BOARD OF DIRECTORS' REPORT

Mr. Chaipatr Srivisarvacha

Chairman of the Board of Director

TO THE SHAREHOLDERS:

The directors are pleased to present the 35th Annual Report of the Company along with the Audited Financial Statements as on 31 December 2023.

4th Quarter 2023/Annual Financial Performance (US Dollar Terms)

The results, audited by EY Office Ltd., show you the latest financial position of Precious Shipping Public Company Limited and its subsidiaries ("the Company"). The earnings per day per ship during Q4 came in at USD 12,429, taking the annual figure to USD 10,907. Please look at the Market Segmentation report that shows you the relative performance of the PSL fleet's earnings per day per ship compared to the Index ships.

In the current quarter, daily operating costs for ships were lower than the target for the year however, the actual costs were higher than the previous year. The costs were USD 5,332 per day per ship, which has brought the annual costs to USD 5,205 per day per ship, as compared to a target of USD 5,400 for the year and actual daily operating expenses of USD 4,895 for the previous year.

The EBITDA for Q4 was USD 20.70 million and USD 63.81 million for the full year. In Q4 we made a net profit of USD 7.03 million, with earnings per share of Baht 0.16. In the year 2023, we made a net profit of USD 20.35 million. The Company's earnings per share for the year were Baht 0.46.

THE HARD FACTS	2023	2022	Q4 2023*	Q4 2022*
Highest earnings per day per ship in USD	26,546	52,816	26,546	36,948
Average earnings per day per ship in USD	10,907	19,924	12,429	14,343
Av. earnings per day per Handy size ship in USD	10,280	17,523	11,414	12,525
Av. earnings per day per Supramax ship in USD	10,638	20,371	12,607	16,162
Av. earnings per day per Ultramax ship in USD	12,856	25,422	14,890	17,066
Av. earnings per day per Supramax/Ultramax ship in USD	11,682	22,748	13,682	16,587
Operating cost per day per ship in USD	5,205	4,895	5,332	4,815
EBITDA in million USD	63.81	180.33	20.70	27.89
Net Profit (Loss) in million USD excluding exchange gain (loss) and non-recurring items	18.97	138.66	9.14	17.16
Net Profit (Loss) in million USD	20.35	138.61	7.03	15.26
Earnings (Loss) Per Share in Thai Baht excluding exchange gain (loss) and non-recurring items	0.42	3.11	0.21	0.40
Earnings (Loss) Per Share in Thai Baht	0.46	3.11	0.16	0.35

**Derived numbers*

Mr. Khalid Moinuddin Hashim

Managing Director

Financial Highlights (Thai Baht Terms) and Review of the Year:

The Company reported a net profit of Baht 709.60 million (2022: Baht 4,850.79 million), with total revenues of Baht 5,192.98 million (2022: Baht 9,146.64 million), in the year under review. The shareholders' equity was Baht 16,245.75 million (2022: Baht 16,462.81 million) and total assets was Baht 24,345.82 million (2022: Baht 24,303.96 million). The total number of vessels operated by the company in 2023 and 2022 was 38.

The Company's vessels achieved an average time charter equivalent rate of USD 10,907 per day per vessel in 2023, lower than the average rate of USD 19,924 per day per vessel in 2022. The net vessel operating income (net of voyage disbursements and bunker consumption) in Thai Baht terms was 44% lower than the previous year. The average vessel running cost per day per vessel increased from USD 4,895 in 2022 to USD 5,205 in 2023, primarily due to higher dry-docking and special survey expenses, and stores/spares expenses. Absolute vessel running expenses in Thai Baht terms, increased by about 6%. The average technical downtime was 8 days per vessel, as 13 vessels underwent dry-docking and special surveys during the year.

We conducted an 'in-house' exercise again this year to determine total return to shareholders, which was calculated for the 30 years that we have been operating as a listed entity. Based on the closing share price of Baht 7.80 per share on 30 January 2024 (our first day of trading on the SET was 16 September 1993) and assuming you had subscribed at the IPO, at the end of 30 years you would have obtained a 15.76% IRR on your initial investment. This return does not assume any re-investment of the dividends into shares or any interest on the dividends received.

To keep things in perspective with regards to PSL, we would like to highlight the annual net profit/loss over the past few years.

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Av. BDI	920	1,206	1,105	719	673	1,145	1,353	1,353	1,066	2,943	1,934	1,378
Net Profit (loss) $m	4.5	17.5	-2.5	-69.41	-75.61	-3.76	14.1	-7.25	-40.8	136.96	138.61	20.35
Av. No. of Ships	30.44	38.93	41.66	45.46	40.29	36.02	36	36	36	36	36.99	38
Net Profit (loss) / Ship $m	0.15	0.45	-0.06	-1.53	-1.88	-0.1	0.39	-0.2	-1.13	3.8	3.75	0.54

During the abysmally low market period of 2015 and 2016, we managed to keep costs under tight control; raised about USD 65 million from our shareholders via a rights offering in early 2015; raised USD 100 million from a 5 year unsecured bond in January 2016; raised USD 55 million from a 3.5 year unsecured bond in December 2016; reduced finance costs by prepaying many of our secured loans coming due in 2018 and 2019; sold our older and inefficient ships to raise further cash (15 ships recycled in 2015 - 2016 and 2 older ships sold in 2016 - 2017 for further trading). In 2018, we fully prepaid one loan facility, thereby releasing 3 vessels from their mortgages. In 2019, we fully prepaid another loan facility and released 2 more vessels from their mortgages. To mitigate the deleterious impact of Covid-19 in 2020, we extended USD 124 million of indebtedness on our two outstanding bonds by 1.5 years, received USD 40.5 million through a settlement agreement with Sainty Shipyard, and received ~USD 26.55 million of gross proceeds through a 12-month advance charter-hire agreement with a customer. In 2021, we redeemed our two outstanding bonds well before the amended maturity dates and raised USD 133.45 million through the signing of three new loan facilities. In 2022, we raised USD 17.10 million through the signing of one new loan facility and prepaid two loan facilities thereby releasing two vessels from their mortgages. Total loan repayments for the year were USD 69.44 million. In 2023, we signed six loan agreements for a total of USD 244.05 million, of which we have drawn USD 105.15 million. We prepaid and repaid loans of USD 67.74 million. As of 31 December 2023, the Company has an undrawn loan balance of USD 138.90 million with availability periods of up to two years to use for our fleet rejuvenation.

Our Fleet: At the end of 2023, our fleet comprised of 38 ships on the water (8 Ultramax, 9 Supramax and 21 Handysize) with an aggregate capacity of 1,657,579 DWT. This works out to an average of 43,621 DWT per ship, with an average age of about 12.0 years.

Annual Benchmarking:

Marine Money, the leading publication in Ship Finance, releases an annual ranking of the world's publicly traded shipping companies. In the 2022 edition of the magazine's rankings, which covered 21 listed dry-bulk companies, PSL achieved the top position for operating profit margin, secured the 6th spot for Return on Equity (ROE), and held the 3rd position for Return on Assets (ROA). Additionally, PSL boasted the 6th lowest debt-to-capitalization ratio and ranked 4th for the debt coverage ratio. In terms of overall financial performance, PSL ranked 12th among 78 shipping companies, and within the dry-bulk sector, PSL ranked 2nd among 21 companies. This remarkable outperformance is a testament to the unwavering commitment and exceptional contributions made by each and every member of our workforce.

Awards and Honors:

- PSL has been included in the Stock Exchange of Thailand's Thailand Sustainability Investment (THSI) list for 2022-2023.
- PSL has been classified as a company with "Excellent" Corporate Governance for 14 consecutive years from 2010 to 2023, by the IOD & National CG Committee.
- PSL earned a full 100 AGM assessment score for six consecutive years from 2018 to 2023, as adjudged by the Thai Investors Association (TIA)
- In 2023, PSL has received the "Best Investor Relations Awards" for Companies with a market capitalization between Baht 10,000 million to Bath 30,000 million at the SET Awards 2023 from SET, Thailand.
- PSL is the highest-ranked global dry-bulk shipping company in the S&P corporate sustainability assessment (CSA) rankings for 2021 and in the top 12 percentile of global listed transportation companies for the year 2022.

Market Segmentation for 2023:

During 2023 the Baltic Handy Size Index (BHSI) averaged 579 points, as derived from an average Time Charter (TC) rate of USD 10,420 per day. In comparison, our Handy size fleet earned USD 10,280 and underperformed the BHSI TC rate by 1.34%. During 2023 the Baltic Supramax Index (BSI) averaged 1,022

points, as derived from an average TC rate of USD 11,240 per day. In comparison, our Supra/Ultra fleet average earnings were USD 11,682 per day and outperformed the BSI TC rate by 3.93%. Our target has been to outperform both the indices.

Long Term versus short term Charters:

The long-term charters, of about 1 year, are shown in the chart below. As can be seen, our forward four-year rolling book is currently at the 20% level with a visible revenue stream of USD 162.0 million.

Year	2024	2025	2026	2027
Total Available Days	13,908	13,870	13,870	13,870
Fixed T/C Days*	5,581	2,051	1,825	1,686
%age Fixed T/C Days	40%	15%	13%	12%
Av. T/C Rate/Day in** USD	14,446	14,648	14,550	14,699
Contract value in million USD	80.62	30.04	26.55	24.78

* This comprises charters on 5 ships on fixed rate charter and 15 ships on variable rate charters

** Average T/C Rate/Day for the variable rate charters is estimated based on rates prevailing in January 2024 for future earnings and actual earnings for past earnings.

It is our intention to continue to charter out our ships on long term period contracts whenever practical and economically viable.

SET Opportunity Day:

Number of online participants attending PSL's live presentation of Q3/2023 results on 8th of November 2023 were on the SET website/YouTube 139 views, 45 on Facebook, for a grand total of 184. We hope that many of you will join our next SET Opportunity Day on 21 February 2024 at 16:15 hours, Thailand time, via electronic means when we will be able to discuss our Q4 results in greater detail.

Update on the Chayanee Naree drug smuggling incident:

Since the last report, the Court hearing took place on 4th December 2023 for oral arguments on our no-case submissions. The Court ruling on these submissions is scheduled for 13th February 2024. The Company continues to work closely with its insurance company and legal counsel to ensure the case is fully resolved as early as possible.

What does the crystal ball predict for 2024?

2023 was a year when things went from bad to worse, with a second hot war starting on 7th October between Hamas and Israel and which continues into the 4th month. In the meanwhile, the first hot war continues to rumble along towards its second anniversary, with sanctions on Russian coal, oil, and gas, with corporates and individuals sanctioned by the USA, UK, and the EU, that are involved in food grains, and fertilizer exports. The EUs dependence on energy supplies from Russia has been broken only to be replaced by a total dependency on the USA. The world, especially the poor, whether living in the developed or developing world, paid the price with food, fuel, and fertilizer inflation leading to an ever-tightening belt, not just around their stomachs, but literally around their throats, choking the very life out of their miserable existence.

2023 was very unkind to regional banks in the USA with a few of them needing a bailout from Uncle Sam. The reason was a sharp mark down in long dated Treasury bonds that these banks held in a sharply spiking interest rate environment. Unrealized losses on such instruments reached more than $680b collectively requiring regulatory intervention and bailouts of these banks. Of course, JP Morgan became the sole winner from this debacle with over $50b in deposits; declared the largest ever banking profit at $49.6b (about 35%+ over 2022) in American history.

With the stop- start- stop-sailing of Maersk's container ships through the Suez Canal post November 2023, freight rates on containers from Asia to the West have gone up very sharply, some reports indicate that they are 4X higher than they were in the past or should be. With Israel warning their attack on Gaza will continue, even if it lasts the whole of 2024, till the last Hamas fighter is killed, container rates are likely to continue to increase and stay stronger for longer. Geopolitics has unintended consequences that leaders either understand and do not care about, or likely that they simply do not 'game' such scenarios into their decision making.

In contrast, the coming year 2024 appears to be eventful with two opposite scenarios, one good and the other bad, playing out.

