolitical environment spurred a focus on new energy projects by governments.

The demand for energy means renewables will not achieve the growth requirements hence the oil and gas sector is expected to remain robust in the next few years

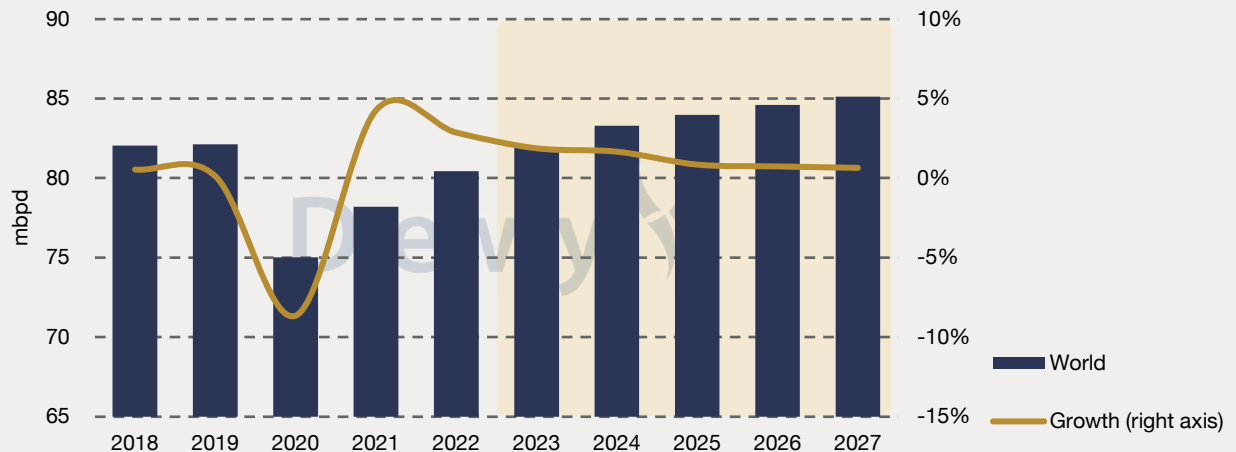
Figure 2.19 Oil rig count vs. oil price, May 21-May 23 (indexed, Jan 2019)



Source: Baker Hughes, Drewry Maritime Research

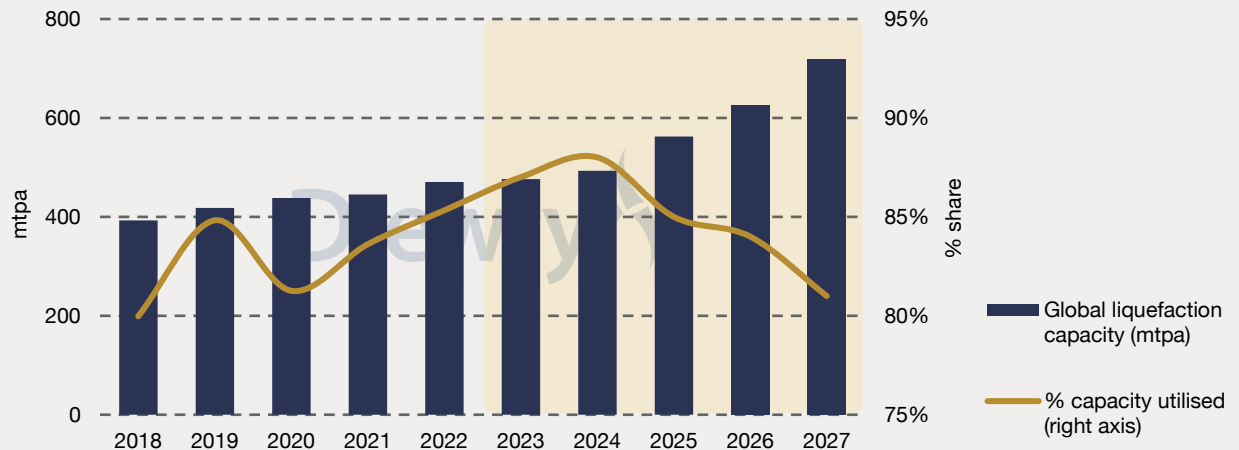
Project cargo: Key drivers

Figure 2.20 Global refinery throughput, 2018-27



Source: Drewry Maritime Research

Figure 2.21 Global natural gas liquefaction capacity by year, 2018-27



Source: Drewry Maritime Research

When searching for energy security, the renewable energy sectors have an additional benefit than their green credentials. Countries that are not rich in natural resources suitable for energy production can still find some energy security with renewables. Many government targets are for as much electricity generation with renewables as economically possible and in certain regions, to sell excess energy via interconnectors or as green hydrogen projects.

Although there are limited downside risks as renewables position themselves as one of the most important demand drivers for MPVs, we must examine them.

Material costs and the profitable execution of field developments are seen as the main downside risks for wind energy. Some key large-scale projects are developing globally, which will need to be profitable to encourage further growth in the sector. Steel prices play a key role in the MPV segment, from being a cargo to affecting manufactured project cargoes or even the cost to build ships. The exposure of large-scale projects to steel prices must be kept in mind when considering profitability.

Wind farm related cargoes are expected to increase

Project cargo: Key drivers

However, for our forecast period, the upsides outweigh the potential downsides; additionally, the time required to complete a project means that for some projects, we will only know their success towards the end of the forecast period; thus, the expected vessel employment we discussed is already likely to happen.

Figure 2.22 Major exporters of wind farm equipment, 2018-22

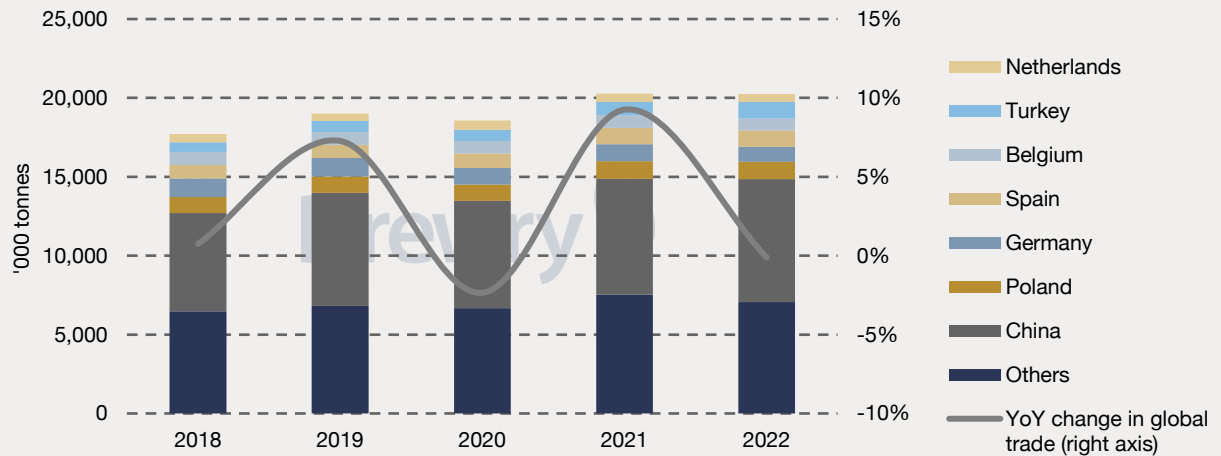
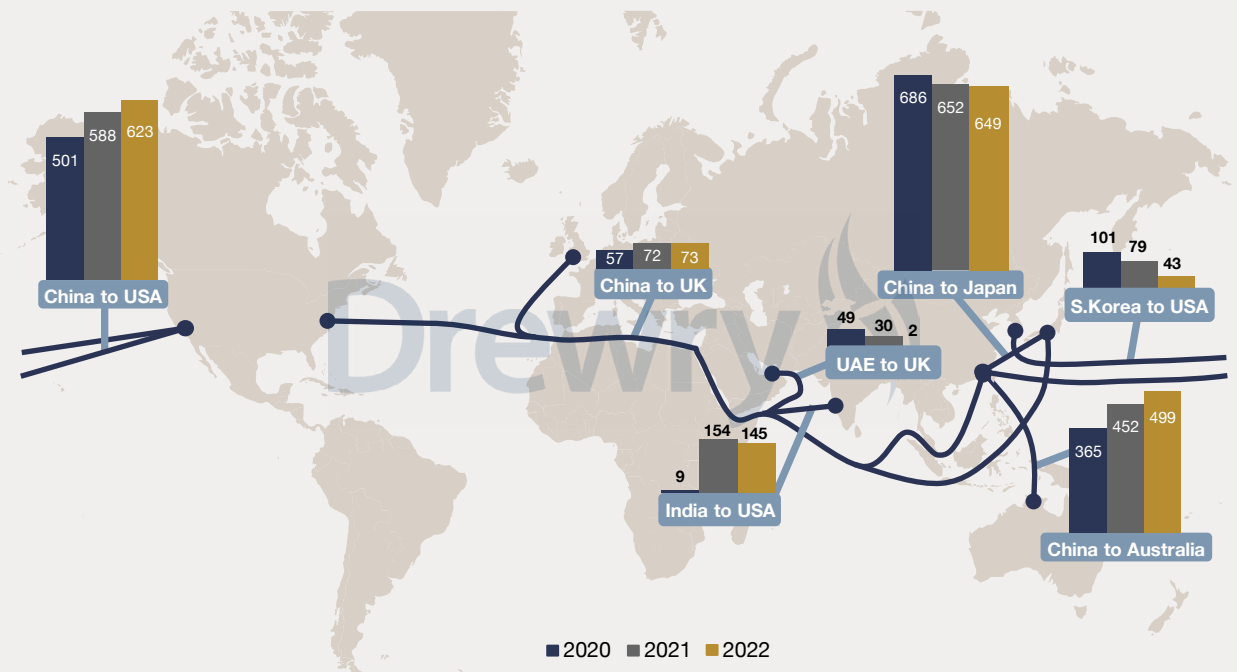
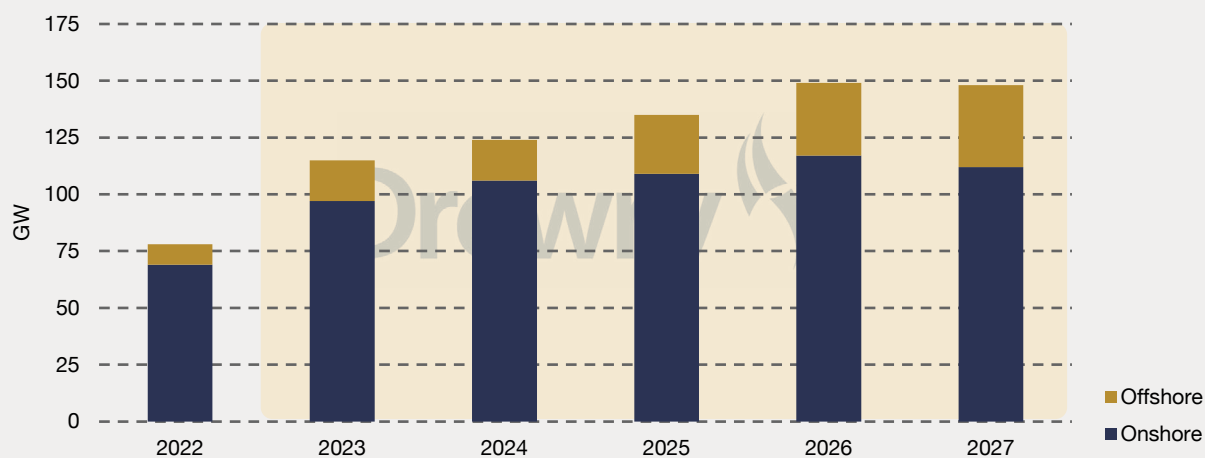


Figure 2.23 Bilateral trade routes for wind farm equipment cargo ('000 tonnes)



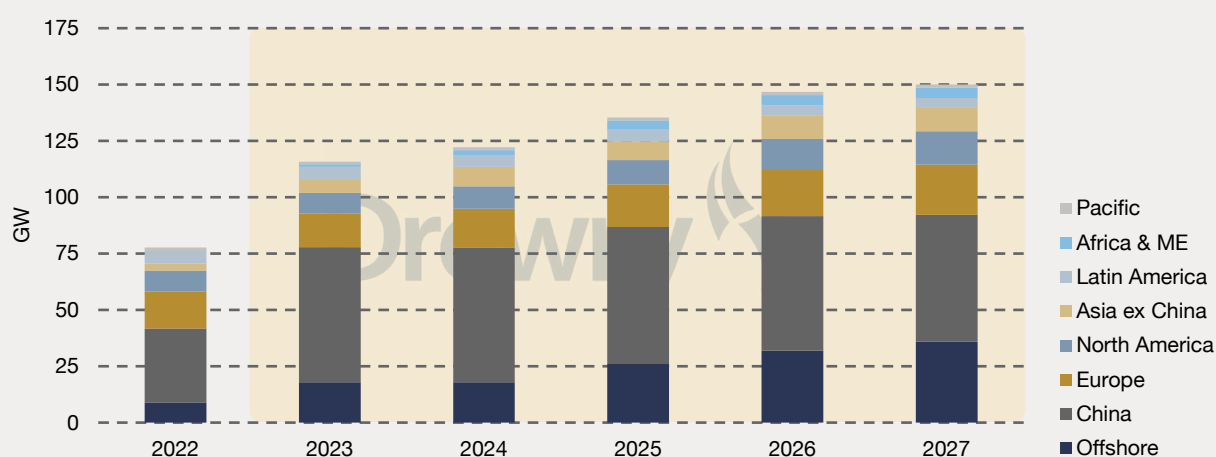
Project cargo: Key drivers

Figure 2.24a New wind farm installations by type, 2022-27



Source: GWEC, Drewry Maritime Research

Figure 2.24b New wind farm installations by region, 2022-27



Source: Drewry Maritime Research

3. Fleet

Fleet overview and development

Demolitions have returned to the MPV fleet at a time when expected deliveries and day rates are both low. The MPV fleet of various vessel categories is still expected to expand, while in other categories the share of demolitions is larger. The fleet of Project Carriers and smaller tonnage segments are expected to grow, leaving the mid-size low-lifting capacity vessels faced with the prospect of demolition. As the market weakens further over 2023 and into 2024, we expect the small orderbook and growing demand to lead to stronger utilisation and day rates.