First, the bad news. Electorates may elect bad leaders during 2024 where 4 billion people will participate in elections slated in more than 50 countries accounting for 50% of world GDP; USA, in the first Republican Presidential contest in Iowa secured a resounding MAGA win meaning Trump will be contesting, and likely, winning the next USA Presidential elections; geopolitics could certainly worsen based on the outcome of these elections; a turn for the worse in the Russia-Ukraine war like a nuclear strike; the second hot war between Israel-Hamas has already spilled into the maritime world increasing ton-mile significantly for those owners that do not want to risk their ships, or who are Israeli or connected to Israel or that have traded with Israel, coming under fire in the Red Sea; a third hot war between Taiwan-China, now that Taiwan has elected a China-hawk; a continued weakening global economy largely from bad policy decisions; a new pandemic taking up scarce tax dollars; cyber-attacks disabling infrastructure pushing the world into recession; a possible collapse of the global financial infrastructure that is still struggling post the 2008 financial crisis; debt related risks, principal or interest payments, in developing or poorer countries creating non-containable economic waves exacerbated by high energy and food prices, hurling the world into recession; developed democracies being undermined by financialized capitalism creating in the have-nots, anger, resentment, and eventually, violent overthrow of establishments; the China-USA rivalry continues with potential leaders in the USA, each singing a worse tune than the other, in what they would do to China; and sub-par world economic growth could lead to more right-wing politicians winning elections promising populist policies that could raise protectionism and tilt the world into a recession.

But things need not wallow in gloom and doom, we could have better news in 2024. If you are involved in shipping, then by default you are an optimist, and hence would lean towards the better news scenario that follows. The world has survived three years of the existing pandemic that is, muted, but still very much around; two full years of the Russia-Ukraine war; four months of the Israel-Hamas conflict; QE taper; and higher interest rates, all in reasonably good shape; we could have a resolution of the Russia-Ukraine war; a ceasefire in the Israel-Hamas conflict followed by peace and rebuilding; no hot war between Taiwan and China; China's stimulus to the property sector takes hold; world trade improves; supply side of new ships remains tight with recycling increasing due to environmental regulations kicking in; the inflation fight is won; interest rates start to decline, as signaled by the Fed; politicians elected are more balanced in their world views without populist election platforms; no debt crisis in developing and poor countries; financial markets grow strongly; US GDP grows at a faster pace than forecast; and the have-nots share some part of the financialized capitalism in the developed economies.

If we look at shipping from 2020 to 2022, when the world was hit by a three-year long global pandemic, the first major European war after more than 7 decades, and resultant disruptions galore, our industry still managed to do very well. Economic turmoil may have peaked in 2022, China exited covid-zero and started living with the virus, steel consumption in China continued with Shipyards, EV cars, infrastructure, and steel exports, replacing the property sector as the big consumers, and the stimulus for 50-whitelisted property corporates should be a shot in the arm for their real estate sector and bring a sharp recovery back to the dry bulk shipping world. This will be aided by the very low 8.33% order book to fleet ratio at the start of 2024, compared to existing 20 year old ships at 8.48% in the fleet; weather delays at sea and in port; congestion in Brazil grain export ports; congestion in Indonesian coal ports; lack of water in the Panama Canal increasing ton-mile demand for ships sailing around the capes; Houthis armed intervention in the Red Sea forcing ships to take the longer route to the West via the

cape of good hope adding to ton-mile demand; weather related delays at sea and in ports; and the regulatory pressure from EEXI and CII to slow ships and to increase pressure to recycle ships being felt strongly in 2024. Turmoil and disruptions are, counterintuitively, good for shipping, as we have seen during the pandemic with declared results in 2022 being above or very close to the high reached in 2021. Yes, economic conditions in 2024 may be weaker than in 2023, but this could be overcome if China's property and steel-intensive stimulus takes hold in a non-covid-zero environment. The dry bulk market has had a history of uninterrupted ton-mile growth for the past 3 decades at 2 to 3 times world GDP growth rates. That came to an end by 2010 and we are getting accustomed to a ton-mile growth rate that is between 1 to 2 times world GDP growth rates. Future dry bulk ship supply has been nicely constrained due to crowding-out by other sectors grabbing all available shipyard berth space; shipyards finding it more lucrative to build higher value ships, bulkers are the lowest margin ships to build; transitioning away from internal combustion fossil fuel burning ship engines to ammonia or other fuels of the future, have conspired to deliver a very low forward orderbook to existing ship ratio of just 8.33% at the start of 2024. Regulatory pressure should also help whittle down the existing fleet via recycling and/or slow steaming. Shipping has always proved more resilient than anyone has ever given it credit for, so, on balance, we think we have a lot more to be optimistic about!

To confirm our views, Fearnleys first presentation of 2024 concluded as follows: We are bullish on market prospects for 2024; time charter earnings could average at least 50% higher than in 2023; asset values likely to see a more muted upturn; we believe a downturn will start at some point in 2025, likely towards the end of the year (but too early to conclude).

Factors Affecting the BDI:

There are two sides to the demand-supply equation. When balance is almost perfect, as it presently is, all you need is a small increase in demand or a small increase in supply, and the time charter rates could go up or down sharply. Starting from mid-October, markets have been in a downward mode not because our biggest market, China, has been underperforming. It is mainly because the developed world has not been doing as well as it could have been if it had not been embroiled in two hot wars (Russia-Ukraine and Israel-Hamas), one cold war (USA-China), fastest increase in interest rates to combat inflation by the central bankers in the developed world, except for Japan, pushing their economies into a likely recession, with the EU in a technical recession. These factors have caused uncertainty and have been holding demand back, therefore, even the tightening of the supply side due to the Panama Canal outages and weather delays have not been able to compensate for the drop in demand due to the uncertainty created by the above factors. The 30-year mortgage rate for new homes in the USA is a prime example standing at almost 8% killing demand from first time home buyers. Such factors reduce demand for goods needed to build those new homes that consist of cement, steel, and wood. Seasonality can only play its part when large economies in the developed world are functioning smoothly. That has not been the case for the last 12 to 18 months. These are the reasons that have been holding back demand to such an extent that markets are where they are, with most owners making a loss or a very slim profit up to and including Q3. As the USA got out of the hard/soft/no-landing economic debate and got its economy to work, as it did in Q3, time charter rates got better very quickly. Asset values are rising towards 2008 levels i.e., almost the highest they have ever been for new-build ships. The reason is shipyard capacity has shrunk by 35-40% from the peak reached in 2010/2011, with every segment of shipping booming at the same time except for dry bulk, even tankers have joined the maritime party, leading to an over ordering of ships in each respective sector, and crowding out the dry bulk owners from committing the same mistake as all the other segments have done so far or are currently doing. Besides, from a shipyard's perspective, dry bulk is the category that makes them either the smallest profit in boom times or the maximum loss in bad times, so it is the least preferred category of ships that they want to build. That is why the forward order book to current fleet ratio in dry bulk stands at 8.33% compared to the existing 20 years olds in the fleet that are at 8.48% at the start of 2024. Presently a 5-year-old ship is less expensive, on a straight-line depreciated basis, based on prevailing new build prices, but is still at the high end of historical averages. Therefore, it does not make sense to buy ships at the end of Q4 as asset values are sky high, but earnings are closer to the ground. This aberration means that either earnings must rise sharply, or asset values must fall to a level where both these factors are at parity. Such aberrations

are generally short lived, but right now are favoring a rise in daily rates. And, oh boy, have rates risen. Look at the Cape size rates for maximum effect. During 2023, from a low level of USD 2,246 per day on 17 February 2023, rates skyrocketed to USD 54,584 at the high on 4 December 2023! This is what explains 'when balance is almost perfect' between demand-supply, then you have such sharp, volatile movements in time charter rates, either up or down, when very small movements in reduction of supply or increase in demand tend to have a disproportionate impact on time charter rates.

BIMCO has come out with their annual gloomy forecast for 2024/2025 and said the following on the demand side: "Global GDP could grow by 2.9% in 2024 and by 3.2% in 2025, below the 3.7% average annual growth rate between 2010 and 2019; Iron ore shipments are estimated to grow 3.0% from 2023 to 2025, supported by growth in global steel demand; Coal shipments could be 4.0% lower in 2025 than in 2023; Demand in advanced economies may continue to fall and mining in India and China could limit import demand growth; In 2024, maize shipments are expected to increase and in 2025 wheat volumes could recover; Between 2023 and 2025, grain shipments may increase by 5.1%." On the supply side they said: "The current orderbook stands at 8.1% of the dry bulk fleet. The supramax segment could grow the fastest, while the capesize orderbook remains small; Amid low fleet growth and a stable market, we estimate that only 15.5 MDWT may be recycled during 2024-2025; Climate regulations could cause sailing speed to fall 1-2% from 2023 to 2025. A tighter market in 2025 could keep sailing speeds from falling significantly." And their conclusion was: "Supply is forecast to grow 1-2% in both 2024 and 2025. Fleet growth will slow down during this period; Demand is forecast to grow 1-2% in 2024 and 1.5-2.5% in 2025. Improved economic conditions are expected to strengthen demand in 2025. The supply-demand balance should remain stable in 2024 and tighten slightly in 2025. As such, freight rates may remain around 2023 levels in 2024 and could improve in 2025."

Research reports that come across our desk seem concerned about economic headwinds in the ROW's economy, barring China and India, but are calmed by the low orderbook to fleet ratio in dry bulk; worried that the collapse of the Container sector could result in ever more cargoes moving into boxes but are calmed by fleet inefficiencies (Red Sea no-go area for container ships) releasing more cargoes from containers to dry bulk, that have helped Q4 rates to become ever more volatile than they have been thus far. Typical for dry bulk when demand-supply is in balance that volatility raises its head, reacting disproportionately to every little change in supply and/or demand.

The geopolitically driven Israel-Hamas conflict has impacted commercial shipping with the capture of Israeli owned Ray Shipping's car carrier 'Galaxy Leader' by Houthi forces on 19 November 2023, that is presently at Hodeidah port. There are 25 innocent crew members onboard the Galaxy Leader, none of them Israeli (Ukrainians, Bulgarians, Filipinos and Mexicans.) Next was a kamikaze drone attack on the container carrier CMA CGM Symi owned by Israelis where the ship suffered physical damage but fortunately none of the crew were injured. This was followed by the boarding, and subsequent release via intervention of US naval forces, of the 'Central Park' chemical tanker owned by Israelis, by Somali pirates. The Houthis have now widened their targets to any ships that have called at Israel, as a result, almost all Container lines have re-routed their ships away from the Res Sea adding a lot of extra sea days to journeys from Asia to the West and back. The same goes for all Israeli owned and or controlled ships; or ships that have called Israel; their insurance premiums for the Red Sea have skyrocketed; and the risk to their assets is very real. Bloomberg states, 'US efforts to counter Yemen's Houthi rebels as they attack ships in the Red Sea hit a roadblock because of disagreements among Washington's Arab allies.' Almost a month after the taking of the Galaxy Leader, on 14 December, the 'Ruen', a 40K DWT bulk carrier owned by Navibulgar, was boarded, captured, and sailed towards Somalia. The Somali pirates have got into the act, using the confusion created by the Houthis, and have taken advantage of it. Right now (week ending 24 Dec), most container lines have either stopped their ships outside the entrance to the Red Sea waiting for clarity or have sailed them around the Cape of Good Hope, to keep safe their ships, staff, cargoes, and deliver them to their customers with the least possible delays. This armada of diverted ships will need to refuel at South Africa, putting pressure on fuel oil supplies there. This will have, you have guessed it, a positive impact on, ton-mile demand. As we keep repeating, disruptions are good for shipping. The question really is, how long will this disruption last? If it lasts for any length of time, and wars as we have always seen

seem to have a mind and a lifespan of their own volition, and not what we estimate it to be, it will have lasting repercussions. Clarksons data shows a 43% reduction in overall tonnage volumes arriving at the mouth of the Red Sea (during 18-21 Dec vs FH Dec), increasing to an 82% reduction in containerships.

We were interviewed on 12 January 2024 on Bloomberg around 10.15 hours Bangkok time, on the Red Sea situation. It is a short video, but it tells you what you need to know about what is happening there. When we spoke with Bloomberg, we had one of our ships transiting the 'High Risk Area' (HRA), and mercifully she came through unscathed. During the short interview we did not have time to explain why we were transiting the HRA, so let us explain it here. The client who had time chartered our ship has known us for over 2 decades, and we enjoy a good, friendly, and warm relationship with them. In that spirit, we approached them to reroute the ship via the COGH and offered to share the 'extra costs' on an equal basis with owners, our clients, and the cargo interests. Our clients checked with their cargo counterparts who apparently refused to share in the costs for ensuring the safety of the seafarers, their cargo, and our ship by taking the longer route around. The real issue is with the way the law operates in such circumstances. If there is 'war insurance cover' available, if other ships are transiting the HRA, and if you, your ship, your crew, have no connection with Israel, none of your ships have called Israel, and you have no connection with either the US or the UK, then in the eyes of the law, you have to follow the orders of your client. This is what is called 'individual ship risk assessment' and you must base your decisions on the same. If you do not, and take the longer route around, you will not only be liable for the entire extra costs for taking the longer route but also for any damage that our client, or the cargo interests may have suffered due to our 'unlawful' decision. All the legal experts that we consulted were uniformly of this view, and hence our reluctant agreement to follow our clients' 'lawful' orders. On all our long-term charters we have agreed with our clients NOT to pass through the HRA till the situation does not become risk free. Any new charters that we enter, all have an agreement for owners to decide which route we could take i.e., via COGH or via the HRA.