After returning to growth in 2022, the MPV fleet is expected to expand further. While we have already seen demolitions increase this year, which was expected considering the reduced rates, the current orderbook will still result in fleet growth. Based on the demand outlook, our expectation is that fleet growth will not keep up with supply and demolitions will start to reduce as we wait for new vessels to enter the market. This growth, however, is not spread across all vessels in the fleet as smaller gearless tonnage and Heavylift and Project Carriers will make up the majority of the new vessels entering the fleet. Figure 3.2 shows the effect of vessel deliveries and removals on the fleet. While we expect a large proportion of the vessels to be delivered being Heavylift and Project Carriers, the increase in the non-Heavylift MPV fleet in dwt terms is likely to be nearly static. This is because the newbuilds in this segment are mostly of smaller dwt where we expect the demolitions to be vessels in the same segment but of higher dwt. The current fleet is made up of some 3,247 vessels aggregating 30.3 mdwt with an average age of 20 years.

Figures 3.4 to 3.7 show the age profiles of the different segments in the fleet. The fleet of Premium Project Carriers, which are made up of MPVs with lift capacity greater than 250t safe working load (SWL), is overall young. The Heavylift/Project Carriers, contain older vessels with crane capacity between 100t to 250t and have seen very few newbuild vessels for seven years. This indicates a trend to much larger lifting capacity in the project segment. In the other direction the geared MPVs have also seen little investment for nearly 10 years, whereas gearless vessels continue to have newbuilding programmes, especially for vessels below 10,000 dwt.

Heavy Lift and Project Carrier fleet set to have the most growth

Classification of the multipurpose vessel (MPV) fleet

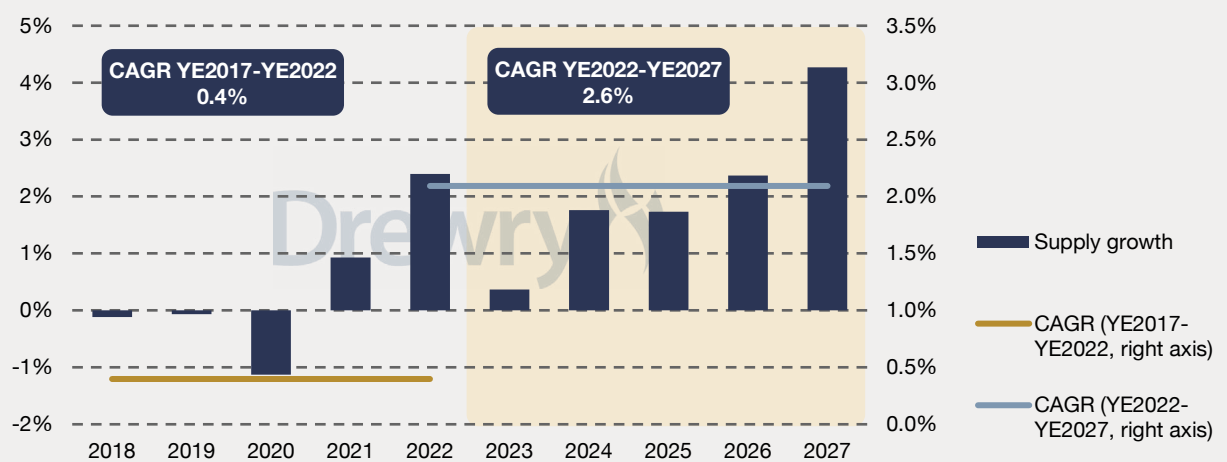
- **Multipurpose (no gear):** An MPV with teu and grain capacity, but no cranes.
- **Multipurpose (geared):** An MPV with teu and grain capacity as well as cranes with a maximum combinable lift of less than 100t SWL.
- **Project carrier:** An MPV with cranes and a maximum combinable lift of over 100t SWL, built after 1989.
- **Heavylift vessel:** An MPV with cranes and a maximum combinable lift of over 100t SWL, built before 1989.
- **Premium Project carrier:** An MPV with cranes and a maximum combinable lift of over 250t SWL, built after 1989.

Overview and development

Our expectations are for these trends to continue, which can be seen in the following sections describing the orderbook, deliveries and demolitions. The trends showing growing interest in Premium Project Carriers and smaller tonnage seen in the various segment profiles have shaped our expectation for fleet development shown in Table 3.2. The low crane capacity MPV segment is expected to contract in the coming years with the overall fleet expected to grow due to Heavylift and Premium Project Carriers entering the fleet.

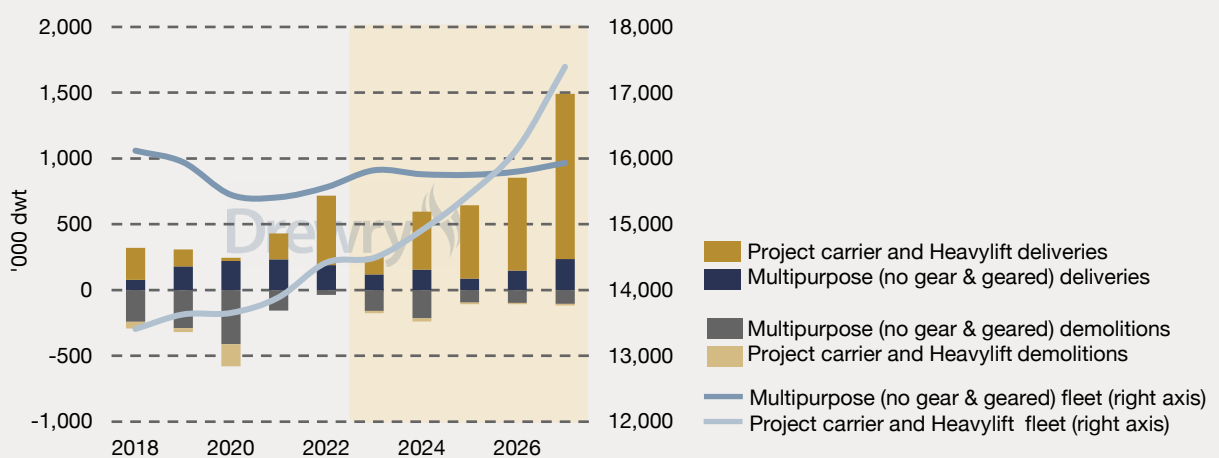
The MPV fleet continues to age, especially in the smaller size categories. Due to the number of older vessels, the current newbuilds are not enough to reduce the fleet's average age

Figure 3.1 Supply growth



Source: Drewry Maritime Research

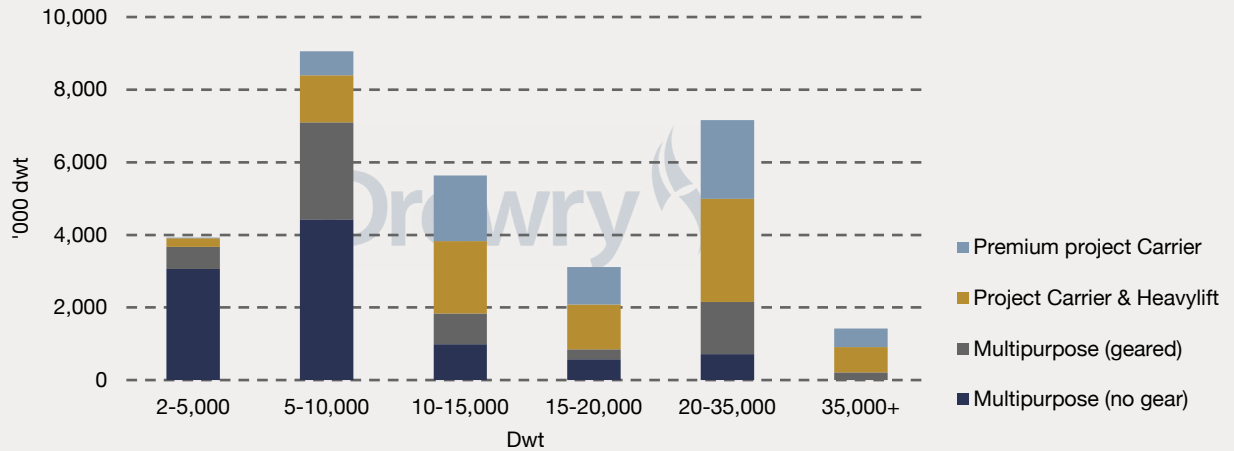
Figure 3.2 Expected fleet development to 2027



Source: Drewry Maritime Research

Overview and development

Figure 3.3 Fleet supply by capacity (dwt) category, 1 Jun 23



Source: Drewry Maritime Research

Table 3.1 Fleet by MPV category, as of 1 Jun 2023

	No. of Vsls	Total dwt	Average dwt	Average Age	Grain Capacity teu	Capacity (cu m)	Average of Gear 1 SWL (t)	Average of Gear 2 SWL (t)	Min dwt	Max dwt
Multipurpose (no gear)										
2-5000 dwt	812	3,063,426	3,773	24	150,913	3,923,276	0	0	2,100	4,998
5-10000 dwt	671	4,431,458	6,604	17	207,417	4,557,365	0	0	5,000	9,900
10-15000 dwt	81	987,079	12,186	13	51,395	495,538	0	0	10,000	14,881
15-20000 dwt	33	575,111	17,428	9	30,888	120,288	0	0	15,000	19,426
20-35000 dwt	27	719,361	26,643	9	41,479	145,649	0	0	21,524	31,650
Grand Total	1,624	9,776,435	6,020	20	482,092	9,242,116	0	0	2,100	31,650
Multipurpose (geared)										
2-5000 dwt	155	608,594	3,926	30	32,927	831,499	29	18	2,482	4,979
5-10000 dwt	371	2,664,685	7,182	25	142,514	3,375,213	33	17	5,000	9,861
10-15000 dwt	69	846,840	12,273	22	40,485	1,101,239	34	25	10,092	14,986
15-20000 dwt	16	277,253	17,328	28	10,873	330,795	32	22	15,240	19,763
20-35000 dwt	54	1,433,960	26,555	18	61,452	1,878,073	48	38	20,396	34,500
35000+dwt	4	212,054	53,014	13	8,132	256,923	45	0	52,998	53,035
Grand Total	669	6,043,386	9,033	26	296,383	7,773,743	33	24	2,482	53,035
Project Carrier and Heavylift										
2-5000 dwt	59	234,612	3,976	27	15,043	293,794	65	23	2,022	4,900
5-10000 dwt	165	1,297,547	7,864	20	73,785	1,683,245	67	45	5,000	9,821
10-15000 dwt	165	1,995,396	12,093	16	104,795	2,505,019	85	49	10,000	14,118
15-20000 dwt	70	1,231,930	17,599	16	67,808	1,374,238	74	64	17,110	19,922
20-35000 dwt	108	2,842,451	26,319	15	147,409	3,507,585	83	61	20,139	33,299
35000+dwt	16	701,227	43,827	6	19,592	871,753	103	85	37,444	62,000
Grand Total	583	8,303,163	14,242	18	428,432	10,235,634	77	61	2,022	62,000
Premium Project Carrier										
2-5000 dwt	5	21,000	4,200	9	1,410	34,970	150	0	4,200	4,200
5-10000 dwt	80	658,522	8,232	19	42,700	768,248	277	207	5,158	9,962
10-15000 dwt	143	1,806,889	12,636	11	109,380	2,074,111	324	124	10,040	14,465
15-20000 dwt	57	1,026,914	18,016	14	53,003	1,047,195	352	98	15,635	19,950
20-35000 dwt	75	2,168,148	28,909	12	118,312	2,223,433	312	97	20,000	32,312
35000+dwt	11	504,080	45,825	5	20,852	512,492	245	100	36,880	61,250
Grand Total	371	6,185,553	16,673	13	345,657	6,660,449	312	110	4,200	61,250
Fleet total	3,247	30,308,537	9,334	20	1,552,564	33,911,942	112	65	2,022	62,000

Source: Drewry Maritime Research

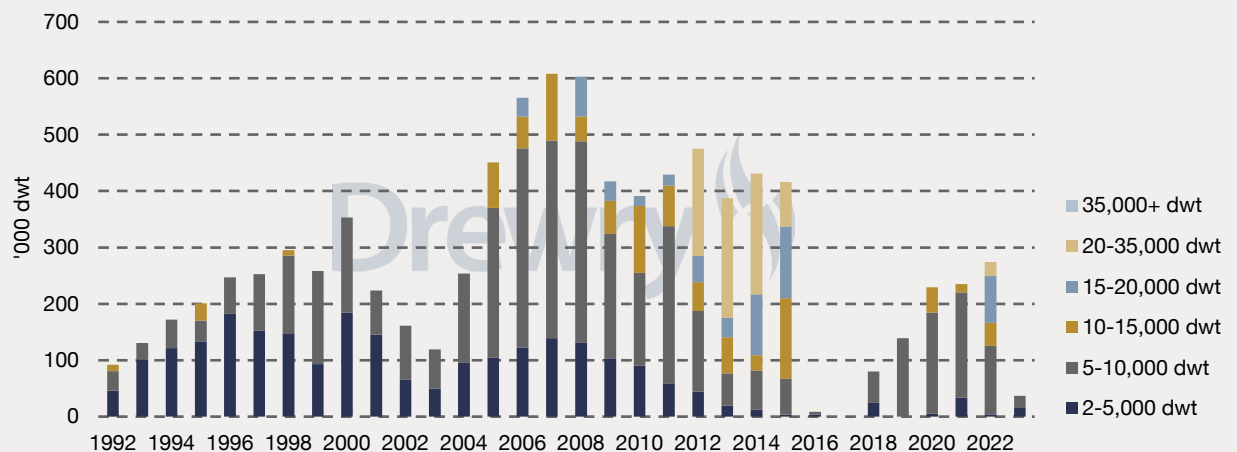
Overview and development

Table 3.2 Fleet development by vessel type (dwt)

	2023	2024	2025	2026	2027
MPV not inc PC/HL					
Deliveries	42,692				
Schedule	76,488	154,004	87,007	148,422	235,991
theoretical new orders	-	-	-	191,100	-
With slippage	76,488	154,004	87,007	148,422	235,991
Deliveries	119,180	154,004	87,007	148,422	235,991
Demolition	158,894	214,507	96,528	97,735	105,554
% prev yr flt	1.0%	1.4%	0.6%	0.6%	0.7%
Fleet	15,819,821	15,759,318	15,749,797	15,800,485	15,930,922
end year	-0.1%	-0.4%	-0.1%	0.3%	0.8%
PC inc HL					
	2023	2024	2025	2026	2027
Deliveries	36,500				
Schedule	164,400	682,200	636,700	49,600	-
theoretical new orders	-	-	-	758,000	230,000
With slippage	96,996	442,266	556,982	704,847	1,256,406
Deliveries	133,496	442,266	556,982	704,847	1,256,406
Demolition	17,655	23,834	10,725	10,859	11,728
% prev yr flt	0.1%	0.2%	0.1%	0.1%	0.1%
Fleet	14,488,716	14,907,148	15,453,405	16,147,392	17,392,070
end year	0.3%	2.9%	3.7%	4.5%	7.7%

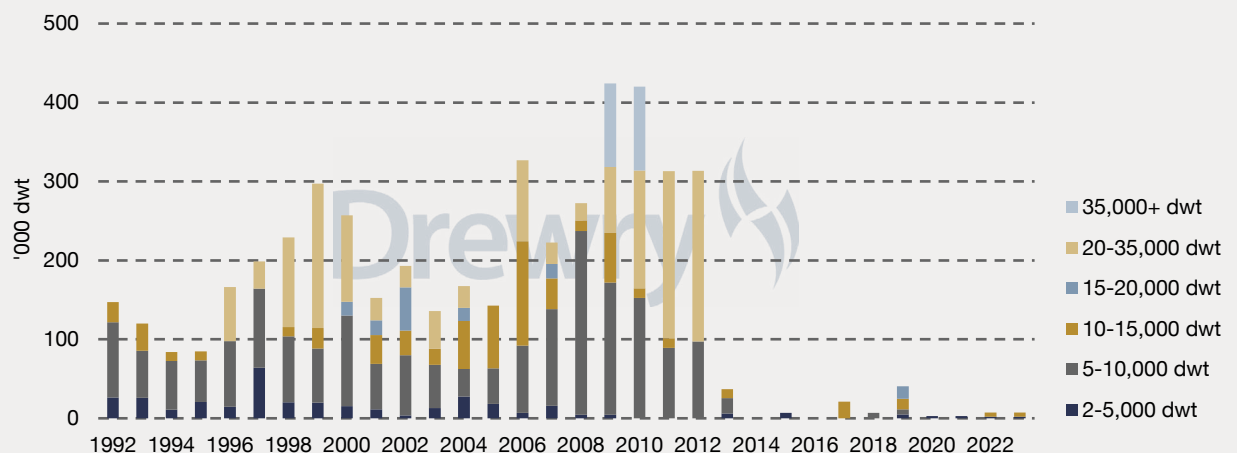
Source: Drewry Maritime Research

Figure 3.4 Multipurpose (no gear) fleet age profile, 1 Jun 2023



Source: Drewry Maritime Research

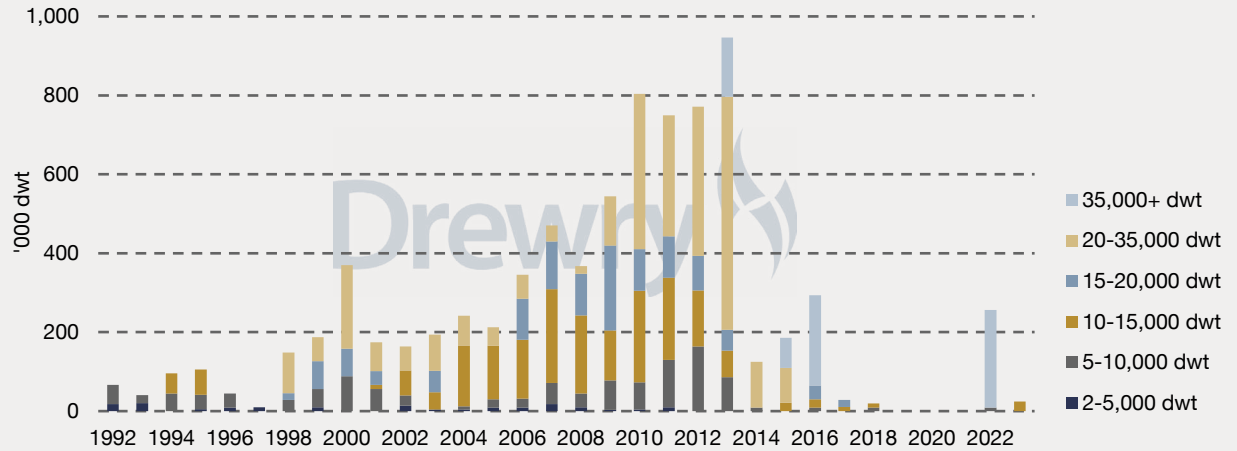
Figure 3.5 Multipurpose (geared) fleet age profile, 1 Jun 2023



Source: Drewry Maritime Research

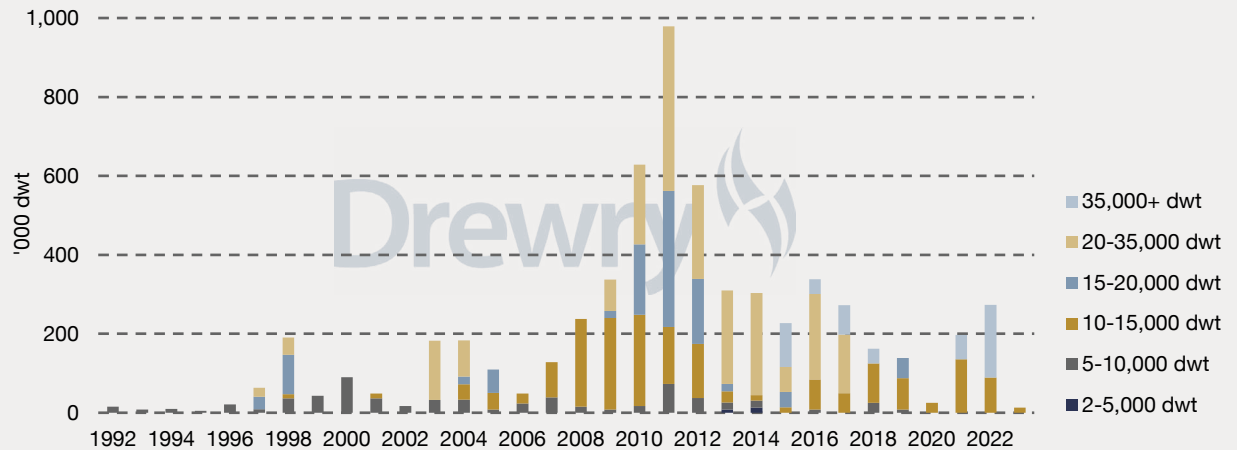
Overview and development

Figure 3.6 Project Carrier & Heavylift vessel fleet age profile, 1 Jun 2023



Source: Drewry Maritime Research

Figure 3.7 Premium Project Carrier fleet age profile, 1 Jun 2023



Source: Drewry Maritime Research

Orderbook

Heavylift Project Carriers and smaller tonnage MPVs remain the focus of the orderbook, with larger MPVs not appearing on the schedule.

As previously mentioned, we have revised our outlook for fleet development based on the orderbook schedule. The schedule for 2025 and further does not show a large increase in tonnage, with nothing scheduled for 2027 at this time while 2025 and 2026 combined are less than the orderbook for 2024. The orderbook now stands at 5.1% of the current fleet.

The fall in rates has had the expected effect of dampening the appetite for building further. The same barriers remain as previously reported, including access to finance and choice of design. China remains the largest building country in the orderbook by deadweight with 82% of the orderbook dwt being built there. The next largest building country is the Netherlands with 7% of the dwt on order. However in the Netherlands there is a focus on the smaller tonnage and this 7% is distributed over 28 vessels. This will make China a key focus for fleet development over the next few years.

Few vessels have been added to the orderbook as appetite to build remains low

Table 3.3 Newbuild order activity ('000 dwt)

	2019		2020		2021		2022		2023ytd	
	No.	dwt	No.	dwt	No.	dwt	No.	dwt	No.	dwt
Multipurpose (no gear & geared)										
2-5000 dwt	1	5	0	0	0	0	15	59	1	4
5-10000 dwt	8	64	3	20	34	249	10	51	4	34
10-15000 dwt	0	0	0	0	2	25	0	0	2	28
15-20000 dwt	0	0	0	0	0	0	0	0	0	0
20-35000 dwt	0	0	4	100	0	0	0	0	0	0
35000+dwt	0	0	4	248	0	0	0	0	0	0
Grand Total	9	69	11	368	36	274	25	110	7	66
Project Carrier & Heavylift										
2-5000 dwt		0	0	0	0	0	0	0	0	0
5-10000 dwt	0	0	0	0	0	0	0	0	0	0
10-15000 dwt	12	154	4	49	8	96	8	111	0	0
15-20000 dwt	0	0	0	0	0	0	0	0	0	0
20-35000 dwt	0	0	0	0	4	128	2	64	0	0
35000+dwt	0	0	4	248	0	0	12	1,488	0	0
Grand Total	12	154	8	297	12	224	22	1,663	0	0

Source: Drewry Maritime Research

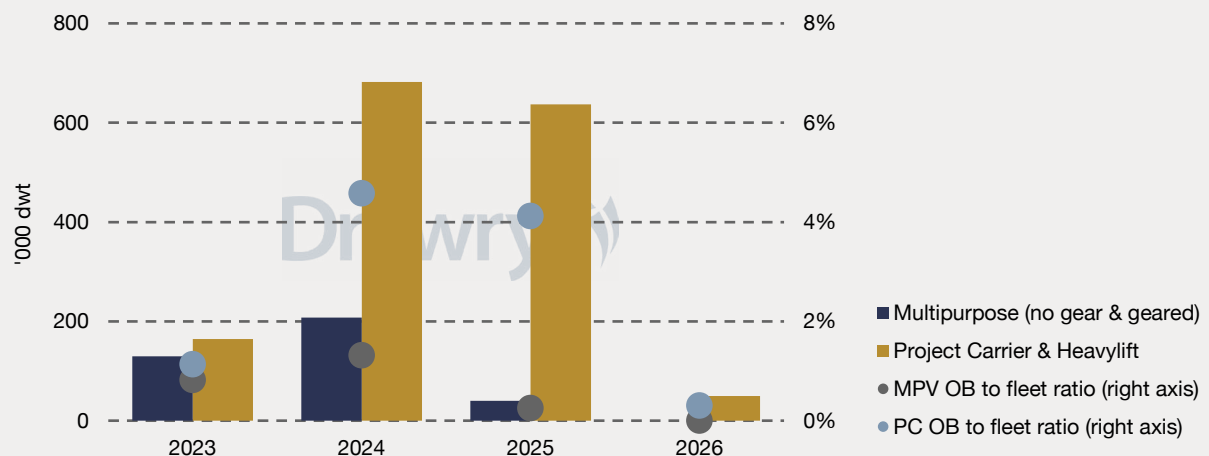
Orderbook

Table 3.4 Orderbook schedule as of 1 Jun 2023

	2023		2024		2025+		Grand total		% of Fleet
	No.	000 dwt	No.	000 dwt	No.	000 dwt	No.	000 dwt	
Multipurpose (no gear & geared)									
2-5000 dwt	6	24	15	59	1	4	22	87	2.4%
5-10000 dwt	11	83	23	149	1	9	35	241	3.4%
10-15000 dwt	2	22	0	0	2	28	4	50	2.7%
15-20000 dwt	0	0	0	0	0	0	0	0	0.0%
20-35000 dwt	0	0	0	0	0	0	0	0	0.0%
35000+dwt	0	0	0	0	0	0	0	0	0.0%
Grand Total	19	130	38	208	4	40	61	378	2.4%
Project Carrier & Heavylift									
2-5000 dwt	0	0	0	0	0	0	0	0	0.0%
5-10000 dwt	2	17	0	0	0	0	0	0	0.0%
10-15000 dwt	12	148	14	182	10	126	2	17	0.4%
15-20000 dwt							36	456	20.2%
20-35000 dwt	0	0	4	128	2	64	0	0	0.0%
35000+dwt	0	0	6	372	8	496	6	192	15.9%
Grand Total	14	164	24	682	20	686	58	868	6.0%
Orderbook total	33	294	62	890	24	727	119	1,533	5.1%

Source: Drewry Maritime Research

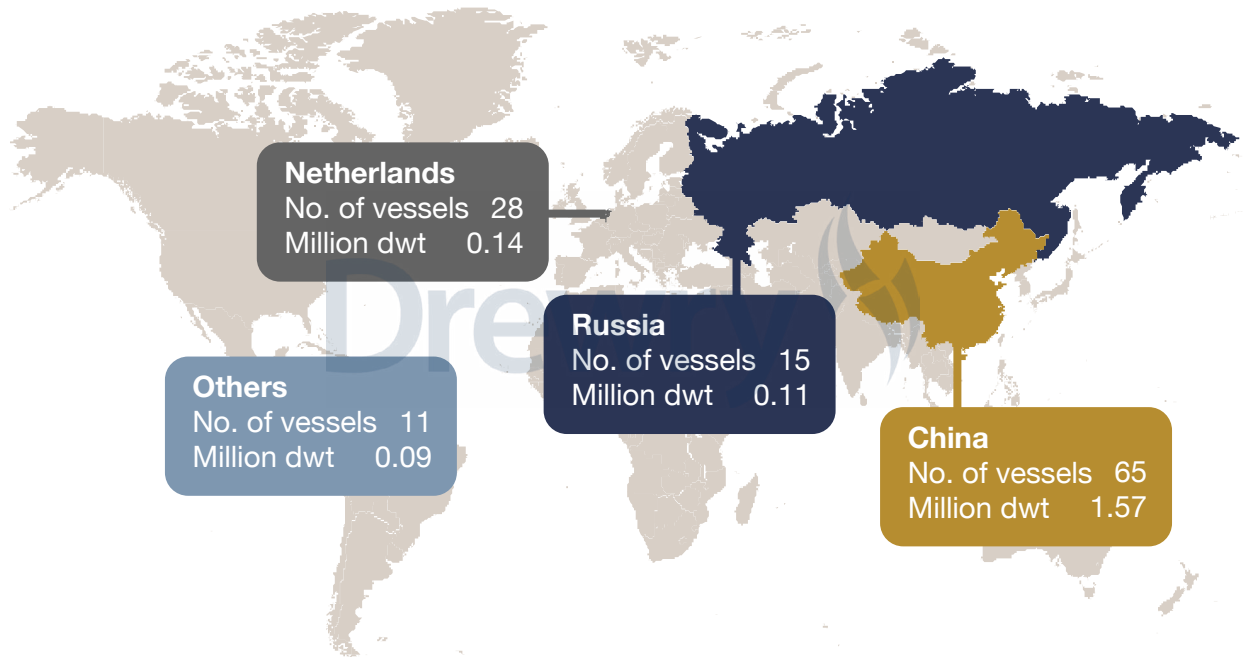
Figure 3.8 Orderbook schedule by vessel type, 1 Jun 2023