Low water (lowest in 73 years!) in the Panama Canal caused by climate change has had a significant impact on freight markets. At this time of the year (Q4), the Very Large Gas Carriers would have been getting a time charter rate of $40,000, instead rates are up at $140,000, all because it makes little sense for ships to wait at the Panama Canal but take the longer route via the Cape considerably increasing ton-mile demand. The alternative would be to purchase an expensive 'early' transit slot that was last auctioned at $4.0m! Freight markets, in almost every shipping sector, are very finely balanced, hence any small change in factors affecting supply or demand have disproportionate impacts on time charter rates. Volatility is going to be extreme and is here to stay, so, better get used to it.

If you were to combine the disruptions from the Panama Canal and from the Red Sea/Suez Canal, then you are talking of raising ton-mile demand by about 8%. When the note was written, it did look like the skirmish between Israel-Hamas would be relatively short lived, but here we are, after the 4th month with Israel stating that it could be the end of 2024 before they declare success and stop spilling any more blood. Shipping may need to hunker down for the long term with disruption of the Suez Canal transit increasing ton-mile demand significantly for the geared sectors in dry bulk.

Clarksons recently reported, 'Ton-mile trade statistics, which consider both the volume of trade moved and the distance involved, provide a better indicator of vessel demand than trade in tons alone, and 2023 proved an excellent example of this. In 2023, world seaborne trade saw a return to growth, having stalled in 2022, with volumes in tons expanding by 3.0% (to 12.4 BMT). However, with trade pattern shifts becoming established following the onset of the conflict in Ukraine the previous year, particularly in the energy shipping sectors, ton-mile trade registered an estimated increase of 5.0% (to a total of 62.3 trillion ton-miles), providing a pronounced "distance kicker". Ton-mile trade growth in 2023 was just behind 2017's 5.2% but otherwise the fastest rate since 2011. For dry bulk, iron ore 418bn (including firm Brazilian export growth), coal 385bn (including shifting Russian trade flows), whilst minor bulk saw 507bn ton-miles added (gains in long-haul bauxite trade from Guinea to China). The average haul of total global seaborne trade increased from 4,943 to 5,036 ton-miles, the third largest annual increase this century and >6x times the average. Though major shifts in trade patterns are not often repeated, the growing complexity of seaborne trade (including geopolitics) is an

increasingly important trend for shipping. Today, disruption in the Red Sea region is affecting trade distances, as vessels are rerouted: we estimate a current +2.4% impact on total ton-miles. Trade distance and ton-miles are once again an important factor in 2024, in another example of shipping managing disruption.'

The other hot war, between Russia-Ukraine, continues to disrupt trade flows from the Black Sea, Russian Fareast, and the Baltic, impacting energy (coal, oil, oil products), food (grains, oil seeds), fertilizers, iron ore and metals. All these commodities must be shipped, if not from Russia-Ukraine, then from other countries, generally adding many more ton-miles to demand. Shipping thrives on disruptions as disruptions, almost always, add to ton-mile demand.

India is spending $100b on infrastructure development in the aviation sector by building airports, literally, everywhere on the subcontinent. This is good news for dry bulk which will carry cargoes linked to building materials for the infrastructure development in India.

India will add 17 Gigawatts of coal fired power plants in the next 16 months. Coal accounts for 73% of power generation in India. The demand for coal imports in India should remain steady or continue to grow from 2023's record imports.

Howe Robinson recently reported 'India's dry bulk imports rose to 359 MMT last year (+29 MMT y-o-y) and have risen consistently in the past 10 years except during the Covid impacted years of 2020-21. India's coal imports rose to a record 244.4 MMT in 2023 (+17 MMT y-oy). India's burgeoning minor bulk imports provided the greatest impetus for the country's dry bulk trade, totaling a combined 94 MMT (+10.6 MMT y-o-y), a new record. India's growth in imports has favored sub-Capesize segments; imports on Kamsarmax's and Ultramax's both rose to records at 84.7 MMT (+14 MMT y-o-y) and 46.1 MMT (+12 MMT y-o-y), respectively. India's rapid economic growth (IMF forecasting an average 6.3% GDP growth per year until 2030) and rising population will lead to a continued growth in imports particularly in minor bulk.' Please bear in mind that our ships carry minor bulks on most of our voyages.

Reuters stated 'Global factories had a weak finish to the year, with euro zone activity contracting for an 18th straight month in December and Asia's manufacturing powerhouses taking a hit due to China's patchy economic recovery.'

China exported 4.91 million EVs in 2023 making them, probably, the largest EV exporter in the world. Japan, the former number one EV exporter, is forecasting 4.3 million EV exports in 2023. EV manufacturing is one of four areas that has helped absorb a lot of surplus steel, with infrastructure, shipyards, and exports of steel out of China, being the other three.

China has, apparently, stepped up bank loans to 50-whitelisted real estate developers. Dry bulk should benefit with rates rising proportionately to the funding relief offered to these developers.

China said it will cut RRR by 0.5% releasing $139b into the market while hinting at more support measures to come.

The Northeast of China simply cannot catch a break. First came extremely high summer temperatures, followed by heavy rains flooding already planted crops, now a cold snap in the week starting 6 November and continuing in December, is disrupting the harvesting of grains already hammered by extreme heat and floods. China, aiming for food security, will continue to buy more grains in Q4 2023, and in 2024.

As if to confirm the above, there was an article in Bloomberg that confirmed imports of 314,000 tons of Barley into China in October from Australia. The article also confirmed that China had stepped up barley purchases from Kazakhstan and Russia to diversify suppliers.

The IMF recently upped Chinese GDP by 8% from 5.0% to 5.4% for 2023. The IMF pegged China's 2024 GDP growth at 4.6%. The Chinese government however has repeatedly stated that GDP growth rates would be about 5% per annum for 2023 to 2025. China is the largest importer/exporter of bulk cargoes in the world.

An article from Reuters states: 'The death toll from coal mining accidents in China's top coal producing region has surged to 100 people so far this year, according to a notice issued by China's cabinet on Monday

that said safety checks would be ramped up. The figure represents a more than 53% increase on the 65 people killed in 54 coal mining accidents in Shanxi province in 2022, according to data from the China Coal Industry Association, as miners raise output. Miners have pledged to ramp up production this year to ensure adequate coal supply, amid a concerted push for greater domestic energy security.' This would mean more coal imports are needed by the number one consumer of coal in the world.

Fortune's CEO Newsletter stated, 'The US GDP grew at a stunning 5.2% in Q3. Inflation slowed to 3% in November, barely above the Fed's 2% target. The powerful combination of new technology and government investment may keep that going for some time to come.' Demand for dry bulk should stay strong based on the performance of the US economy.

To reconfirm that the USA economic bandwagon was on a roll, Bloomberg reported, 'The US economy continued its seemingly unstoppable ascent out of the pandemic recession and its inflationary aftermath, further burying wrong calls of recession by posting fourth-quarter growth numbers that crushed forecasts. Cooling inflation has fueled consumer spending amid continued, near-record low unemployment and rising wages. The economy's main growth engine, personal spending, rose at a 2.8% rate while business investment and housing also helped fuel the larger-than-expected advance.' USA GDP came in at 2.5% in Q4, much higher than expectations.

Bloomberg stated, 'The US Fed left interest rates unchanged on 13 Dec, it also filled investors with joy by saying it foresees lowering rates by 75 bps in 2024.'

Consumer spending makes up about 70% of US GDP, and the American consumer shows no signs of fatigue as online Black Friday sales were up 7.5% compared to 2022. It appears that the Fed rate increases have done the trick, with inflation in check, and the economy heading for a soft landing, with the Fed's dot plot showing a 75 bps fall in interest rates during 2024.

Bloomberg reports, 'Not only is the US consumer in "very good shape," but spending is up 4%-5% from a year ago, according to BofA's Brian Moynihan.'

An article in Fortune shows that the EU economy fared reasonably well when the prevailing EU-USD exchange rate is applied to respective years. The EU economy in 2024 may fare better than expected based on its ability to survive the Russian cheap energy cutoff, the EU central bank interest rate hike ending, and their labor markets remaining very strong. If the EU joins the growth-in-GDP party, then dry bulk will be firing on all cylinders in 2024.

Iron ore imports into China from Australia increased by +1.2% y-o-y to 737.8 MMT. Imports from Brazil increased by +9.7% y-o-y to 248.9 MMT (according to Drewry). Longer ton-mile increased over shorter ton-mile positively impacting the capesize sector.

The BDI started 2023 at 1,250 and finished 68% higher at 2,094 points. It peaked at 3,346 on 4 December 2023 and troughed at 530 on 16 February 2023, a 531% spread between high and low. Capes started 2023 at $13,561 on 3 January 2023, hit a peak of $54,584 on 4 December 2023, a trough of $2,246 on 17 February 2023, and closed the year at $28,177 on 22 December 2023, with an average of $16,389 up 1% y-o-y. Capes spend 74% of their time on iron ore and 19% of their time on coal. When you have that much of concentration risk on the type of cargoes carried and with a single dominant customer, China, accounting for over 60% of all iron ore imports, you are setting yourself up for volatility. Panamaxes started 2023 at $12,944, hit a peak of $21,966 on 4 December 2023, a trough of $7,277 on 20 February 2023, and closed the year at $17,183, with an average of $12,854 down 38% y-o-y. Supras started 2023 at $10,646, hit a peak of $17,213 on 5 December 2023, a trough of $6,874 on 13 February 2023, and closed the year at $15,063, with an average of $11,240 down 49% y-o-y. Handies started 2023 at $11,051, hit a peak of $16,340 on 15 December 2023, a trough of $7,007 on 7 August 2023, and closed the year at $15,813, with an average of $10,420 down 51% y-o-y. The smaller sizes with real diversification in terms of cargoes carried and ports visited have had a less spectacular though, more stable ride, on the roller coaster of the current dry bulk freight market. Ton-mile demand growth, estimated by Clarksons at 5.08% (Clarksons World Seaborne Trade Timeseries as on 31 December 2023),

during 2023 was higher than net supply growth of +2.9% (Clarksons December 2023 DBTO). PSL's result for 2023 was positive every quarter, ending the year with a total net profit of $20.35m. 2023 was a story of a gradual pickup in demand side colliding with a marginal increase in supply with decreased fleet inefficiencies releasing more ships into the market, despite a reduction in the world fleet's speed by 0.2 knots (Clarksons Speed Timeseries as on 31 December 2023). The first 3 quarters of the year things were poor, but Q4 was impacted by this confluence of events. Rates ended 2023 on a high note thanks to the two-canal issues, with bad weather creating inefficiencies at sea and in port, further squeezing the supply side. This reaffirms that demand-supply is in balance and freight markets will be characterized by extreme volatility and sharp rate movements in both directions as we have seen in 2021, 2022, and 2023 with the slightest change in demand and/or supply. The order book to fleet ratio at just 8.33% holds out hope for a better year ahead.

In 2024, according to Clarksons December 2023 DBTO, ton-mile demand is expected to grow by 1.5% while net increase in supply is expected to grow by 2.3%. We hope that with the stimulus applied to the Chinese economy, ton-mile demand growth will increase during 2024. Regulatory changes implemented by IMO at the start of 2023 via EEXI and CII should continue to slow down the world fleet in 2024, induce more scrapping, and thereby reduce net effective supply. Between these two factors (growing demand and shrinking supply), the gap between demand and supply will narrow in favor of the ship owners and we could possibly see 2024 as a similar, though stronger year, than 2023.

Reconstruction needed in Gaza and Ukraine, once the war ends, will be great news for dry bulk. Olaf Scholz had indicated a spend equal to the Marshall Plan would be needed to reconstruct Ukraine at the end of the 1st year of that war of attrition, and we are approaching its second anniversary shortly.