Source: Drewry Maritime Research

Orderbook

Figure 3.9 MPV orderbook per builder country



Source: Drewry Maritime Research

Table 3.5 Newbuilding by origin country

Builder	2-5,000		5-10,000		10-15,000		15-20,000		20-35,000		35,000+		Total	
	No.	dwt	No.	dwt	No.	dwt	No.	dwt	No.	dwt	No.	dwt	No.	dwt
China	1	4,650	9	63,800	35	440,600			6	192,000	14	868,000	65	1,569,050
Russia	1	4,000	14	108,380									15	112,380
Netherlands	16	62,532	10	51,000	2	25,000							28	138,532
Germany					1	12,500							1	12,500
Turkey	4	16,000	4	34,400									8	50,400
South Korea					2	28,000							2	28,000
Total	22	87,182	37	257,580	40	506,100	0	0	6	192,000	14	868,000	119	1,910,862

Source: Drewry Maritime Research

Table 3.6 Orderbook as proportion of owners' fleet

	No. of VsIs	Total dwt	VsIs on order	dwt on order	% of fleet
AAL	24	684,047	6	192,000	28%
BBC Chartering	135	1,650,070	14	171,200	10%
Jumbo SAL Alliance	31	361,383	4	58,400	16%
Longship	9	66,062	4	34,400	52%
Volga Shipping	17	90,115	4	28,680	32%
United Heavy Lift	19	268,792	2	28,000	10%
Forestwave (FWN)	12	117,254	2	25,000	21%
Total fleet	3,247	30,308,537	119	1,532,900	5%

Source: Drewry Maritime Research

Deliveries

Low newbuilding deliveries in a period of falling rates – as it is currently – helps to reduce the risk of substantial oversupply. Heavylift-capable vessels and smaller gearless vessels remain the focus of the delivered vessels.

The year 2023 is characterised by low deliveries, which could reduce further due to the increase in slippages. In the first five months of the year, 79,000 dwt was delivered and we expect another 100,000 dwt to be delivered in the remaining eight months. Based on the orderbook, these will be in the lower dwt MPV fleet and in the mid-range Heavylift fleet.

Table 3.7 Newbuilding deliveries ('000 dwt)

	2020		2021		2022		Mar-23		Apr-23		May-23		2023ytd	
	No.	dwt	No.	dwt	No.	dwt	No.	dwt	No.	dwt	No.	dwt	No.	dwt
Multipurpose (no gear)														
2-5000 dwt	1	5	9	33	0	0	1	4	0	0	0	0	4	15
5-10000 dwt	22	180	22	179	13	11	1	8	0	0	0	0	3	22
10-15000 dwt	3	33	0	0	2	0	0	0	0	0	0	0	0	0
15-20000 dwt	0	0	0	0	1	0	0	0	0	0	0	0	0	0
20-35000 dwt	0	0	0	0	5	0	0	0	0	0	0	0	0	0
Grand Total	26	217	31	212	21	264	2	12	0	0	0	0	7	37
Multipurpose (geared)														
2-5000 dwt	1	3	1	3	0	0	0	0	0	0	0	0	0	0
5-10000 dwt	0	0	1	9	1	9	0	0	0	0	0	0	1	5
10-15000 dwt	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15-20000 dwt	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20-35000 dwt	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35000+dwt	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	1	3	2	12	1	9	0	0	0	0	0	0	1	5
Project Carrier & Heavylift														
2-5000 dwt	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5-10000 dwt	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-15000 dwt	0	0	0	0	7	89	0	0	1	12	0	0	2	24
15-20000 dwt	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20-35000 dwt	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35000+dwt	0	0	0	0	3	185	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	10	274	0	0	1	12	0	0	2	24
Premium Project Carrier														
2-5000 dwt	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5-10000 dwt	0	0	0	0	1	9	0	0	0	0	0	0	0	0
10-15000 dwt	2	25	10	135	0	0	0	0	0	0	0	0	1	13
15-20000 dwt	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20-35000 dwt	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35000+dwt	0	0	1	62	4	247	0	0	0	0	0	0	0	0
Grand Total	2	25	11	197	5	256	0	0	0	0	0	0	1	13
Fleet total	29	245	44	421	37	803	2	12	1	12	0	0	11	79

Source: Drewry Maritime Research

Deliveries

We expect slippages to increase with a delivery rate of approximately 60%, contrary to our earlier expectation of lower slippages after the opening up of the Chinese economy. This has not been the case and we have therefore adjusted Table 3.8 which now shows our forecast deliveries allowing for the slippage rate of 40%.

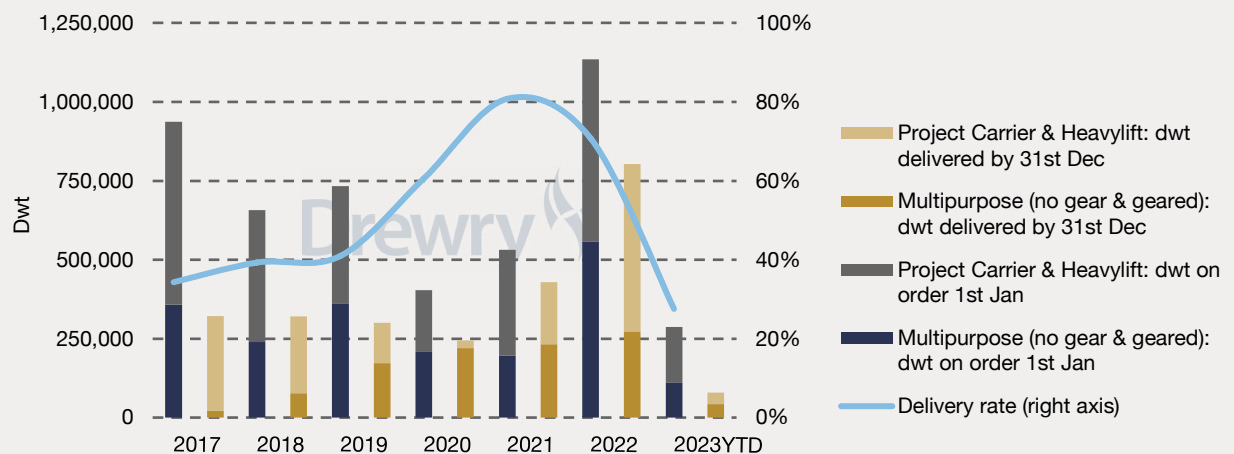
Limited newbuilding deliveries expected for 2023

Table 3.8 Newbuilding delivery schedule (with slippage), dwt

	2023	2024	2025	2026(f)	2027(f)
Multipurpose (no gear and geared)	76,488	154,004	87,007	148,422	235,991
Project Carrier & Heavylift	96,996	442,266	556,982	704,847	1,256,406
Total expected deliveries	173,484	596,271	643,990	853,300	1,492,370

Source: Drewry Maritime Research

Figure 3.10 Fleet slippage data



Source: Drewry Maritime Research

Demolitions

Demolitions are low, but could increase in the short term due to declining charter rates and environmental regulations.

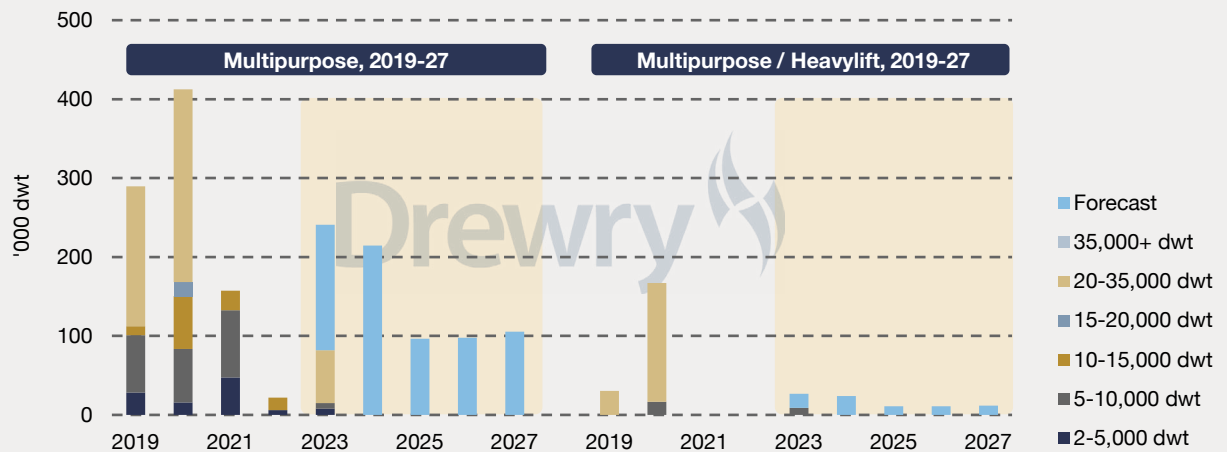
Since our previous report, the number of demolitions has increased. The year began with the demolition of a 38-year old vessel of 2-5 kdwt, the size range with the highest average age. Now halfway through 2023, we have more demolitions in dwt terms than in full-year 2021. Our prediction for most scrapping of vessels with low crane capacity is proving true. We did see one Heavylift vessel demolished and expect only a marginal increase in scrapping of this vessel type as they are young with high utilisation.

Demolitions

Our expectation for demolition candidates is that the low SWL MPV with medium-to-high dwt category will continue to trend upwards in 2023 and 2024 as charter rates decline further. However, based on the current orderbook and our expectations for demand growth, scrapping may start to decrease in 2025 as rates increase. The main factor to consider is the orderbook. As seen last year, when rates increased, scrapping went to near zero. As it takes time to deliver a vessel, our growth forecast would mean a squeeze on supply could occur while waiting for new orders to enter the fleet. This said, there is also the environmental regulations factor that could force some vessels to the demolition yards even if market conditions are favourable. This would cause a further reduction in supply.

Demolition levels expected to rise for older tonnage with low crane capacity throughout 2023 and 2024

Figure 3.11 Demolition by segment



Source: Drewry Maritime Research

Table 3.9 Average age of demolition by sector (years)

	2020	2021	2022	2023
Multipurpose (no gear & geared)				
2-5,000	33.5 (26,42)	32.3 (21,45)	37.8 (38,38)	34.8 (31,38)
5-10,000	31.5 (19, 40)	32.5 (22,39)	32.3 (27,44)	24.9 (25,25)
10-15,000	32.5 (24,42)	13.6 (13,14)	n/a	n/a
15-20,000	31.8 (32,32)	n/a	25.9 (26, 26)	n/a
20-35,000	21.3 (17,34)	n/a	n/a	24.08(24,24)
35,000+	n/a	n/a	n/a	n/a
Overall	28.7 (17,42)	31.0 (13,45)	32.1 (26,44)	27.9 (24,38)
Project Carrier & Heavylift				
2-5,000	n/a	n/a	n/a	n/a
5-10,000	23.7 (20,28)	n/a	n/a	26.3 (26,26)
10-15,000	n/a	n/a	n/a	n/a
15-20,000	n/a	n/a	n/a	n/a
20-35,000	17.4 (17,18)	n/a	n/a	n/a
35,000+	n/a	n/a	n/a	n/a
Overall	19.2 (17,28)	n/a	n/a	26.3 (26,26)

Figures in parentheses show the minimum and maximum demolition ages, respectively.

Source: Drewry Maritime Research derived from brokers reports

Demolitions

Table 3.10 Demolition activity ('000 dwt)

	2020		2021		2022		Mar-23		Apr-23		May-23		2023ytd	
	No.	dwt	No.	dwt	No.	dwt	No.	dwt	No.	dwt	No.	dwt	No.	dwt
Multipurpose (no gear & geared)														
2-5000 dwt	4	16	11	48	1	5	0	0	1	4	0	0	2	8
5-10000 dwt	10	68	12	85	3	21	1	7	0	0	0	0	1	7
10-15000 dwt	6	67	2	25	1	16	0	0	0	0	0	0	0	0
15-20000 dwt	1	18	0	0	0	0	0	0	0	0	0	0	0	0
20-35000 dwt	10	244	0	0	0	0	2	45	0	0	1	22	3	67
35000+dwt	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	31	412	25	157	5	42	3	52	1	4	1	22	6	82
Project Carrier & Heavylift														
2-5000 dwt	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5-10000 dwt	2	17	0	0	0	0	0	0	0	0	0	0	1	9
10-15000 dwt	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15-20000 dwt	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20-35000 dwt	5	150	0	0	0	0	0	0	0	0	0	0	0	0
35000+dwt	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	7	167	0	0	0	0	0	0	0	0	0	0	1	9

Source: Drewry Maritime Research

Operators

Current falling rates are not helping to bring investment to the MPV and project cargo segment. Very few of the top operators by total fleet deadweight appear on the orderbook.

Table 3.11 details the fleet and orderbook of the major operators split by vessel classification. Of the major operators, only two also feature in the orderbook. Financing remains an issue for smaller operators, but the main concern is the right choice of vessel design. With environmental regulations becoming more stringent as years go on, the choices made now regarding design and propulsion will have a direct effect on the length of a new vessel's operational life and in turn the length of time to make a return on investment.

The positive factor is that there was no rush to build during the favourable market conditions last year. This led us to reduce our forecast orders as previously discussed. It will help the sector in the period when rates are low as there is not a wave of new tonnage expected to flood the market.