The incentives to build new ships will remain low with greater value in the secondhand market.

Coal imports in Southeast Asia are expected to almost double over the next 6 years, once again giving credence to the famous quip by Mark Twain, duly paraphrased, that the rumors of the demise of King Coal have, therefore, been greatly exaggerated.

India's rice exports fell by 17.5% from a year ago to 16.7 MMT in 11 months of 2023.

India's coal import increased by 1.6% to 212.8 MMT in 11 months of 2023.

China imported 101.8 MMT of Soybean up 11.7% in 2023 compared to 2022.

China imported 27.1 MMT of corn up 31.6% in 2023 compared to 2022.

China imported 12.1 MMT of wheat up 21.5% in 2023 compared to 2022.

China imported 1,180.6 MMT of iron ore up 6.6% in 2023 compared to 2022.

China imported 474.5 MMT of coal up 61.8% in 2023 compared to 2022.

China produced 1,017.5 MMT of Steel up 0.5% in 2023 compared to 2022.

China exported 91.1 MMT of Steel up 35.1% in 2023 compared to 2022.

China's average PMI index was 49.9 during 2023.

China's GDP growth was 5.2% during 2023.

Containerships ordered in 2023 at 1.6 M-TEU took the total orderbook to 6.9 M-TEU at the start of 2024. The orderbook to fleet ratio for Containerships at the start of 2024 is 25% compared to start of 2023 figure at 28%. (Clarksons January 2024 CIM).

The SCFI crashed during 2023, falling 82% from $4,846 to $882 per TEU on China-North Europe and down 71% from $5,282 to $1,543 per TEU on China-Med. The SCFI for Transpacific was down 72% from $5,656 to $1,607 per FEU on China-USWC and was 70% lower from $8,514 to $2,529 per FEU on China-USEC.

The current orderbook to fleet ratio, at the start of 2024, for the dry-bulk sector is 8.33%. Ships 20 years or older, comprising 84.54 MDWT or 8.48% of the existing fleet at the start of 2024 would be ideal candidates for recycling due to the pressure from the EEXI/CII rules that started in 2023.

Recycling of dry-bulk vessels has gone up from 4.76 MDWT in 2022 to 5.37 MDWT (+12.8%) in 2023.

PSL's exposure to the smaller geared segments means that it will be exposed to growth in net supply of 3.2% in 2024, according to Clarksons December 2023 DBTO.

Clarksons expectations for 2024 and 2025 is that ton-mile demand will be 1.5% in each of these years while net supply growth will be 2.3% and 1.1%, respectively (Clarksons December 2023 DBTO).

Market prospects at the start of 2024 can be inferred by comparing the forward orderbook of 83.01 MDWT or 8.33% with the existing 20+ year fleet of 84.54 MDWT, and as a percentage (8.48%) of the existing fleet.

PSL's estimate of growth in supply by end of 2024 and 2025 of 2.45% and 1.78% (996.58 MDWT to 1,021.02 MDWT by end 2024 and then to 1,039.20 MDWT by end 2025), conservatively assumes recycling of just 10 MDWT/year and slippage of just 5% per year in 2024 and 2025.

Key Supply Side Developments:

We started 2023 with 966.03 MDWT and have increased to 996.58 MDWT (+3.16%) at the start of 2024. If we were to apply slippage of 5% (it was 1.38% for 2023) to the scheduled deliveries in 2024 and 2025 and assume scrapping reaches 10 MDWT (it was actually 5.37 MDWT during 2023) we would be left with a net fleet growth of 2.45% (996.58 MDWT to 1,021.02 MDWT of which 352.36 MDWT to 365.35 MDWT for the geared sector, 644.22 MDWT to 655.67 MDWT for the gearless sector) by end of 2024 and 1.78% by end of 2025 (1,021.02 MDWT to 1,039.20 MDWT of which 365.35 MDWT to 374.09 MDWT for the geared sector, 655.67 MDWT to 665.12 MDWT for the gearless sector.) Ballasting ships, slowing speeds in 2024 especially due to EEXI/CII regulations, will further assist in supply side tightening.

Differences in 2003-2009, 2010-2020, 2021, 2022, 2023 and the future:

Differences in 2003-2009, 2010-2020, 2021, 2022, 2023 and the future

Daily average Time Charter rate	2003 – 2009	2010 – 2020	2021-2022	2023	1M 2024
Capesize	67,101*	14,924***	24,807**	16,389**	20,798**
Panamax	32,793*	10,965***	23,836**	12,854**	14,309**
Supramax	28,013^^	10,765***	24,475**	11,240**	12,211**
Handysize	18,753^^	8,789***	23,533**	10,420**	11,445**
Annual Average Demand Billion Ton-miles	+5.4%	+4.3%	+0.95%	5.08%	1.49%
Average Speed (knots)	13.5^^^	11.5^^^	11.3	11.0	10.9
Chinese Stimulus	China enters WTO 2001	$ 578 bn (2009)	$667 bn (2021) $2.3 trillion (2022)^	$1.8 trillion^	$417 bn^
Orderbook/Fleet Ratio per Year (start of each year)	+36.02%	+26.23%	+6.96%	+7.16%	+8.33%
Annual Average % of 20-year-old (start of each year)	+18.38%	+11.27%	+6.76%	+8.07%	+8.48%
Annual Average Net Supply Growth	+6.8%	+6.4%	+3.3%	+2.9% (WFR +3.16%)	+2.3%

2022 & The Future

At the start of 2022, for the first time this century, the 20+ year old fleet was larger than the forward order book, and at the start of Jan 2024 it was still 8.48% versus 8.33%, respectively.

*Note: *BCI 172K (4TC), BPI 74K (4TC), BSI 52K (6TC), BHSI 28K (6TC).*
***BCI 180K (5TC), BPI 82K (5TC), BSI 58K (10TC), BHSI 38K (7TC)*
****Combine of above two classification*
^Bloomberg calculated Chinese stimulus at $ 5.3 trillion in 2022!, Bloomberg reported $1.8 trillion of construction stimulus in Apr 2023, CNBC reported a plan of 2 trillion Yuan stimulus package
^^1 Yr. TC 32K, 1 Yr. TC 52K used for years where there was no BHSI (2003-2006) or no BSI (2003-2005).
^^^Average speed in 2008-2009 and average speed in 2012-2020

Source: Clarksons Index Timeseries as on 30 Jan 2024, Clarksons Speed Timeseries as on 28 Jan 2024 and Clarksons World Fleet Register as on 31 Dec 2023 Supply Growth from Clarksons Dec 2023 DBTO and World Fleet Register as on 31 Dec 2023

If you look at the time charter rates for the period 2003-2009 it was the highest for the Capes compared to the other three periods. For the Panamax and Supras, during 2003-2009, rates were almost 3X higher than in the 2010-2020 period, almost equal to rates in 2021-2022. For the Handy size, 2021-2022 were almost 3X higher than in 2010-2020 and almost 1.5X higher than in 2003-2009. However, demand growth rate in ton-miles in the four periods declined from the 2003-2009 period of 5.4% to 4.3% (2010-2020), and to 0.95% (2021-2022), and yet PSL produced better results in 2022 than in 2021! What was different, of course, was the average orderbook to fleet ratio being highest in 2003-2009 dropping by 27% in 2010-2020, and by 81% in 2021-2022. The other significant difference was that orderbook to fleet ratio was 2X the 20-year-old fleet in 2003-2009,

2.3X in 2010-2020 and just 1X in 2021-2022, 0.9X in 2023 with a similar figure at the start of 2024 of 1.0X. Average speed dropped from 13.5K in 2003-2009 by 18.5% to 11.0K in 2023, further helping to tighten the net effective supply of ships. All this indicates weak supply growth in the future and indicates markets could be stronger for longer.

BDI started out in 2023 at 1,250 on 3 January 2023, troughed at 530 on 16 February 2023, reached a peak of 3,346 on 4 December 2023, and then has fallen very gradually till the end of the year. Why did rates drop in this fashion, then spike upwards, and then fall very gradually towards the year end? Demand-supply for dry bulk at the start of 2021 was almost in perfect balance, and as ton-mile demand estimated by Clarksons during 2021 grew at 3.44% (Clarksons World Seaborne Trade Timeseries as on 31 December 2023) compared to net fleet growth at 3.6% (Clarksons December 2023 DBTO), rates skyrocketed during 2021 due to inefficiencies reducing the effective net fleet! But during 2022 China decided to reign in their out-of-control real estate sector by letting Evergrande and its brethren collapse, imposed strict anti-pollution controls on coal fired power plants post COP26, curtailed steel production, and insisted on blue skies during the winter Olympics, ton-mile demand of necessity, took a hit and dropped to -1.53% according to Clarksons (World Seaborne Trade Timeseries as on 31 December 2023), colliding with a net supply increase of +2.9% as per Clarksons (December 2023 DBTO), with a decrease in fleet inefficiencies releasing even more ships into the market, despite a reduction in the world fleet's speed by 0.2 knots (Clarksons Speed Timeseries as on 31 December 2023). Consequently, rates in 2022 dropped in Q4 2022 for the opposite reasons that they skyrocketed to a peak in Q4 2021. The central bankers of the ROW tapering QE and hiking interest rates from March 2022 to combat inflation, did not help the demand side during 2022. With demand-supply coming into balance in 2021 rates skyrocketed. But the time charter rates fell during 2022 due to slowing down of demand in China (for the reasons already mentioned) and demand in the ROW slowing down due to central banks raising interest rates sharply to fight inflation. Consequently, a lot of the fleet inefficiencies that was present in 2021, and had helped rates skyrocket, started to unwind during 2022 releasing more ships into a demand challenged market growing at -1.25% making rates fall in Q4 2022 and into Q1 2023. Rates continued to slow down during Q2 and Q3 but spiked upwards in Q4 2023 as fleet inefficiencies came back into play due to bad weather at sea and in ports, Panama Canal halving their transits due to a lack of water, the Suez Canal being impacted by the Houthis pushing for a ceasefire and aid flow into Gaza by shooting at Israeli owned and/or controlled ships that tried to transit the Red Sea, and supply of Brazilian iron ore increasing due to drier weather. Drier weather in the Mississippi and in the Amazon made barges bring smaller lots of grain to export points resulting in congestion at New Orleans, USA and Southern Brazilian grain exporting ports. This extreme volatility, within each year, due to minor changes in demand-supply, will be the name of the game for the dry bulk freight markets in 2024 and beyond!

The geared sector, Supras and Handy sizes, had lower volatility in rates compared to the gearless sector, Capes and Panamaxes, due to the reasons expressed here but also because they had a slower net growth rate in DWT in supply of ships in 2021-2022 combined at 18.88 MDWT (geared ships), versus 40.16 MDWT (gearless ships).

China still needs affordable housing in a big way but not the type of luxury houses being built by Evergrande and their compatriots in which everyone invests, makes paper profits, but no one lives in them. By letting the big real estate developers suffer, China tried to control this sector and push them to focus on affordable housing that the common man needs, would love to own, and live in, via policy means like the lowered reserve requirement ratio for banks, the interest rate cuts, and lowered mortgage lending benchmark interest rates. It may take some more time, but if the real estate developers start building affordable housing in a big way, it will likely push up steel requirements to the levels prior to the Evergrande debacle. That would be a big win for the dry bulk sector especially now that China has four other large commercial buyers and users of steel i.e., infrastructure, steel exports, shipyards, and EV manufacturers.

As can be seen, all the reasons for the slowdown starting in Q4 2022 and ending in Q3, before spiking up in Q4 2023 are due to China moving from covid-zero to living with covid at start of 2023 (dry bulk is very dependent on China), or in the ROW (Fed Reserve and other Central Banks raising interest rates very

sharply during 2022 and parts of 2023 to combat inflation and promising to hold it higher for longer). These decisions have curtailed demand, but are being reversed with China trying to step on the gas by allowing 50-whitelisted real estate developers allowed to borrow from banks; the US Fed confirming a 75 bps interest rate drop in 2024 in their forward dot plot; Climate change continuing to create more inefficiencies in the world fleet with bad weather; the two Canals pushing ships to take the longer routes around adding to ton-mile demand; will allow demand to flourish once again, and we could have a better year in 2024 than we did in 2023.