Operators

Table 3.11 Major operators, as of 1 Jun 2023

Operator	Fleet - Multipurpose (no gear & geared)			Fleet - Project Carriers & Heavylift			Orderbook - Multipurpose (no gear & geared)			Orderbook - Project Carriers & Heavylift		
	Vessels	dwt	Avg	Vessels	dwt	Avg	Vessels	dwt	Avg	Vessels	dwt	Avg
			dwt			dwt			dwt			dwt
BBC chartering	1	11,353	11,353	134	1,638,717	12,229				14	171,200	12,229
COSCO Shipping Spec	14	361,763	25,840	37	1,112,760	30,075						
Wagenborg Shipping	113	825,494	7,305	22	380,176	17,281						
Spliethoff				50	872,649	17,453						
Chinese-Polish Shpg				23	819,373	35,625						
AAL				24	684,047	28,502				6	192,000	32,000
NYK Bulk & Projects	1	11,796	11,796	22	430,187	19,554						
Jumbo SAL Alliance				31	361,383	11,658						
Swire Shipping	1	7,881	7,881	12	336,021	28,002						
Quanzhou Ansheng	14	334,704	23,907									
United Heavy Lift				19	268,792	14,147						
Ethiopian Shipping	2	55,032	27,516	7	196,424	28,061						
CMES Shipping				4	246,947	61,737						
Meratus Line	21	165,089	7,861	6	77,647	12,941						
Rahbaran Omid Darya	10	229,166	22,917									
Intermarine Link	2	15,500	7,750	18	210,423	11,690						
Zhonggu Logistics	9	217,659	24,184									
Dship Carriers				18	217,247	12,069						
PACC Container Line	6	162,272	27,045	2	54,536	27,268						
G2 Ocean	4	212,054	53,014									
Wilson EuroCarriers	57	208,132	3,651									

Source: Drewry Maritime Research derived from Clarksons and brokers reports

Decarbonisation

Operational speeds remain below design speeds for most MPVs with most vessels even slower than in the same period last year.

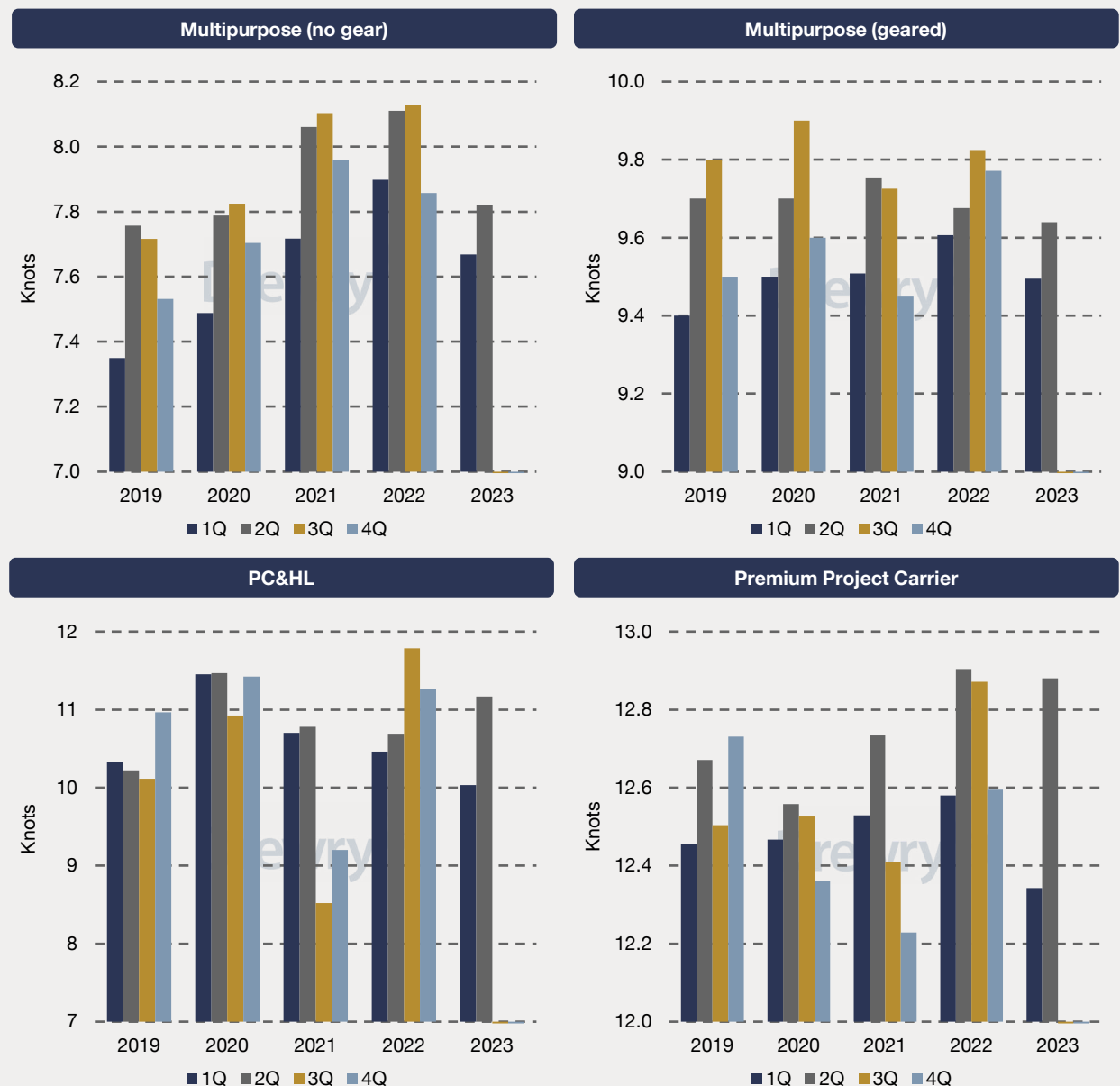
As the MPV sector like all shipping sectors, moves towards decarbonisation, there are short-term and long-term options available. The long-term solutions require technological advancements and, in some cases, sizable investments, but in the short term, operators can look to slow steaming for reducing emissions. Reducing speed also influences supply and in previous Drewry reports we observed that the MPV fleet on average was operating at reduced speed. As mentioned, reduction in speed is one of the first methods of consuming capacity in the fleet, and so it is not surprising to see that in the first two quarters when day rates fell, average speeds also reduced for most MPV categories compared to the same period in 2022.

Decarbonisation

In Fig. 3.12, we can see the seasonal increase in speeds across geared and gearless multipurpose vessels with the second and third quarters being periods of faster vessel operation than the first and fourth quarters. MPVs have seen slower speeds lately, in line with the drop in rates as discussed in Section 4. Geared Multipurpose vessels and Premium Project Carriers are exceptions, with particularly stable speeds across the years.

In the current landscape of environmental regulations, the impact on the supply of vessels is not yet clear. The connection between non-compliance with CII or EEXI and loss of earnings, higher running costs or decisions to scrap has not yet become clear. However, The EU Emissions Trading System (ETS) will present a financial cost for the emissions by vessels that fall within the scope. From a market analysis point of view, ETS will have a more quantifiable effect on the fleet.

Figure 3.12 Change in operational speed over time



Source: Drewry Maritime Research

4. Charter Market

Overview

Charter rates are expected to weaken throughout 2023 and 2024 due to lower utilisation of certain vessel categories.

Although the immediate outlook for the Multipurpose and Heavylift fleet is not very positive, the long-term outlook is bright. With last year's high rates becoming a distant memory, the sector is going through a correction, which will affect certain ship types differently than others. The Project Carrier sector is expected to perform relatively well, while the low crane capacity vessels will find increased competition from other sectors.

This year started with the MPV sector competing with container ships and dry bulk sectors after recording a rate drop following the 2022 container madness. Both containers and dry bulk return as competitors for MPVs in the areas where cargoes are of suitable weight and dimensions that other transport methods become options, for example, container-suitable project cargoes and breakbulk. Using comparison, vessels of similar size, container ships are now at 79% below where they were last year. This follows a slight increase in the last few months. Dry bulk is now 49% below its rates of last year. In comparison, a comparable MPV is 19% below the same period last year due to utilisation levels still fairly healthy from a historical perspective.

In Section 2, we have discussed our expectations for dry cargo demand and the implications for MPV market share in our base-case scenario. We have also highlighted the risks to our base-case demand scenario, which are shown in Figure 4.1. Please note that in Figure 4.1, vessel supply depicts the base-case scenario. As demand changes, we would expect supply to increase or decrease depending on realised demand. Vessel supply is detailed in Table 4.1 with the supply-demand index. As discussed in Section 3 (Fleet), the current orderbook and the projected demolitions will come into focus as demand grows. We expect demolitions to return to low figures as we wait for newbuilds to enter the fleet. This squeeze in supply will aid rates if the demand expectations are achieved.

Project cargo demand is expected to support the charter market, while vessels less suitable for project work may struggle.

Table 4.1 Forecast supply / demand balance for MPV to 2027

	Fleet (Million dwt)	Fleet (% change)	Demand (Million tonnes)	Demand (% change)	Supply/Demand Index
2021	29.50	0.6%	1,445	6.7%	105
2022	30.30	2.7%	1,502	4.0%	107
BASE CASE					
2023	30.39	0.3%	1,486	-1.1%	105
2024	30.93	1.8%	1,493	0.5%	104
2025	31.46	1.7%	1,549	3.7%	106
2026	32.21	2.4%	1,607	3.8%	108
2027	33.58	4.3%	1,655	3.0%	106

Index = 100: 2018

Source: Drewry Maritime Research

Overview

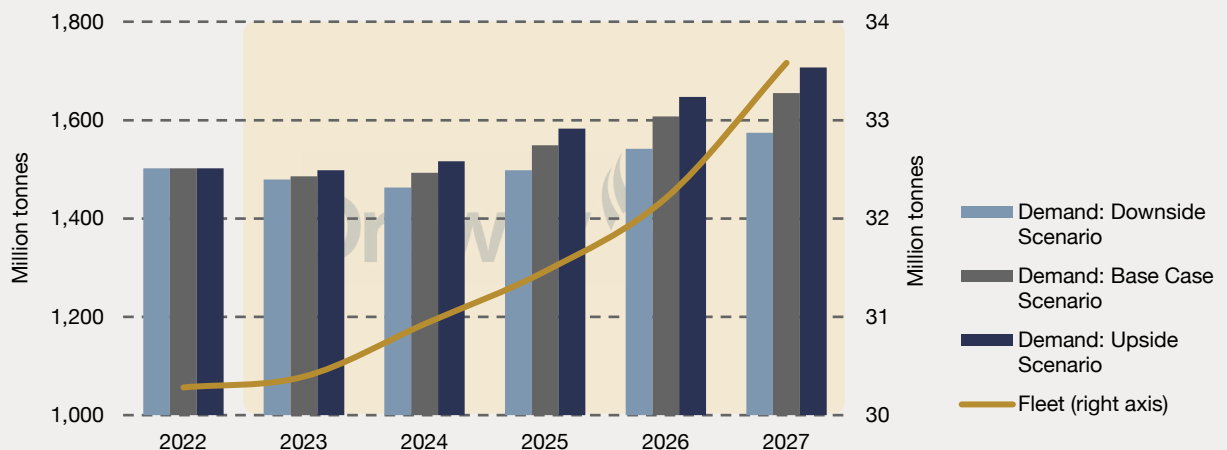
To assess the demand for the MPV fleet, we analyse cargo volumes carried by container and bulk carriers and Ro-Ro vessels. As there is no straightforward way to calculate vessel utilisation due to the diverse nature of cargoes, we calculate the ratio of the cargo (in tonnes) available to the total fleet deadweight. The total fleet deadweight is determined by the tonnage of newbuilding deliveries entering service versus that of demolished vessels. This gives us an index to use as a proxy. To evaluate the MPV sector's TC rates, we use this index and the market outlook for the competing fleets.

Our global economic activity assumptions indicate that demand growth will be minimal in 2023 and 2024, and as a result, scrapping, which has already increased, is expected to rise further. However, due to the low orderbook and slippage, the expected tonnage may not arrive when demand reaches higher levels, thus causing a shortage of supply from late 2024 to 2025.

In all our scenarios for the charter market, rates will continue with the downturn that started in 2H22. However, rates are likely to recover, with 2023-24 being the trough. In the long term, rates are anticipated to recover from 2025.

Projected charter rates are expected to remain above pre-Covid level, but a return to the peaks of 2022 is unlikely

Figure 4.1 Fleet versus demand



Source: Drewry Maritime Research

Charter Markets

Long-term charter rates in the main dry cargo sectors remain low. Vessel position on an individual basis has helped certain operators achieve favourable rates, but this does not reflect in the wider geographical area in which similar vessels operate.

To assess the MPV market, we must first look at the other large competing sectors. This includes container ships and dry bulk, which both have varying effects on the MPV market. Container ship day rates have increased gradually since the beginning of the year but remain 72% below the rates during the same period last year. As a result, breakbulk cargo returned to boxes as the more economical option, dragging rates down for MPVs, especially in the low crane capacity category. Larger items of breakbulk and projects carried on Heavylift and Project Carriers are helping to keep the MPV rates from falling too far.

Depending on the size of a vessel, the container ship outlook looks mixed. This does not necessarily mean a change in its impact on the MPV market. Rates are still low enough for containers to represent a competitor to MPVs and unless the container sector returns to much higher charter levels this position is unlikely to change.

The year started with a downtrend in dry bulk carrier rates but later stabilised as China's economy revived. This helped close out 1Q23 without much further decline. However, as 2Q23 progressed, a less favourable economic outlook again deflated the rates. As expected, low rates for Handysize vessels will bring them back to looking for other cargoes to increase their utilisation and earnings. Dry bulk vessels, similarly to container ships, will still be restricted in the types of cargoes they can compete for, and therefore Heavylift and (Premium) Project Carriers will not take the main hit of this additional competition.

Table 4.2 has not changed since our last report. There are fewer reported TC fixtures with day rates since the market weakened. Many previous TC fixtures were to secure market position when MPVs were being chartered to carry containers. Figure 4.2 details the comparable vessel types in the dry cargo space and their respective time charter rates.

Although there are some minor increases, container ship charter rates remain weak resulting in several cargoes seeing boxes as the most economical option.

After a stable start to the year, dry bulk rates resume their decline

Table 4.2 Summary of selected fixtures

Date	Type	dwt	Built Gear Summary		Period	Deployment	Hire	Currency
Feb-23	MPP	9600	2000	2x60	12mos	Atlantic Trade	10000	USD
Mar-23	MPP	25000	2013	2x450	6mos	World Wide	15000	USD

Source: Drewry Maritime Research derived from brokers reports

Charter Markets

Figure 4.3 details MPV arrivals in various regions across the world. There was a decrease across nearly all the major regions in 1Q23, but in recent months this has changed, and arrivals across the major regions have all increased. The previously reported Middle East increase has continued, more so for the heavylift-capable vessels and only slightly for other MPVs.