The Industry Outlook:

A truncated supply of new ships is expected for the next few years. The fleet stood at 966.03 MDWT at the start of 2023 and by the end of the year had grown to 996.58 MDWT. During the year, 5.37 MDWT was recycled, and 35.92 MDWT was delivered, thus making net fleet growth of 3.16%. The existing orderbook stood at 83.01 MDWT (deliveries up to end of 2026), or 8.33% of the world fleet at the start of 2024. Specifically, in the geared segment, net fleet growth was 3.41% in 2023 in the Handy/Supra/Ultra segment and the existing orderbook for the geared fleet stood at 33.95 MDWT (deliveries up to end of 2026), or 9.63% of the geared world fleet at the start of 2024. This historically low forward order book will help reduce the pressure from the Supply side of the equation.

While the supply side looks appealing on the surface, it does not factor in regulatory impacts or the current age profile of the fleet. At the start of 2024, 8.48% (84.54 MDWT) of the world dry bulk fleet (12.32% or 43.41 MDWT of the geared dry bulk fleet) was over the age of 20, and 14.24% (153.75 MDWT) of the world dry bulk fleet will be over 20 (18.17% or 64.01 MDWT of the geared dry bulk fleet) by the end of 2026 if none of these ships have been recycled by then. The first conclusion to draw from this is that the current orderbook is, at best, replacement capacity and will not increase capacity. Secondly, vessels over the age of 20 were designed, built, and delivered at a time when the average price of oil was $19.7/barrel with a low of $10/barrel during the peak of the Asian Crisis during 1998/2000, hence were designed for power and not for fuel economy. Ships that are 20 years or older will find it difficult to compete against younger more fuel-efficient vessels. It is our opinion that going into 2024, recycling should pick up, and new orders should slow as new regulations like EEXI, and CII come into full effect from 1st January 2024 onwards. Ships 20 years or older, comprising 84.54 MDWT or 8.48% of the existing fleet (43.41 MDWT of geared ships or 12.32% and 41.12 MDWT of the gearless fleet or 6.38%) at the start of 2024 would be ideal candidates for recycling as they would have to invest in expensive special surveys, and face regulatory-led recycling in 2024 due to EEXI, and CII.

The Cape sector (90,000+ DWT: 2,327 ships of 425.06 MDWT at the start of 2024): 103 ships of 21.01 MDWT or 4.94% of the existing DWT are scheduled for delivery up to end of 2026. In this sector, 238 ships of 40.58 MDWT or 9.55% will be over 20 years of age by end of 2026 and some or all of them are likely to be recycled during 2024 to 2026.

The Panamax sector (70,000 – 90,000 DWT: 2,746 ships of 219.16 MDWT at the start of 2024): 341 ships of 28.05 MDWT or 12.80% of the existing DWT are scheduled for delivery up to end of 2026. In this sector, 646 ships of 49.16 MDWT or 22.43% will be over 20 years of age by end of 2026 and some or all of them are likely to be recycled during 2024 to 2026.

The Supra/Ultramax sector (40,000 – 70,000 DWT: 4,154 ships of 234.16 MDWT at the start of 2024): 526 ships of 29.21 MDWT or 12.48% of the existing DWT are scheduled for delivery up to end of 2026. In this sector, 781 ships of 39.93 MDWT or 17.05% will be over 20 years of age by end of 2026 and some or all of them are likely to be recycled during 2024 to 2026.

The Handysize sector (10,000 – 40,000 DWT: 4,439 ships of 118.20 MDWT at the start of 2024): 176 ships of 4.73 MDWT or 4.00% of the existing DWT are scheduled for delivery up to end of 2026. In this sector, 1,003 ships of 24.08 MDWT or 20.37% will be over 20 years of age by end of 2026 and some or all of them are likely to be recycled during 2024 to 2026.

When reading the above numbers please keep in mind that Slippage was 1.38% and recycling accounted for 5.37 MDWT in 2023. Slippage has averaged 2.10% over the last 5 years (2019 to 2023) and recycling

accounted for 7.55 MDWT annually over the last 5 years (2019 to 2023). Both slippage and recycling fluctuate inversely with the BDI and availability of finance.

On a net basis, the global fleet increased by 3.16% in 2023 (according to Clarksons World Fleet Register as on 31 December 2023). According to Clarksons, the fleet is forecast to grow at 2.3% while ton-mile demand (for dry bulk seaborne trade) will grow at 1.49% in 2024. This gap between expected demand growth and expected supply growth in 2024 should make for an increasingly volatile market. As supply and demand came into perfect balance during 2021, the market would be characterized by extreme volatility, when any small change in demand or small change in supply would have a disproportionate impact on the BDI.

Recycling of ships: The freight market is the prime mover that drives ships to the recycling yards. The lower the freight market, the greater the number of ships at the recycling yards. Regulations impacting supply like EEXI, and CII will also influence DWT of ships sent for recycling. Deliveries in 2023 at 35.92 MDWT were muted when compared to average annual deliveries for the decade of 40.76 MDWT per year (2014 to 2023) of new capacity delivered.

Regulatory impacts should see many more ships heading for the recycling yard in 2023 and beyond. IMO 2020 has resulted in more expensive but 'cleaner' LSFO being burnt by ships from 1st January 2020. EEXI and CII will result in lower emissions from shipping globally. As a result, the level of pollutants reaching the air that we breathe, as well as the 'acid' rain that results from such emissions, will continue to reduce annually.

Geopolitics, Inflation & Wars:

In the same newsletter, Kimathi goes on to write: "The UN's sustainable development goal (SDG) 16 specifically addresses peace, justice, and strong institutions. While it doesn't explicitly mention humanitarian issues under conflict, it emphasizes the promotion of peaceful and inclusive societies, reducing violence, ending abuse, and guaranteeing access to justice for all. Global calls for a ceasefire in the Israeli-Hamas war have gone unheeded, preventing anything more than a trickle of humanitarian aid from entering Israeli-besieged Gaza as shortages of food, fuel, drinking water and medicine worsen. Click here for a Reuters rundown of what some UN agencies call a 'humanitarian catastrophe' enveloping the tiny enclave of 2.3 million people. Reuters senior correspondent with nearly 25 years' experience covering the Israeli-Palestinian conflict, Nidal Al-Mughrabi, shares an in-depth report on the living conditions here."

As we have repeatedly stated, there are no winners in war, only losers. The biggest losers are those lacking a moral compass, who apply the 'might is right' rule of the jungle, misjudge world opinion, and will end up on the wrong side of history. The biggest losses, however, will be most deeply felt by the parents, spouses, partners, brothers, sisters, and siblings, of those led to the slaughter by their uncaring leaders, whose children are never put at risk of losing their lives. The picture above, and the poignant poem that follows it, confirms it all.

Geopolitics is causing the maximum worry and headache for CEOs around the globe. Fortune's Alan Murray, curator of their CEO Newsletter, reports from Davos where the World Economic Forum is getting underway, 'The 2,800 participants include CEOs from the world's largest companies, as well as government leaders. Four big topics define the agenda—the economy, the climate transition, the AI revolution, and geopolitics. But it's that last one that is likely to dominate, given rising tensions in the Red Sea and the escalating war of words over Taiwan.' Our focus, therefore, is to see how geopolitics impact the dry bulk business. Red Sea disruptions by the Houthis in Yemen firing drones and rockets on Israeli owned, or connected ships, or those ships that have traded, or are trading, with Israel, or those that are connected with the US or UK, has forced container and other ships to take the longer route around the Cape of Good Hope to the West and back, adding to ton-mile demand for the battered container ship sector. Some 325 MMT or 7% of all dry bulk cargoes (equal to 12% when measured by ton-mile demand) goes through the Red Sea/Suez Canal, with 40% carried on Supras/Ultras, and another 17% on Handy sizes, with the balance on gearless ships. If Israel's war on Hamas lasts any length of time it will increase the risks for ships transiting via the Suez Canal to the West and back, and that will increase ton-mile demand significantly.

Reuters reports, ‘Pope Francis urged political, economic, and business leaders at the WEF to look beyond profit and try to heal an “increasingly lacerated world, in which millions of persons – men, women, fathers, mothers, children – whose faces are for the most part unknown to us, continue to suffer, not least from the effects of prolonged conflicts and actual wars.” In a written message to the world’s movers and shakers, Francis urged them to tackle the injustices that are at the root causes of conflict, primarily hunger and the exploitation of natural resources for the benefit of the few.’

Reuters continues with ‘The UN Secretary General, Antonio Guterres said that the warring parties were “ignoring international law, trampling on the Geneva Conventions, and even violating the UN Charter. The world is standing by as civilians, mostly women and children, are killed, maimed, bombarded, forced from their homes, and denied access to humanitarian aid. I repeat my call for an immediate humanitarian ceasefire in Gaza, and a process that leads to sustained peace for Israelis and Palestinians, based on a two-state solution.”

The major unintended consequences of the Russia-Ukraine war and the sanctions regime, that the US and its cosponsors have imposed on the shipping world, trying to restrict the flow of oil out of Russia, has resulted in the large and growing ‘dark fleet’ comprised of rickety old tankers. The ownership of these tankers remains hidden by layer upon layer of dummy corporates, making it virtually impossible to identify, let alone pursue, the beneficial owner. The shipping world waits in trepidation for a massive oil spill from one of these dark fleet tankers, that are virtually uninsured. We, in the shipping/insurance world, wonder which country will be impacted by such an oil spill on their pristine shorelines, and who will help defray the cleanup costs emanating from one of these uninsured ships? Right on queue, TradeWinds came out with an article touching on this very sensitive topic.

In his book, War is a Racket, Smedley D. Butler, Major General, United States Marines (Retired), writes: ‘War is a racket. It always has been. It is possibly the oldest, easily the most profitable, surely the most vicious. It is the only one international in scope. It is the only one in which the profits are reckoned in dollars and the losses in lives. A racket is best described, I believe, as something that is not what it seems to most people. Only a small “inside” group knows what it is about. It is conducted for the benefit of the very few, at the expense of the very many. Out of war a few people make huge fortunes. Out of war nations acquire additional territory if they are victorious. They just take it. This newly acquired territory promptly is exploited by the few—the self-same few who wrung dollars out of blood in the war. The public shoulders the bill.’ The book basically confirms what we have been saying all along about wars, only the corporates that feed these war machines profit from wars, every other person associated with the war, loses from it.

Reuters states, ‘Facing a soaring death toll from Israel’s renewed offensive in southern Gaza, the Biden administration is trying to pressure its ally to minimize civilian deaths while stopping well short of the kind of measures that might force it to listen, such as threatening to restrict military aid.’

Since the above, Reuters now states, ‘Gazan families beg for bread as UN agencies warn of severe shortages of clean water, food and medicines. The WHO welcomed as “good news” that Israel opened the Kerem Shalom border crossing for aid shipments.’

Not to be left out, Bloomberg states, ‘US President Joe Biden warned Israel that it’s “starting to lose” the support of its allies, saying the bombing campaign that’s killed thousands of civilians in the Gaza Strip has been at times “indiscriminate.”

Bloomberg also stated, ‘In the 11 weeks since Hamas attacked southern Israel in a surprise incursion, killing 1,200 Israelis and kidnapping hundreds more, Israel’s military has laid waste to much of the Gaza Strip. More than 20,000 Palestinians have been killed, mostly women and children, in the impoverished, densely packed area of the Occupied Territories, local health officials there said.’ The current toll (end of January) is closer to 27,000 killed.

‘Meet the Companies Profiting From Israel’s War on Gaza’ article written by Jessica Corbett, states ‘As of Wednesday (20 Dec), a US-based Quaker group’s online database listed over two dozen companies profiting from the bloodshed in the Gaza Strip, where Israeli forces have spent the last 10 weeks waging what experts

call a “genocidal” war that sent defense stocks soaring.’ Please read the article that names the corporates that squeeze blood money from the lives of the innocents.

Bloomberg reports: ‘War over Taiwan would have a cost in blood and treasure so vast that even those unhappiest with the status quo have reason not to risk it. Bloomberg Economics estimate the price tag at around $10 trillion, equal to about 10% of global GDP, dwarfing the blow from Russia’s war on Ukraine, the Covid-19 pandemic and 2008 financial Crisis.’ We know that the winner of the elections, leading Taiwan, is an anti-China hawk, and wonder if they have any inkling of what their rhetoric might cost the world?

Another unintended consequence of the attacks in the Red Sea is that every large container ship that sails via the COGH route instead of the shorter one via the Suez Canal will cost the owner, hence their customers in the EU, a cool extra $1.0m in EUAs that they must purchase due to the extra CO2 generated on the longer journey. It also means that the CO2 generated on such longer voyages will increase, not decrease, net CO2 from the hard to abate shipping sector.

Fortune’s CEO newsletter reported ‘The US overtook Qatar to become EU’s most important supplier of LNG. And EU is now the US’s most important LNG export market. That relationship will only grow more important in coming years, a BCG partner specializing in geopolitics and trade, Tim Figures told me over the phone from London this week.’

Reuters reported, ‘South Africa accused Israel of subjecting Palestinians to genocidal acts at the opening of hearings in a case brought to the International Court of Justice. The country demands an emergency suspension of Israel’s military campaign in Gaza.’ The Intercept carried the following ‘Israel’s rebuttal against charges of genocide was as weak in offering documented facts as South Africa’s case was powerful. A team of Israeli lawyers and officials presented their defense at The Hague on Friday in the second day of the genocide case brought before the ICJ by the government of South Africa. The lawyers portrayed Israel as the actual victim of genocide, not Gaza, accused South Africa of supporting Hamas, and painted South Africa’s government as functioning as the legal arm of the Palestinian militants who led the deadly raids into Israel on October 7.’ There are alternate facts, and now, we can clearly see, an alternate reality too.

Chris Hedges, in his article titled “It May be Genocide, But it Won’t Be Stopped“ writes, ‘Palestinians are the victims, not the perpetrators, of the “crime of crimes.” A people, once in need of protection from genocide, are now potentially committing it. The [ICJ] court’s ruling questions the very raison d’être of the “Jewish State” and challenges the impunity Israel has enjoyed since its founding 75 years ago. For an explanation of the ruling issued by the ICJ, please read this article.

Julia Conley’s article titled, ‘US Court Hears Case Alleging Biden Complicit in Israel’s Genocide in Gaza’ is worth a read.

The other article worth reading is by Ryan Grimm, titled ‘What Are We Doing??’.

Reuters did an investigative piece on the murder of one of their journalists. ‘Nearly two months after the death of Issam Abdallah on the Lebanon border, a Reuters investigation has found that an Israeli tank crew killed him by firing two shells in quick succession. International humanitarian law bars attacks on journalists as those in the news media have the full scope of protection granted to civilians and cannot be considered military targets.’ Typically, the IDF responded as follows: ‘The Israeli military, responding to a Reuters investigation that determined its forces killed Reuters journalist Issam Abdallah in southern Lebanon on October 13, said the incident took place in an active combat zone and was under review.’

The CPJ (Committee to Protect Journalists) reported, ‘The Israel-Gaza war has taken a severe toll on journalists… As of December 9, CPJ’s preliminary investigations showed at least 63 journalists and media workers were among the more than 18,000 killed since the war began on October 7—with more than 17,000 Palestinian deaths in Gaza and the West Bank and 1,200 deaths in Israel.’

In an article titled ‘Why Mainstream Economics Got Inflation Wrong’ in Project Syndicate, James Galbraith states: ‘Leading economists’ misdiagnosis of inflation in 2021-22 was the latest episode in a long-running series

of failures, from not foreseeing the 2008 financial crisis to endorsing self-destructive austerity in the 2010s. Either mainstream economists need to re-examine their core beliefs, or the profession needs a new mainstream.' The article is worth a read.

In another article titled 'A Victory Lap for the Transitory Inflation Team' in Project Syndicate, Joseph Stiglitz states: 'More than two years after economists divided into opposing camps over the nature of the post-pandemic inflation, we now know which side was right. Disinflation has confirmed that the earlier price increases were "transitory," driven largely by supply disruptions and sectoral shifts in demand.' Once again, something worth reading in full.

Regulations:

'Fools rush in where Angels fear to tread' could easily describe owners rushing in to order dual fueled ships today. For dry bulk, we will be the last sector in shipping that will build brand new ships that are ready for fuels of the future. And the reason is that shipyards do not want to build dry bulk ships if they can land higher value container, gas, car carriers, offshore vessels, for their available slots. And within dry bulk the geared sectors will be the last to go green as the various ports that we call are so off the beaten track that green fuel availability will be an issue. Then we have the charterers, our clients, who do not want to pay extra for any such green ships, nor are they willing to sign long-term charters of more than 5 years. Without a commercially viable case, how on earth are dry bulk geared ships supposed to go green? The only way would be if the IMO were to place deadlines and a universal carbon tax. In the meantime, those that ordered LNG engine ships must deal with expensive methane slip abatement efforts, those with Methanol engine ships belatedly realize that the cost of green methanol will be multiple times higher than the cost for green ammonia. Being the first seems not the best idea when selecting the fuel for your future ships.

The EU ETS covering shipping comes into effect at the start of 2024 and is estimated to cost $3.6b in 2024. The most efficient ships will therefore trade to the EU, pay the price of the ETS, charge it to their customers, and those ships that are less efficient will continue to trade elsewhere. The total CO2 generated will not have gone down an iota due to this tax, yet the EU would have collected $3.6b via their ETS, which the common EU person would end up paying for. However, if the IMO would impose a universal global CO2 tax, then every ship would be paying for it no matter where they were trading, overall CO2 would come down, and the inefficient ships would be forced to end up at the scrapyards where they belong. A win-win solution, but commercial understanding seems to escape the regulators.

An article in Splash, quoting a Swedish report makes clear that there are 90% of contaminants in Scrubber water discharge. As we have repeatedly stated, Scrubbers is an economic tool that allows ships to transfer pollution from the sky into the seas while making a profit in between. Most countries do not allow scrubber water to be discharged into their ports as they realize it is contaminated.

An article written by Will Wade in Bloomberg titled 'First US Small Nuke Project Canceled After Costs Surge 53%' stated: 'NuScale Power Corp., the first company with US approval for a SMR design, is canceling plans to build a power plant for a Utah provider as costs surge. The decision to terminate the project underscores the hurdles the industry faces to place the first so-called small modular reactor into commercial service in the country. The company said in 2021 it would deliver power for $58 a megawatt-hour, but that figure has jumped 53% to $89.' Once again, it seems that SMRs are unable to deliver on their promises.

A Bloomberg report from COP28 states: 'Without action, global greenhouse gas emissions from livestock will grow by 47% by 2050 from 2015 levels, the UN's Food & Agriculture Organization says.' Finally, the livestock industry that is responsible for 15% of all GHG is feeling the climate change heat. About time too.

And the FT adds this for good measure. 'A "historic" agreement to transition away from fossil fuels has been reached at the COP28 climate summit in Dubai, carving a route to global net zero by 2050. The deal is very far from perfect, writes the FT editorial board. Indeed, large oil and gas producers seem unfazed by the announcement, an early sign that it may not drastically curb hydrocarbon production. But it marks a step forward — rather than the retreat that had been feared. Will it be enough?'

Bloomberg states, ‘For the first time in more than 50 years the US granted permission for a new type of nuclear reactor. California startup Kairos Power received a construction permit from the Nuclear Regulatory Commission to build its Hermes demonstration reactor in Tennessee. While commercial reactors in use today are cooled by water, the Kairos technology uses molten fluoride salt as a coolant.’

Inequality:

One of the SDGs of the UN is to lift people out of poverty. That has happened in China to a very large extent and the consumption of meat there has skyrocketed. Dry bulk ships carry the animal feed ingredients where volumes have shot up to cater to this meat-eating orientation achieved in China. Poorer people eat vegetables but as they get into the middle class their diet becomes meat-rich, and when they become superrich i.e., part of the 1% elite of the world, they go back to an organic, whole plant-based, vegetarian diet. Luckily for dry bulk there are many billions more people that are in the middleclass, or those that will soon reach that status, and start to consume a more meat-rich diet, thereby increasing the demand for animal feed ingredients, compared to the much, much smaller numbers that will graduate into the 1% elite. White meat needs 2.5 kilos of grain per kilo of live weight conversion, and red meats need upwards of 6 kilos of grain to make one kilo of live weight. The connection between inequality and dry bulk demand is therefore, quite apparent. The less the inequality, the greater the demand for meat-rich diets ergo more demand for animal feed ingredients, and hence, demand for dry bulk ships.

Reuters states, ‘The Oxfam report found that the combined fortunes of the world’s five wealthiest men have more than doubled to $869 billion since 2020, while five billion people have been made poorer. Meanwhile, nearly 800 million workers saw their wages over the past two years fail to keep up with inflation, resulting on average in the equivalent of 25 days of lost annual income per worker, according to Oxfam’s analysis.’ The world’s richest 1% own 43% of global financial assets. So, the rich get richer, and the poor get poorer, what an unequal world we live in.

Bloomberg reports, ‘Boeing’s name and that of the troubled model 737 Max are linked to some of the worst aircraft safety and design failures in recent aviation history. Some 346 people were killed in the Boeing 737 Max crashes of Lion Air Flight 610 in late 2018 and Ethiopian Airlines Flight 302 fewer than five months later. The company once enjoyed a sterling reputation for safety and reliability, but it has increasingly focused on pleasing shareholders.’ Unbridled capitalism and its excesses are epitomized by corporates like Boeing.

Reuters reports, ‘A Delaware judge tossed out Elon Musk’s record-breaking $56 billion Tesla pay package, calling the compensation granted by the EV maker’s board “an unfathomable sum” that was unfair to shareholders. The ruling, which can be appealed, nullifies the largest pay package in corporate America.’

In a short but interesting article titled ‘This Is What Inflation Does To Our Kids’ John Rubino states: ‘Mainstream economics portrays inflation — defined as a currency that loses a bit of purchasing power each year — as necessary to lubricate the gears of commerce. What they don’t seem to understand (or would like the rest of us to not understand) is that inflation is also a tool for redistributing wealth from one class to another. It pushes up the price of stocks, bonds, and real estate, enriching the owners of those assets while making day-to-day life a lot harder for people who live paycheck to paycheck.’ And there you have it, classic economics being (mis)used to create financial inequality, especially for first time job seekers as explained in this video by the erudite youngster, contained in the same article.

In an article in the New York Times, titled ‘India’s daughters’ Amanda Taub writes: ‘In many other countries, female labor-force participation has propelled economic growth. But India has one of the world’s lowest rates of formal employment for women. The percentage of women doing paid work has dropped sharply in recent years. Last year [2022], 24% had a paid job, down from 29% in 2010. In China, by comparison, that rate is about 60%. Without a way to earn a living, many women cannot escape violent marriages. Marital rape is not criminalized in India, and thousands of women are killed each year by their husbands or in-laws.’ The teaser at the top of the article says it all, ‘The Times team spent the past two years reporting on a major economic challenge for India: gender inequality.’

The article by Jonathan Watts in The Guardian titled ‘Richest 1% account for more carbon emissions than poorest 66%’ states: ‘For the past six months, The Guardian has worked with Oxfam, the Stockholm Environment Institute and other experts on an exclusive basis to produce a special investigation, The Great Carbon Divide. It explores the causes and consequences of carbon inequality and the disproportionate impact of super-rich individuals, who have been termed “the polluter elite”. Climate justice will be high on the agenda of this month’s UN Cop28 climate summit in the United Arab Emirates.’ Please do read this article.

The pay disparity between CEOs and typical workers has become obscene in the US. In 1965, CEOs typically earned 20 times the typical worker’s pay. By 1979, the ratio between a CEO’s salary, and that of the median worker, was 33 to 1. As of 2021, the CEO-to-median-worker pay ratio had grown to 399 to 1. Since the late 1970s, CEO pay increased more than 1,200%. At the same time, the pay of the typical American workers rose 18%. This is part of the story of how American capitalism has become rigged in favor of those at the top. It leads us directly to oligarchy, rule by the richest few, putting democracy at risk. This is from an article by Robert Reich.

Fortune states that ‘California, despite having 12% of the US population, has 22% of its homeless people.’ Considering that the USA is the richest country in the world, it is also probably the country with the greatest inequality within its population.

Bloomberg states ‘The US federal government’s latest figures paint a stark picture, with a 12% spike in the homeless population from 2022 to 2023. That includes a sharp rise in the number of families with children in shelters. So, what’s driving this crisis?’ Another article showing the stark disparity within the US population.

Reuters report from COP28, states: ‘So far, the UN Women launched its “Feminist Climate Justice: A Framework for Action” report, which showed how climate change will push up to 158 million more women and girls into poverty and will plunge 236 million more women into hunger by 2050.’ A real pity that inequality seems to be on the rise.

Bloomberg reported: ‘The world’s richest families have gotten $1.5t wealthier since the last ranking, and the new tallies from the Middle East weren’t the only noteworthy shifts. Among the biggest gainers was the family behind luxury brand Hermes, who added $56b to become the world’s third richest.’ The rise of inequality marches on.