Also, interesting to note is the swing from a reduction in operational speeds in 1Q23 to an increase in 2Q23, as seen in Figure 4.4. This helps to support our assessment of the Heavylift and (Premium) Project Carrier segment supporting the sector.

MPV rates weaken,
but underlying
demand from projects
still robust

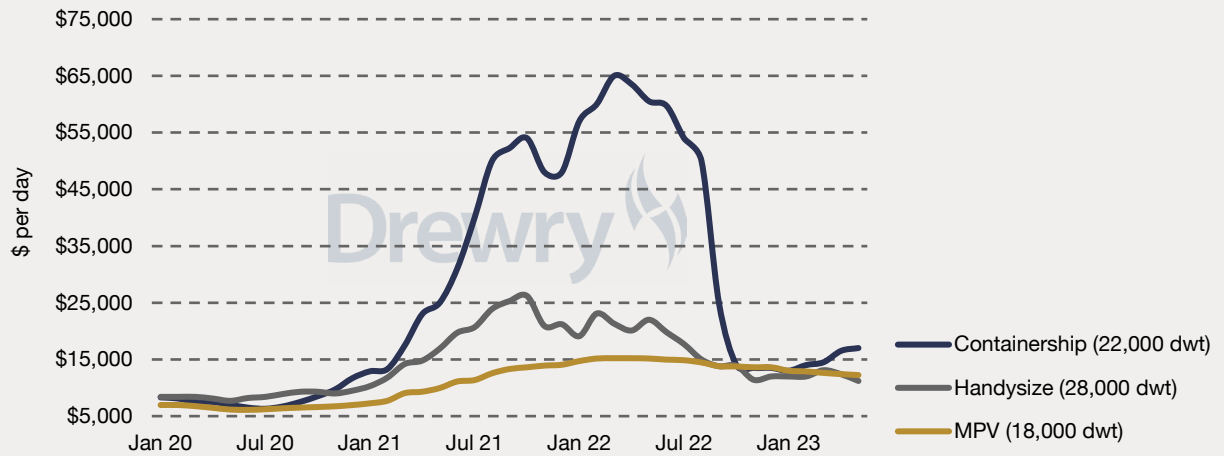
Table 4.3 Estimated development of time charter rates for MPVs, 2015-2023 (Annual averages, US\$ per day)

Dwt Range	<4,000	4,000-4,999	5,000-7,499	7,500-9,999	10,000-14,999	15,000-19,999	20,000+
2015	2,987	3,502	4,596	5,165	7,000	7,072	7,448
change	-5%	-5%	-7%	-9%	-14%	-16%	-15%
2016	2,907	3,408	4,472	4,502	5,970	5,590	5,887
change	-3%	-3%	-3%	-13%	-15%	-21%	-21%
2017	2,789	3,270	4,291	4,298	5,804	5,624	5,553
change	-4%	-4%	-4%	-5%	-3%	1%	-6%
2018	2,968	3,479	4,566	4,630	6,646	6,427	6,047
change	4%	4%	4%	6%	11%	11%	9%
2019	2,903	3,404	4,467	4,541	6,592	6,401	6,037
change	-2%	-2%	-2%	-2%	-1%	-0%	-0%
2020	2,645	3,100	4,070	4,130	6,125	5,950	5,595
change	-9%	-9%	-9%	-9%	-7%	-7%	-7%
2021	3,320	3,891	5,108	5,238	10,372	10,032	9,504
change	26%	26%	26%	27%	69%	69%	70%
2022	4,747	5,563	7,304	7,669	14,025	14,583	14,642
change	43%	43%	43%	46%	35%	45%	54%
2023ytd	4,061	4,759	6,248	6,772	12,326	12,671	13,216
change ytd	-14%	-14%	-14%	-12%	-12%	-13%	-10%
Average 2015-23	3,258	3,820	5,014	5,216	8,318	8,261	8,214
CAGR YE2015-YE22	6.0%	6.0%	6.0%	5.1%	9.1%	9.5%	8.8%
Minimum 2015-23	2,645	3,100	4,070	4,130	5,804	5,590	5,553
Maximum 2015-23	4,747	5,563	7,304	7,669	14,025	14,583	14,642

Source: Drewry Maritime Research

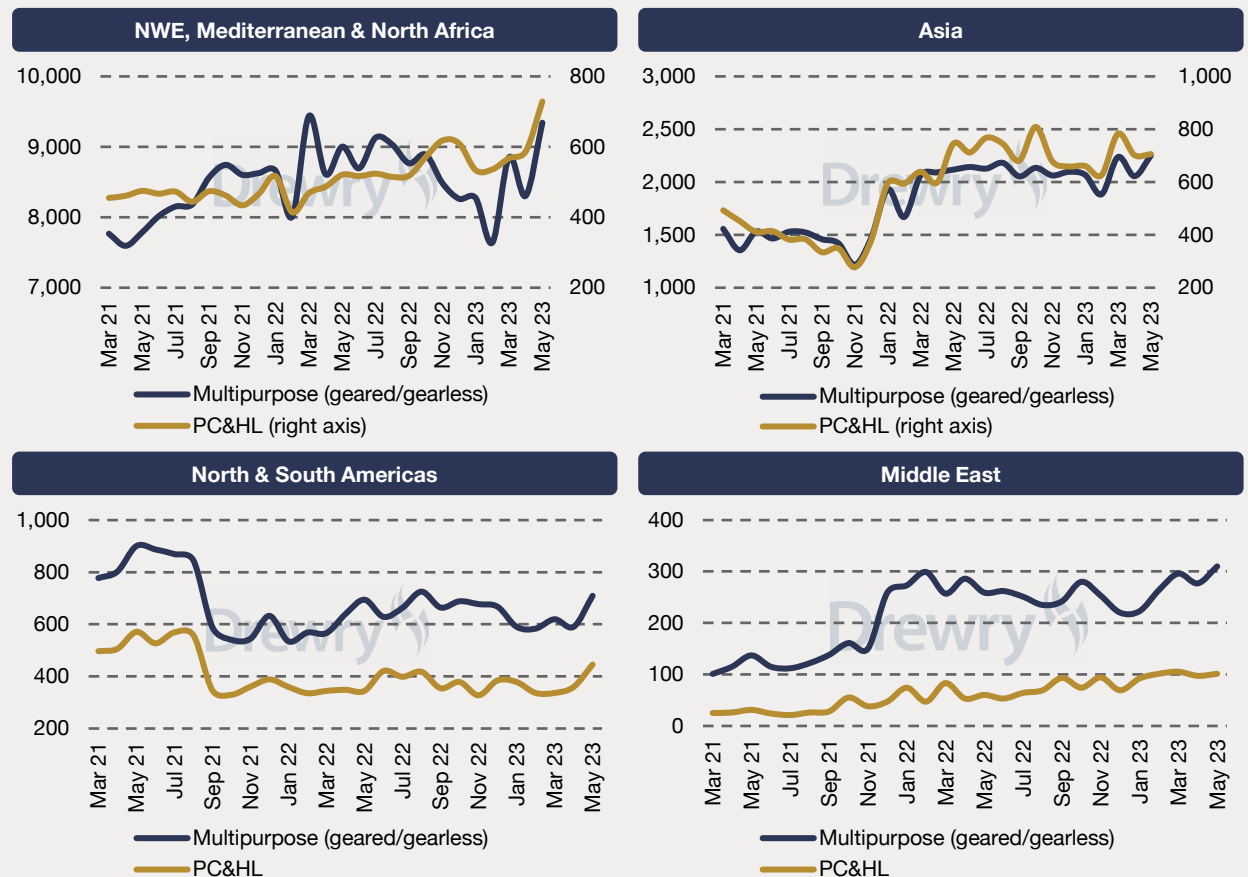
Charter Markets

Figure 4.2 Timecharter rate comparison



Source: Drewry Maritime Research

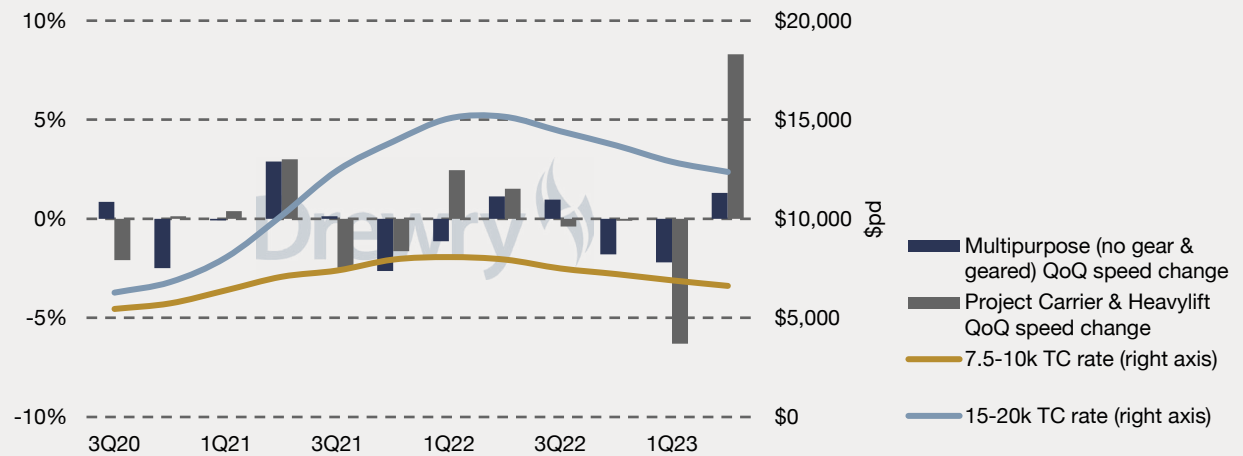
Figure 4.3 MPV arrivals in major loading regions



Source: Drewry Maritime Research

Charter Markets

Figure 4.4 Change in operational speed over time vs prevailing time charter rate



Source: Drewry Maritime Research

Charter Market outlook

Our overall outlook for the MPV sector shows continued decline throughout 2023 and 2024. Rates are still expected to remain above the pre-Covid levels throughout the forecast period.

Our assessment of the future prospects of the MPV charter market is based on several drivers including, but not limited to, the global economic forecast, the charter market outlook for competing sectors and our forecast of the supply-demand balance for this sector. We have adjusted our outlook after weakening rates, rising scrapping and contracting orderbook in 1Q23.

In 2022, robust time charter rates resulted in scrapping reaching near zero, as most of the fleet was able to find employment. This event gave an indication of the levels at which time charter rates can reach if vessel availability is tight. Based on the increase in scrapping, small orderbook and our expectation for growth, we expect this high utilisation to return in 2025 and as a result see low demolitions returning.

In the immediate future, day rates are expected to decline as utilisation decreases. This will result in the continued slow decline in time charter rates, while waiting for vessels to be removed from the fleet and demand to return. According to our base-case scenario, average annual rates are likely to fall by an average of just over 20% in 2023 compared to 2022 across all sizes. Since our initial report this year, we expect day rates to decline by 10% on average across all sizes instead of 4% in 2024. This of course is an average and the certain size categories will take a bigger portion of the loss. We still expect the recovery in the smaller sizes to start during 2024, whereas with the larger sizes, the recovery will not begin until 2025 (day rates for the larger categories went up further than smaller classes in 2021-22). All our scenarios still forecast rates above pre-Covid levels.

Period charter rates are still expected to weaken for all scenarios in the early part of the forecast, with a recovery in charter rates towards the end of 2024.

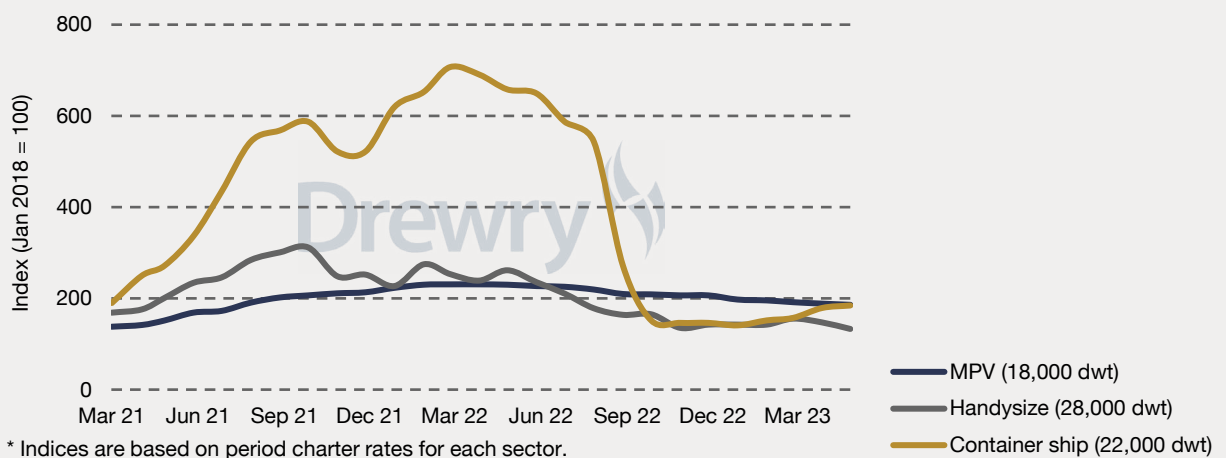
Charter Market outlook

Table 4.4 Estimated development and forecast of MPV timecharter rates (annual averages, \$ per day)