According to Reuters, ‘a record 49.5 million people are expected to go hungry in West and Central Africa next year due to a combination of conflict, climate change and high food prices, the UN said.’

Climate Change:

Climate change, and its repercussions, are having a disproportionate impact on freight markets. The World Economic Forum at Davos asked 1,490 leaders to select risks that they believed are most likely to present a material crisis on a global scale and 66% answered, extreme weather. Weather conditions at sea have been sorely tested with 10-meter waves now considered normal during inclement weather. This will result in ship delays at sea, and even more delays when those weather-delayed ships finally reach ports, with long queues, because of, you guessed it, bad weather on land. These delays have been exacerbated by the lack of water in the Gatun lakes resulting in long waits at the Panama Canal, with many ships deciding to take the long route around instead of through the canal, resulting in even longer ton-miles that would be further increased by bad weather delays at sea. Low waters in rivers, in South American grain exporting ports, and in the Mississippi River in North America, has also added to delayed grain arrivals leading to significant congestion in these major grain exporting countries. These are some of the reasons why the Atlantic market has risen so sharply in the middle of November when seasonality would have had rates declining from the middle of November till two weeks after Chinese New Year. Northeast China faced extremely high summer temperatures, followed by heavy rains and now a cold snap in the week starting 6 November and continuing in December, disrupting the harvesting of grains where yields had already been hammered by extreme heat and floods. China, aiming for food security, will continue to buy grains in Q4 2023, in 2024, and beyond. The connection between climate change and demand for dry bulk ships is readily apparent.

Bloomberg reports, ‘Despite the challenges in 2023, the world spent a record $1.7 trillion on clean energy. This is more than the $1.1 trillion that was invested in fossil fuels. A massive deployment of solar and electric cars in China accounted for a large portion of that spend, and it seems China is committed at building at a huge scale.’

Bloomberg reports, ‘China installed more solar panels in 2023 than the US—or any other nation for that matter—has ever built. The country added 216.9 gigawatts of solar last year, blowing away its previous record of 87.4 gigawatts from 2022. That dwarfs the 175.2 gigawatts in the US, the world’s second-biggest solar market. The buildout adds to a massive renewable energy footprint.’

The Washington Post’s Scott Dance writes, ‘As a year of surprising global warmth came to a close, a record high annual average temperature was already assured. Now, some scientists are already speculating: 2024 could be even hotter.’ Climate change with warmer sea waters will take its toll with ever higher waves during ever more frequent bad weather at sea.

According to Bloomberg, ‘the torrential rains that hit Hong Kong this September, the heaviest since records were started in 1884, caused $100 million in damages, and are statistically considered one-in-500-year events.’ The weather, unfortunately, does not have a memory, so such an event could repeat, again, next year.

Bloomberg reports, ‘there are still 330 wildfires burning across Canada, with 85 of them raging out of control, according to the Canadian Forest Fire Centre. So far in 2023, 6,647 fires have burned 18.5 million hectares, which is roughly the size of North Dakota.’

An article titled ‘World’s Largest Iceberg Breaks Free in Antarctica’ dated 27 November states: ‘The largest iceberg in the world weighing one trillion tons, A23a nearly 1,500 square miles, about three times as big as New York City, has broken free of its anchor on the floor of the Weddell Sea and begun to drift toward the Southern Ocean. Marsh explained, “an iceberg of this scale has the potential to survive for quite a long time in the Southern Ocean, even though it’s much warmer, and it could make its way farther north up toward South Africa where it can disrupt shipping,” as Reuters reported.’ As explained in the opening paragraph on this subject, sea journeys are only going to get more difficult as weather conditions are reaching epic proportions. Now, with the potential of this monstrous iceberg to reach the Cape of Good Hope, and the Panama Canal problems pushing more ships towards the COGH, we can only see even more disruptions at sea due to weather related issues.

Bloomberg states, ‘Total consumption of coal will reach a record high of more than 8.5 BMT this year (2024), and then start a long, slow decline, according to a report from the International Energy Agency.’

Bloomberg had this interesting snippet on climate ‘The world is heading into a second year of the El Niño weather phenomenon. Climate scientists anticipate more record-breaking temperatures that are set to contribute to more dangerous storms, wildfires and floods. With all indications pointing to continued warm conditions across the ocean, 2024 could break into the top five most active hurricane years. Scientists will also be keeping their eyes on the poles — where ice has melted at disturbing rates.’ Ships will continue to be delayed at sea due to climate change.

Bloomberg states, ‘The world’s current carbon capture capacity is 45 million. That’s just 4% of carbon capture needed by 2030 to be on track for net zero by 2050, according to the International Energy Agency.’ And this is despite billions of dollars being invested in this technology. Just hope this does not end up being an incredibly expensive wild goose chase.

Reuters reported, ‘Libya’s deadly flash flood in September constituted a climate and environmental catastrophe that will require $1.8 billion in reconstruction, according to a report by the World Bank, UN, and EU.’

<u>Bloomberg tells us ‘What’s happened at COP28’:</u>

Day 1: Delegates from nearly 200 countries agreed on details for running the loss and damage fund, a facility designed to help vulnerable countries deal with more extreme weather stoked by global warming.

Day 2: COP28 President Sultan Al Jaber announced the UAE will put $30 billion into a climate finance fund called Alterra, which he dubbed a “vehicle like no other.”

Day 3: Exxon Mobil Corp. and Saudi Arabia’s Aramco led a pledge by 50 oil and gas producers to cut emissions from their own operations.

Day 4: The World Bank said it’s working with a club of 15 finance bosses to lower the risk of investing in climate projects in emerging economies and attract private capital for cutting emissions.

Day 5: After an article in The Guardian reported the COP28 president found “no science” to support the phase out of fossil fuels to keep warming below 1.5C, Al Jaber said he was misunderstood.

Day 6: US climate envoy John Kerry criticized some US oil producers for not doing enough to combat global warming and singled out Chevron Corp. for scrutiny.

Day 7: Vladimir Putin flew into the UAE, his first trip to the Middle East since he invaded Ukraine, to discuss energy.

Day 14: COP28 ended with a call for countries to quickly shift energy systems away from fossil fuels in a just and orderly fashion, albeit in a non-binding deal.

International Maritime Organization (IMO) conventions:

International Maritime Organization (IMO) conventions are constantly updated to match the demand for enhanced steps to protect the environment. The increasing standards being adopted by the IMO have triggered research and development of several new technologies for the shipping industry.

The IMO Ballast Water Management Convention entered into force on 8 September 2017and all vessels are required to carry a Ballast Water Management certificate. New vessels built (date of keel laying) after the above date are required to be fitted with IMO approved ballast treatment plants and existing vessels are required to retrofit such plants in a phased manner along with surveys associated with the first renewal of IOPP (International Oil Pollution Prevention) certificate after 8 September 2019. By the end of 2023, USCG as well as IMO approved BWTS have already been fitted on all 38 vessels in PSL’s fleet.

Decarbonization in shipping: Overview of the regulatory framework:

In 2015, the Paris Agreement on climate change was agreed by parties to the United Nations Framework Convention on Climate Change (UNFCCC). It entered into force on 4 November 2016. Its goal is to keep global temperature rise below 2°C above pre-industrial levels, and preferably limited to 1.5°C.

Even though the Paris Agreement does not include international shipping, the International Maritime Organization (IMO) committed to contribute its efforts to address climate change features prominently in its strategic plan. Consequently, in April 2018, IMO adopted an initial strategy on the reduction of greenhouse gas (GHG) from ships, i.e. emissions including carbon dioxide (CO2), methane (CH4) and nitrous oxide (N2O), expressed in CO2e (carbon dioxide equivalent). In July 2023 (MEPD 80), IMO adopted the IMO strategy on reduction on GHG Emissions from ships in accordance with the agreed program of follow-up actions.

The IMO’s strategy envisages:

1. A reduction of the average carbon intensity (carbon dioxide (CO2) emissions per transport work) of international shipping by at least 40% by 2030, pursuing efforts towards 70% by 2050, as compared to 2008 levels.
2. To reduce total annual GHG emissions from shipping by at least 50% by 2050 compared to 2008, while pursuing efforts towards phasing them out entirely within this century.
3. The uptake of zero or near-zero GHG emission technologies, fuels and/or energy sources which must represent at least 5%, striving for 10% of the energy used by international shipping by 2023.

4. The 2023 IMO GHG Strategy also introduces indicative check points to reach net-zero GHG emissions from international shipping, namely:
   a. to reduce the total annual GHG emissions from international shipping by at least 20%, striving for 30%, by 2030, compared to 2008; and
   b. to reduce the total annual GHG emissions from international shipping by at least 70% striving for 80%, by 2040, compared to 2008.
5. To reduce GHG emissions from international shipping as soon as possible and to reach net-zero GHG emissions by or around 2050, considering different national circumstances, whilst pursing efforts towards phasing them out consistent with the long-term temperature goal set out in Article 2 of the Paris Agreement.

2008 is the baseline year against which future reduction targets are assessed, while 2050 represents an important milestone in the Paris Agreement, which the IMO explicitly references in its strategy. These ambitions are to be accomplished by a blend of measures applicable in the short, medium, and long-term.

Measures have been recently adopted by the IMO as amendments to the MARPOL Annex VI, requiring ships to take a technical and operational approach to reduce their carbon intensity. The mid- and long-term measures are likely to require a high degree of innovation and to result in the global uptake of new greener fuels and technologies.

Shipping emissions:

Even though shipping is one of the most energy efficient modes of mass transport, it was estimated to have contributed about 2.2% to the global emissions of CO2 in 2012. As sea transport continues to grow in tandem with world trade, it is imperative to have a global approach to further improve energy efficiency and effective emission control of the maritime sector.

The seventy-fifth session of the IMO's Marine Environment Protection Committee (MEPC-75), held in November 2020, approved the findings of this study and measures to reduce GHG emissions from international shipping were deliberated. Consequently, in June 2021, MEPC-76 adopted amendments to MARPOL Annex VI to reflect the technical and operational goal-based measures to reduce the carbon intensity of international shipping.

The eightieth session of the IMO's Maritime Environment Protection Committee (MEPC-80) held in July 2023, adopted the guidelines on life cycle GHG Intensity of Marine Fuel (LSA Guidelines). These guidelines aim at covering the whole fuel cycle (with specific boundaries), from feedstock extraction/cultivation/recovery, feedstock conversion to a fuel product, transportation as well as distribution/bunkering, and finally the fuel utilization on board a ship. The scope of these guidelines is to address well-to-tank (WtT), tank-to-wake (TtW) and Well-to-wake (WtW) greenhouse gases (GHG) intensity related to marine fuels/energy used for ship propulsion and power generation onboard. The relevant green house gases included are carbon dioxide (CO2), methane (CH4) and nitrous oxide (N2O).

IMO Regulations, The International Context:

The IMO has been actively engaged in a global approach to enhance ship's energy efficiency and develop measures to reduce GHG emissions from ships. The first major step to reduce these emissions was announced in 2011, when the IMO adopted mandatory measures to increase energy efficiency of international shipping. This paved the way for the regulations on Energy Efficiency Design Index (EEDI) for new ships, and Ship Energy Efficiency and Management Plan (SEEMP) – a ship-specific document that provides a mechanism to help improve the energy efficiency of a ship in a cost-effective manner. These mandatory measures (EEDI/ SEEMP) entered into force on 1 January 2013, while targets to improve design efficiency (EEDI) of new build ships commenced in 2015.

For new ships, the EEDI requires that energy efficiency is improved in phases such that CO2 emissions are progressively reduced:

1. During phase one, running from 1 January 2015 to 31 December 2019, the EEDI requires a 10% reduction of carbon intensity below the relevant reference line for newly built ships.
2. In phase two, running from 1 January 2020 to 31 December 2024, the EEDI requires up to 20% reduction of carbon intensity.
3. Phase three of the EEDI, due to commence in 2025, requires an additional 10% reduction, i.e., ships being built in 2025 will be required to be 30% more carbon efficient than those built in between 2000 to 2010.

However, during the MEPC-75, it was decided to move forward the effective date of phase 3, from 1 January 2025 to 1 April 2022, for containerships, large gas carriers (15,000 DWT and above), general cargo ships, LNG carriers and cruise passenger ships having non-conventional propulsion. A carbon intensity reduction requirement will apply to containerships, starting with 15-30% reduction rate for small container vessels and increasing up to 50% for large containerships (200,000 DWT and above). There are also considerations to introduce fourth phase of EEDI in 2027.