	<4,000 dwt	4,000-4,999 dwt	5,000-7,499 dwt	7,500-9,999 dwt	10,000-14,999 dwt	15,000-19,999 dwt	20,000 dwt+
2012	2,900	3,400	4,500	4,950	7,500	8,000	8,500
2013	2,931	3,436	4,533	5,129	7,667	8,210	8,173
2014	3,144	3,686	4,942	5,660	8,172	8,469	8,763
2015	2,987	3,502	4,596	5,165	7,000	7,072	7,448
2016	2,907	3,408	4,472	4,502	5,970	5,590	5,887
2017	2,789	3,270	4,291	4,298	5,804	5,624	5,553
2018	2,968	3,479	4,566	4,630	6,646	6,427	6,047
2019	2,903	3,404	4,467	4,541	6,592	6,401	6,037
2020	2,645	3,100	4,070	4,130	6,125	5,950	5,595
2021	3,320	3,891	5,249	5,456	10,566	10,121	9,632
2022	3,571	4,186	7,350	7,698	14,032	14,668	14,727
BASE CASE							
2023	3,170	3,853	5,788	6,013	11,593	11,427	10,987
2024	3,070	3,658	5,296	5,466	10,253	10,102	9,690
2025	3,296	3,972	6,315	6,595	13,988	14,076	13,772
2026	3,332	4,083	6,967	7,343	17,138	17,458	17,284
2027	3,194	3,880	6,203	6,485	13,950	14,008	13,685
CAGR 13-22	2.1%	2.1%	5.0%	4.5%	6.5%	6.2%	5.7%
CAGR 23-27	-2.2%	-1.5%	-3.3%	-3.4%	-0.1%	-0.9%	-1.5%

Source: Drewry Maritime Research (derived from brokers reports)

Figure 4.5 Comparison of MPV, dry bulk and container charter rate trends*



Source: Drewry Maritime Research

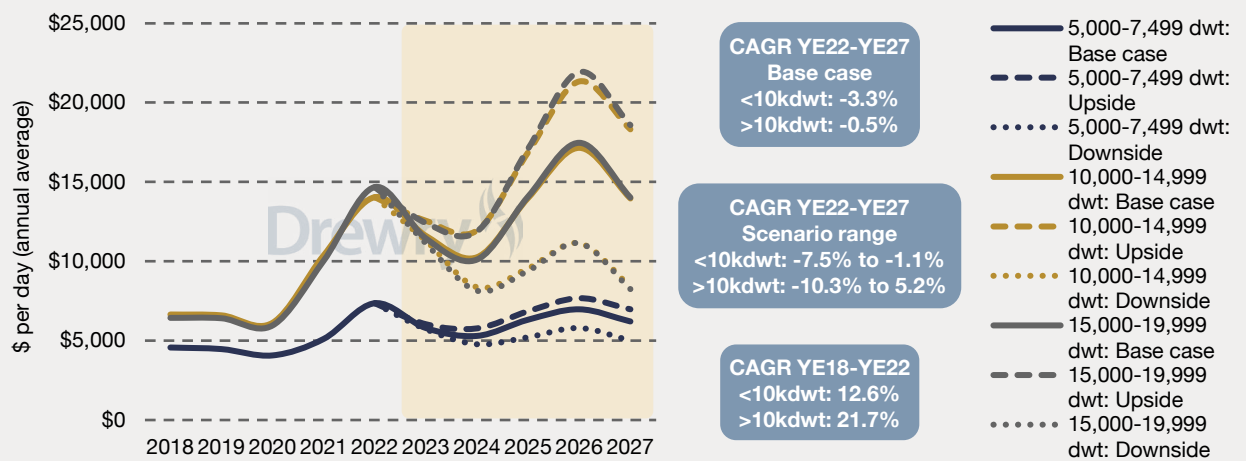
Charter Market outlook

Drewry's three scenarios for MPV charter rates take into account different levels of economic activity, which drives the demand for seaborne dry cargo and hence, breakbulk and project cargo.

Figure 4.6 shows our expectations for charter rates for three vessel segments and in line with the rest of this report provides a risk assessment based on the scenarios detailed in Section 2. Figure 4.7 shows Drewry's weighted index and provides a trend indication for this sector. Based on the probabilities we have assigned to the scenarios in Section 2, we expect the highest likelihood for day rates to be slightly below our base-case scenario shown in the graph.

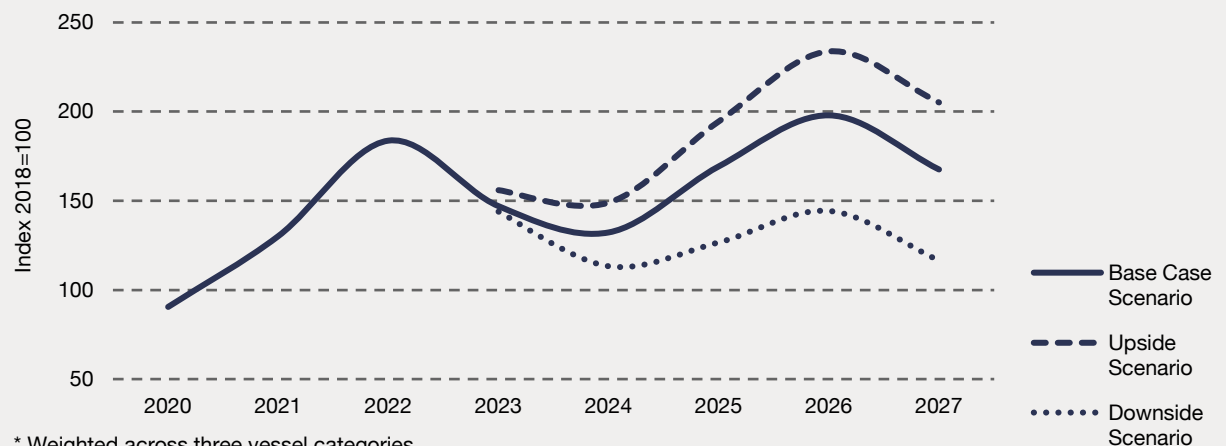
Rates recovery not expected until 2024

Figure 4.6 Estimated development and forecast of MPV timecharter rates



Source: Drewry Maritime Research (derived from brokers reports)

Figure 4.7 Multipurpose Time Charter Index*



* Weighted across three vessel categories.

Source: Drewry Maritime Research

5. Asset Market

Overview

Newbuild prices are on the rise, while second-hand values are reducing.

Newbuilding prices, unlike second-hand values, are not directly linked to the market for earnings. Labour and materials costs will drive up newbuild prices and if the market does not justify the higher price of a newbuild vessel then the orderbook will remain low. Further to this, new vessels are becoming more complex as the need for regulatory future proofing and a trend to heavier project cargoes are both in effect.

All vessel types and sizes have seen an increase in newbuilding prices with the MPV sector not any different. Since other vessel segments consumed yard capacity as a result of high charter rates, the lack of slot availability at yards and other factors have led to increased newbuilding costs. While these high rates have subsided, unlike second-hand values which can react quicker, ships on order still need to be built, and we have not seen costs in the yard reduce as capacity constraints remain. There are indications that most sectors are seeing a softening in orders, which will help increase the capacity for building, but it will take some time. The annual average newbuilding prices for MPVs are detailed in Table 5.1.

To add to this, the MPV category is made up of several sub-types with different vessel sizes, designs and fleet renewal challenges. We are seeing the majority of new orders in the segments where investor confidence is the greatest. Due to the energy and climate crisis resulting in an increase in projects globally, Project Carriers are seen as an investment opportunity.

Newbuilding prices are softening across different sectors, yet they remain high

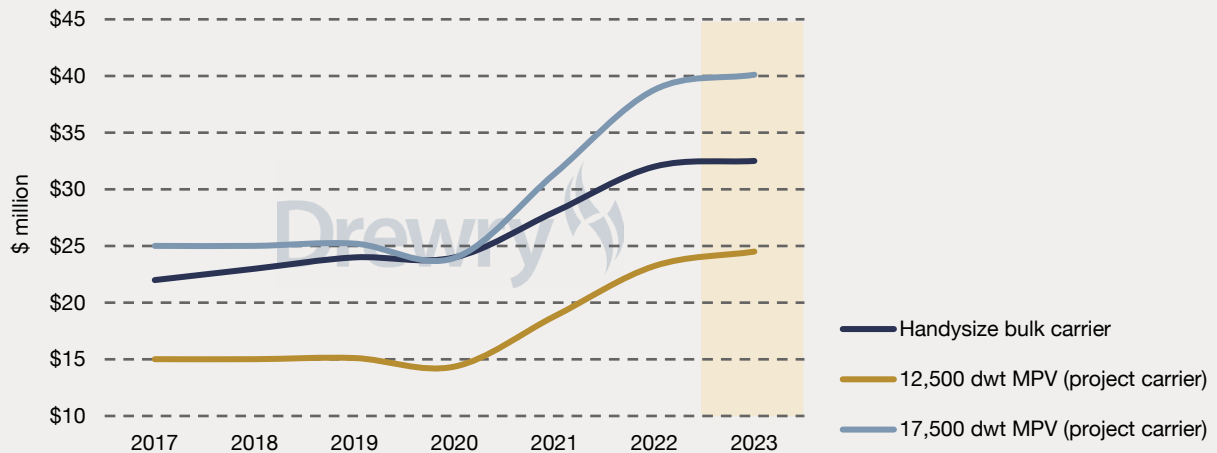
Table 5.1 Development of newbuilding prices (\$ million)

Dwt	SWL			2018	2019	2020	2021	2022	2023e
	TEU	(tonnes)	Type						
4,500	200	70	Multipurpose	6.5	6.5	6.2	7.7	9.1	12.2
8,000	350	160	Project Carrier	10.0	10.1	9.6	12.2	14.8	15.6
12,500	700	225	Project Carrier	15.0	15.1	14.3	18.8	23.2	24.5
17,500	900	120	Multipurpose	19.0	19.1	18.3	22.5	26.6	31.5
	900	800	Project Carrier	25.0	25.2	23.9	31.4	38.8	40.1
22,500	1,100	120	Multipurpose	20.5	20.6	19.8	23.7	27.7	32.9
30,000	1,350	150	Multipurpose	21.0	21.2	20.4	24.4	28.5	33.6
	1,750	650	Project Carrier	27.5	27.7	26.3	34.5	42.6	44.1

Source: Drewry Maritime Research

Overview

Figure 5.1 Newbuilding prices



Source: Drewry Maritime Research

Second-hand market

Asset prices are following the weakening charter market for most vessel specifications, with some specialised vessels remaining resilient.

There has been an increase in transactions in 2Q23, helped by a reduction in price expectations for certain assets, indicating that the situation is here to stay. Values have decreased, but not equally across all categories. This said our forecast shows that values are not expected to go back to 2020 levels.

Figures 5.2a through to 5.2d detail our expectations for future second-hand values. These are predicated on our expectations for the charter market, the supply-demand balance for the MPV fleet and the potential reduction in market share due to the competing sectors. Note that within the size categories there are variations in specifications of vessels which would result in individual vessels achieving different values. The weaker trends in the charter market are expected to have an impact on values, but we expect this to level out after an initial drop in values. We believe certain specification and age categories are more likely to be demolished as asset values reduce and demolition prices rise.

Using the ratio of asset values and EBITDA, we track the investment potential for MPVs (see Figure 5.3 for details). With EBITDA defined as charter hire rate minus operating costs multiplied by operational days, we plot the ratio and observe its performance. EBITDA is expected to increase from its low point in 2022, rising slowly until 2024 and thereafter it will dip again. Due to expected supply issues, asset values are likely to increase and reduce the EBITDA ratio until more newbuilds come to the market and balance out rates and asset values.

Smaller tonnage and Project Carriers are experiencing less of a fall in values

Second-hand market

Table 5.2 Reported second-hand activity ('000 tonnes)

	2019		2020		2021		2022		2023ytd	
	No.	Dwt	No.	Dwt	No.	Dwt	No.	Dwt	No.	Dwt
Multipurpose (no gear & geared)										
2-5000 dwt	4	19	0	0	0	0	0	0	13	52
5-10000 dwt	12	90	9	60	5	33	1	6	40	262
10-15000 dwt	5	61	3	31	8	99	0	0	14	163
15-20000 dwt	3	51	0	0	1	17	0	0	4	70
20-35000 dwt	1	28	2	66	2	66	3	102	13	301
35000+dwt	0	0	0	0	0	0	0	0	7	318
Grand Total	25	249	14	157	16	216	4	108	91	1,166
Project carrier & HeavyLift										
2-5000 dwt	0	0	0	0	0	0	0	0	0	0
5-10000 dwt	2	17	0	0	0	0	0	0	0	0
10-15000 dwt	6	76	4	53	1	13	2	24	2	16
15-20000 dwt	3	58	0	0	0	0	0	0	1	16
20-35000 dwt	5	136	0	0	3	74	2	64	0	0
35000+dwt	0	0	0	0	0	0	0	0	0	0
Grand Total	16	288	4	53	4	87	4	87	3	32

Source: Drewry Maritime Research

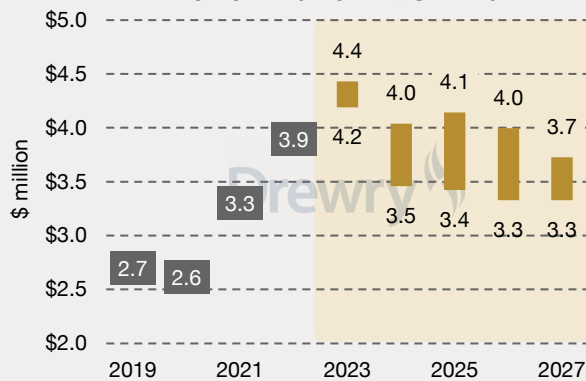
Table 5.3 Second-hand prices (\$ million)

Size (dwt)	Teu	Type	Age	2018	2019	2020	2021	2022	2023f
4,000	250	MPV/HL	10 yrs	8.1	8.2	8.5	9.0	12.5	13.5
	250	MPV	25 yrs	1.4	1.4	1.4	1.7	2.0	2.8
7,500	500	MPV/HL	10 yrs	6.1	6.0	7.0	7.4	12.5	9.7
	500	MPV	25 yrs	2.7	2.7	2.6	3.3	3.9	3.7
12,500	600	MPV/HL	10 yrs	9.0	8.9	8.6	11.1	13.2	12.5
	600	MPV	25 yrs	3.0	3.0	2.9	3.8	4.5	5.1
17,500	600	MPV/HL	10 yrs	12.1	12.0	9.6	17.0	18.6	17.6
	600	MPV	25 yrs	4.0	4.0	3.9	5.0	5.9	6.3
22,500	850	MPV/HL	25 yrs	5.3	5.2	5.0	4.4	9.1	8.0

Source: Drewry Maritime Research

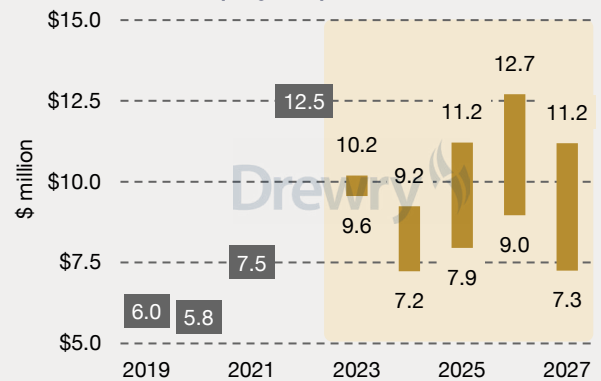
Second-hand market

Figure 5.2a Second-hand prices: 7,500 dwt Multipurpose (25 years, geared)



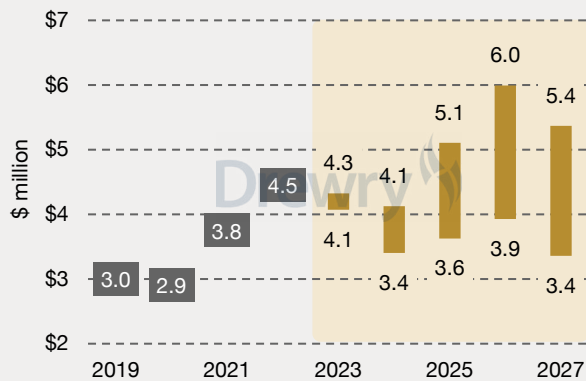
Source: Drewry Maritime Research

Figure 5.2b Second-hand prices: 7,500 dwt Project carrier (10 years)



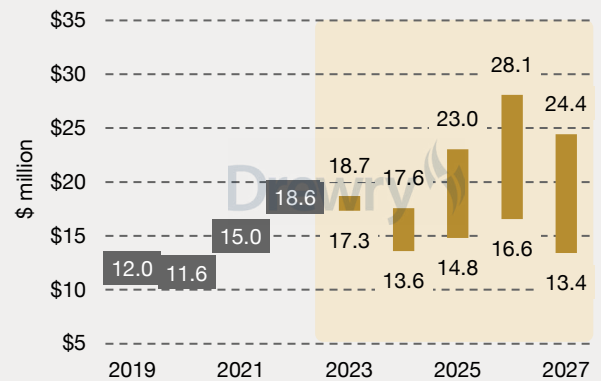
Source: Drewry Maritime Research

Figure 5.2c Second-hand prices: 12,500 dwt Multipurpose (25 years, geared)



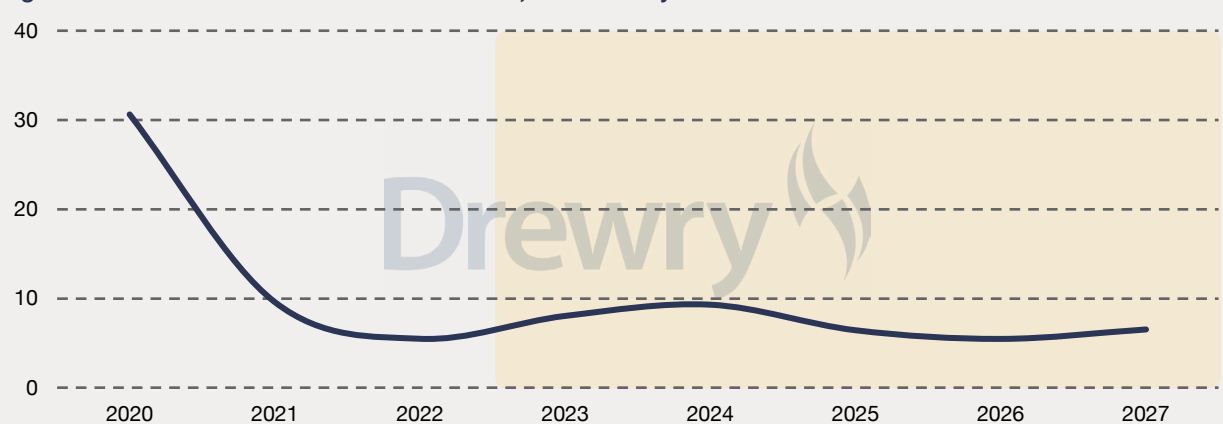
Source: Drewry Maritime Research

Figure 5.2d Second-hand prices: 17,500 dwt Project carrier (10 years)



Source: Drewry Maritime Research

Figure 5.3 Asset values / EBITDA* ratio for 17,500 dwt Project carrier



* Where EBITDA = (TC hire rate minus op costs) x operating days.

Source: Drewry Maritime Research

Demolition values

Demolition prices are high but have fallen since the beginning of the year. As the charter market has weakened, demolitions have increased.

The very low demolition activity over 2022 in the MPV sector is now in the past (see Section 3 for more detail). The fall in charter rates means that prices offered for demolition are not tempting enough for owners of certain ship specifications.

Although demolitions have increased from 2022, they are still considered low and our expectations are for them to remain low for the 2023-27 forecast period. We have revised them since our last report based on the expectations for the orderbook and growing demand. Historical scrap prices show a limited impact on demolition activity, with vessel utilisation being the main driving factor. The current fall in rates coupled with the other main driver, vessel age, will help to increase the number of vessels entering scrapyards in the forecast period. The current scrap prices will only assist in this decision.

Demolitions on the rise as rates fall, but scrapping is still very low

Table 5.4 Development of demolition prices (\$ million)

dwt	Ldt (tonnes)	2017	2018	2019	2020	2021	2022	2023ytd
2-5,000	1,500	0.5	0.5	0.6	0.5	0.8	0.9	0.9
5-10,000	3,600	1.1	1.0	1.5	1.3	1.9	2.2	2.1
10-15,000	6,200	1.9	2.0	2.5	2.2	3.3	3.8	3.7
15-20,000	7,300	2.2	2.0	3.0	2.5	3.9	4.4	4.3
20-35,000	9,000	2.7	2.5	3.7	3.1	4.8	5.5	5.3
35,000+	12,500	3.8	4.0	5.1	4.4	6.7	7.6	7.4

Source: Drewry Maritime Research

Operating costs

Operating costs expected to continue to rise over the forecast period; increased 2.4% on average in 2022 and expected to increase 1.8% in 2023.

Operating costs in the MPV sector, classed as general cargo in Drewry's annual Ship Operating Costs 2022-23 report, have generally followed the wider shipping market in opex trends. This report will be reassessed later in the year so currently the previous comments still stand referring to two vessel size categories. To recap, the average increase in total costs in 2022 was approximately 2.4%, with an increase of 1.8% expected for 2023. We have revised our estimated average annual increase upwards to 1.6% over the forecast period.

Lubricating oil costs, in particular cylinder oil which surged 15% in 2022 due to limited supply and high base oil prices, resulted in this sudden jump in cost, but we are not expecting large jumps again or prices to reduce in the forecast period. In 2022, marine insurance costs also increased to 8.0%.

We expect some of the dramatic increases due to cost inflation to settle over 2023 and for the opex to increase at a more stable rate per year. This said, consumer price inflation will clearly represent an upside risk for various operating cost items for MPVs.

Operating cost inflation expected for 2023-27

Operating costs

Table 5.5 7-10,000 dwt operating costs 2023– by vessel age (\$ per day)

	Vessel Age				
	Newbuild	5-yr old	10-yr old	15-yr old	20-yr old
Manning	2,130	2,130	2,250	2,380	2,500
Insurance	340	360	400	460	480
Stores	200	220	220	220	230
Spares	230	240	250	260	250
Lubricating Oils	300	310	310	320	320
Repair & Maintenance	140	150	160	170	170
Dry Docking	-	280	300	320	320
Management & Administration	580	580	580	610	610
Total	3,920	4,270	4,470	4,740	4,880

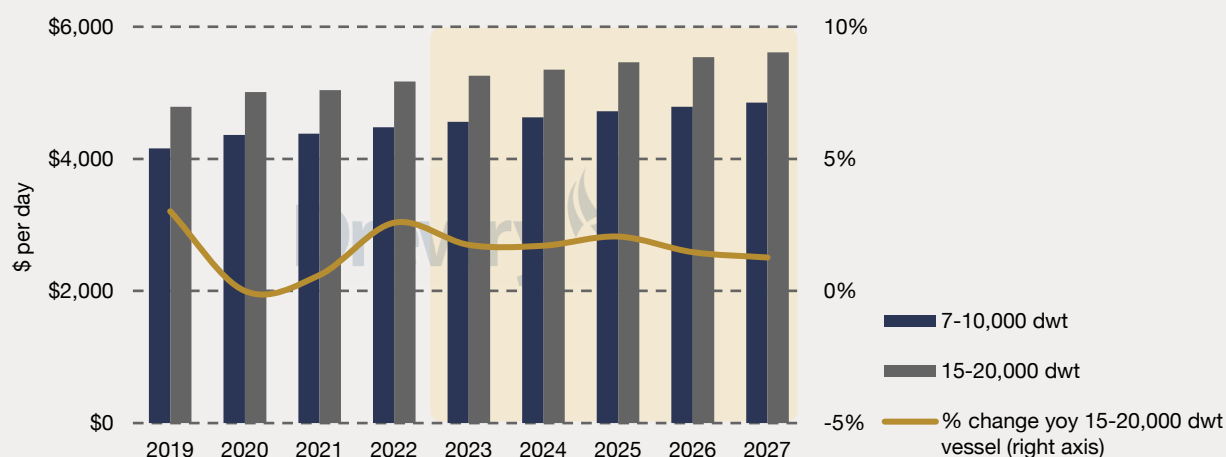
Source: Drewry Maritime Research

Table 5.6 15-20,000 dwt operating costs 2023 – by vessel age (\$ per day)

	Vessel age				
	Newbuild	5-yr old	10-yr old	15-yr old	20-yr old
Manning	2,450	2,450	2,570	2,690	2,820
Insurance	380	400	450	510	540
Stores	210	230	230	230	240
Spares	240	250	270	280	270
Lubricating Oils	450	460	470	480	480
Repair & Maintenance	150	160	170	180	180
Dry Docking	-	390	410	440	440
Management & Administration	610	610	610	640	640
Total	4,490	4,950	5,180	5,450	5,610

Source: Drewry Maritime Research

Figure 5.4 Operating cost forecast



Source: Drewry Maritime Research

Voyage costs

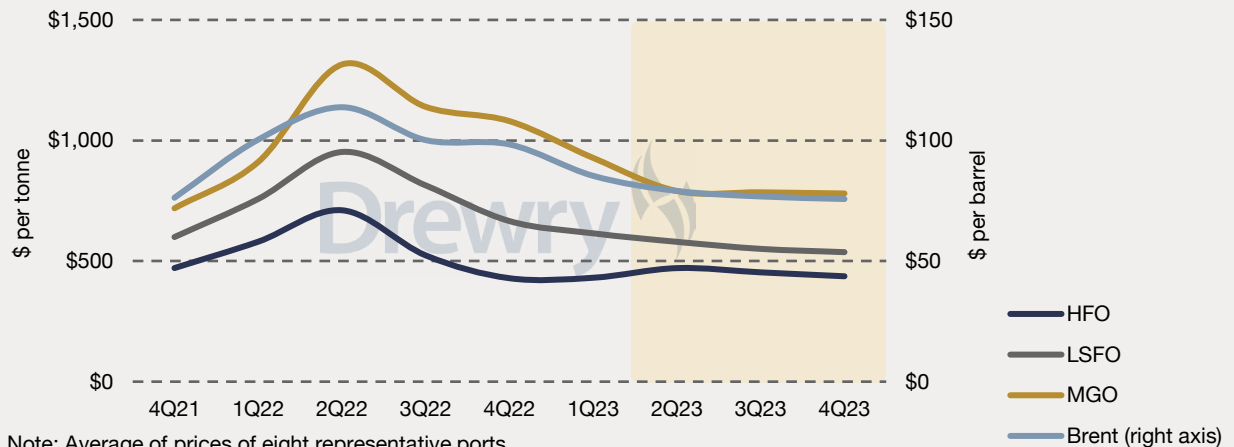
Bunker prices to remain elevated in the near term.

As bunkers are the main voyage cost for all shipping sectors, with MPVs being no different, it is important to monitor the price development of the main driver of bunker prices, crude oil. Brent crude oil began to fall in 3Q22 from the high of \$114/bbl and was steadily falling to about \$85/bbl in 1Q23. The rate of decline has increased slightly since our last report, which is now 31% below the same period last year. This said the price of a barrel is still 78% higher than the average of 2020, the last year of low bunker rates. At the expected rate of reduction, bunker prices will remain high over the coming years.

Since our last report, Saudi Arabia announced a cut in production with the intention of reducing volatility in the market. This has had a minor effect on our expectations, with HFO increasing slightly since our last report. Although at times there may be small increases or decreases it is our expectation that bunkers will remain around these elevated levels in the next few quarters.

Bunker prices remain high and will likely continue to trend upwards

Figure 5.5 Bunker price outlook



Note: Average of prices of eight representative ports.

Source: Drewry Maritime Research

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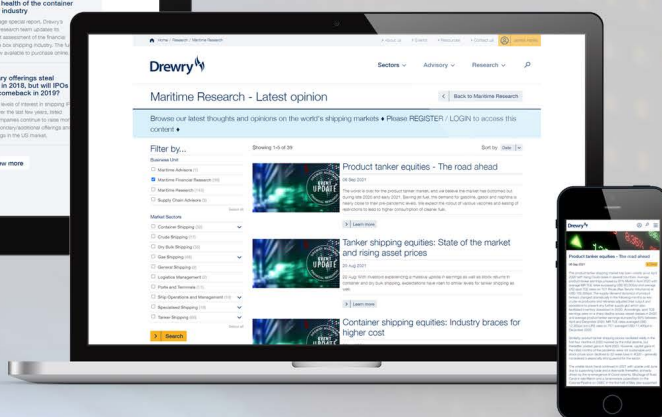
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UK

35-41 Folgate Street
London
E1 6BX
United Kingdom

T +44 20 7538 0191

India

401-408, 4th Floor,
Tower C, Urban Square,
Sector 62, Gurugram
Haryana - 122 098
India

T +91 124 497 4979

Singapore

#17-01 Springleaf Tower
No 3 Anson Road
Singapore 079909

T +65 6220 9890

China

Unit D01 Level 10,
Shinmay Union Square Tower 2,
506 Shang Cheng Road, Pudong,
Shanghai 200120
P. R. China

T +86 21 5081 0508

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