In addition to the above, since 2019, under the IMO Data Collection System (IMO-DCS), ships of 5,000 GT and above must collect and report data on fuel consumption under SEEMP Part II. These ships account for close to 85% of CO2 emissions from international shipping. The data collected will provide a firm basis on which future decisions on additional measures will be made.

The European Union (EU) has also implemented similar regulations on monitoring, reporting, and verifying fuel consumption (EU-MRV) for ships of 5,000 GT and above calling at European ports. While IMO-DCS is an anonymous public database, the EU-MRV is a distinctive public database.

The European Union (EU) has also implemented the emission cap-and trade system (EU ETS) to meet its target of a 55% reduction in GHG emissions by 2030 relative to 1990, and net zero by 2050. As per the regulation, ships above 5000 GT transporting cargo or passengers for commercial purposes in the EU will be required to acquire and surrender emission allowances for their CO2 emissions from 2024. This entails a three-year phase-in-period, increasing in scope from 40% of emissions in 2024 to 70% in 2025 and 100% in 2026. The EU ETS will initially cover carbon dioxide emissions and be widened to include methane and nitrous oxide from 2026. Offshore ship and general cargo ships between 400 and 5000 GT will also be required to report emissions and may be included in the EU ETS at a later stage.

Technical Measures: Energy Efficiency Existing Ship Index (EEXI):

Like the EEDI, the aim of the EEXI is to measure ship's energy efficiency based on its design and arrangements. This regulation is applicable to all existing ships of 400 GT and above falling under MARPOL Annex VI. The revised MARPOL Annex VI includes new regulation 23 (attained EEXI) and 25 (required EEXI).

Ships to which the regulation applies will be required to calculate EEXI value of each individual ship (i.e., attained EEXI) and the value shall be equal to or less than the allowable maximum value (i.e., required EEXI). The EEXI Technical File, which includes the data used for calculation is used as a basis for verification of compliance.

For ships where the calculated (or attained) EEXI is greater than the required, there will be a need to implement countermeasures to improve its efficiency index. Being a technical or 'design' efficiency index, this may include alterations to the ship's design or machinery, such as

- introduction of an engine power limitation or shaft power limitation
- increasing ship capacity (by increasing the deadweight (DWT) or gross tonnage (GT), if structurally possible)
- propulsion optimization devices, e.g., high efficiency propellers, propeller boss cap fins, Mewis duct, low friction paints, air lubrication systems, etc.
- energy efficiency technologies (EETs), such as waste heat recovery, wind assisted propulsion, solar cells, etc.

- switching to carbon-neutral fuel, but this might not be viable for most existing ships due to very high capital expenditure (CAPEX).

The regulations are not prescriptive on which improvement method should be deployed and the right solution may vary based on ship type and size. It is vital to consider the ship's age against the cost and payback time of improvement option.

The EEXI Technical File is approved by the ship's Flag State or Class and the compliance with the EEXI regime is reflected in the International Energy Efficiency Certificate (IEEC) at the first annual, intermediate or renewal survey of the International Air Pollution Prevention (IAPP) certificate on or after 1 January 2023 for ships delivered before 1 January 2023, or at the initial survey of IEEC for ships delivered on or after 1 January 2023.

In the PSL fleet, based on the EEXI calculations, a total of 23 vessels were required to implement the engine power limit. And 20 of these vessels have had EPL installed during the IAPP periodical/annual survey in the year 2023. The remaining three vessels will have EPL installed within the first quarter of 2024.

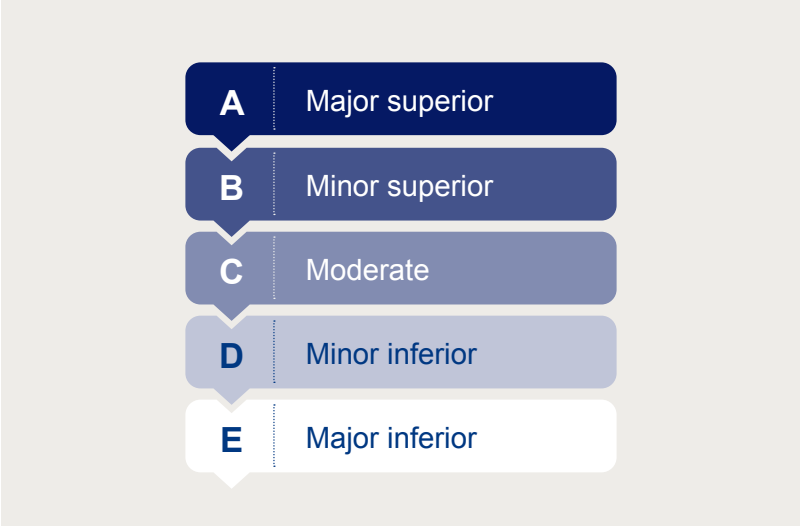
Operational Measures: Carbon Intensity Indicator (CII) and enhanced Ship Energy Efficiency Management Plan (SEEMP):

The CII is an operational measure applicable to ships of 5,000 GT and above, which aligns with the requirements for recording a ship's fuel consumption in accordance with the IMO Data Collection System (IMO-DCS).

As per the revised MARPOL Annex VI regulation 28, from 2023 applicable vessels will need to:

1. calculate attained annual operational CII over a 12-month period from 1 January to 31 December in that calendar year, and
2. demonstrate reductions of carbon intensity from 2023 to 2030. The reduction rates are intended to achieve the levels of ambitions set out in the IMO's initial strategy, in particular, the 2030 level of ambition of reducing carbon intensity of international shipping by at least 40% by 2030, compared to 2008.

Ships will be given an annual carbon intensity rating (CII rating) indicating their performance over the previous year. There are five CII rating categories given on a scale from A to E, where A is the best, based on a calculation of Annual Efficiency Ratio (AER).



The attained annual operational carbon intensity indicator will be based on IMO-DCS. Emissions data must be submitted through the IMO-DCS in addition to the existing fuel consumption requirement. Emissions reporting must, as a minimum, include the AER (for bulk carriers, tankers, container ships, general cargo, LNG carriers, gas carriers, combination carriers and reefers).

As required by the MARPOL Annex VI regulation 26, an enhanced version of the SEEMP (SEEMP-III) will need to be developed. This would include:

1. the ship's CII rating together with the description of the methodology used to calculate the ship's attained annual operational CII,
2. the required annual operational CII for the next three years,
3. an implementation plan documenting how the required annual operational CII will be achieved during the next three years, and
4. a process for reporting to Flag State for verification.

For the PSL Fleet, the enhanced SEEMP-III as required has already been developed, certified by the vessel's Class and placed on board.

From 1 January 2024, ships will be issued with a Statement of Compliance (SoC), covering verified fuel consumption, attained carbon intensity reduction and an annual rating (A to E) based on carbon intensity reduction performance against the required carbon intensity reduction. Ships rated 'D' for three consecutive years or at rating 'E' for one year, will have to submit and implement a corrective action plan showing how they can improve the vessel's efficiency to 'C' or above. The corrective action plan is to be included in the SEEMP.

Periodic SEEMP verification audits will be introduced to ensure plans are in place to achieve the targets and ensure correction plans are being followed where a ship is rated E in any given year, or D in three consecutive years. The frequency and specific requirements of these audits is expected to be discussed at MEPC-77 in November 2021, with guidance developed in 2022.

In addition to the above, the MEPC-76 approved a phased approach of 2% carbon intensity reduction as compared to the 2019 reference line from 2023 (when the MARPOL amendments would enter into force) through to 2026 (when another review to further strengthen the annual reduction rate is due to take place):

Year	Annual reduction factor (from 2019 reference)
2023	5%
2024	7%
2025	9%
2026	11%
2027-2030	Still to be decided

If regular improvements are not made, a ship's CII rating could drop as the targets will become increasingly strict every year. A consequence of this could be a loss of earnings and inability to trade, so there is a strong incentive to improve energy efficiency. The average CII figures for each type of vessel in PSL's fleet as verified by the Recognized Organization (NKK for PSL's fleet), are as indicated in the table below.

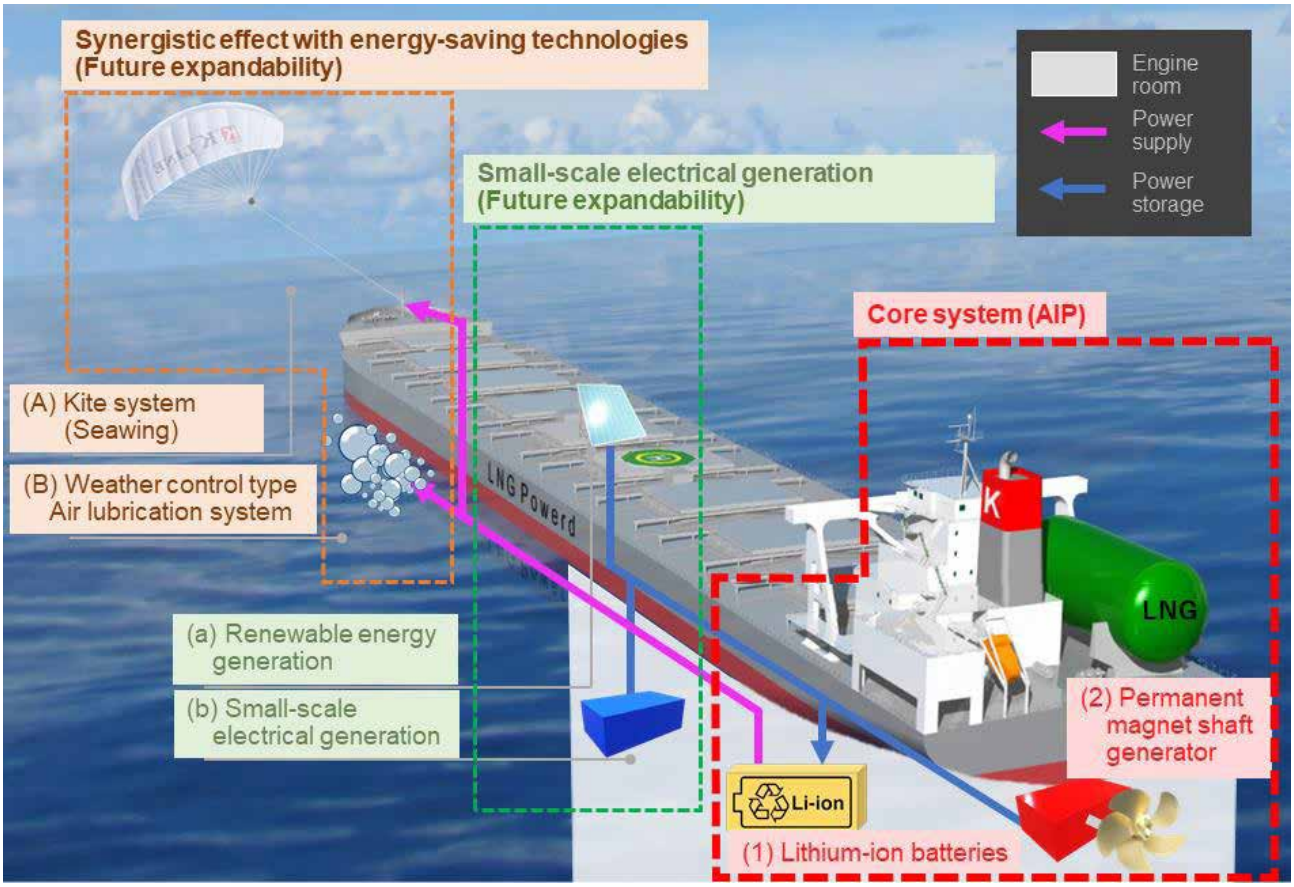
VESSEL TYPES	2021			2022			2023		
	No. of Vessels	CO2 emitted (MT)	Average CII (grams/ tonne-mile)	No. of Vessels	CO2 emitted (MT)	Average CII (grams/ tonne-mile)	No. of Vessels	CO2 emitted (MT)	Average CII (grams/ tonne-mile)
CEMENT CARRIERS	4	42,216.46	13.75	4	44,476.70	13.60	4	44,718.23	15.27
HANDY-SIZE	15	198,769.11	7.89	17	195,721.21	7.52	17	210,967.64	6.71
SUPRAMAXES	9	149,800.48	6.42	9	144,056.00	5.98	9	152,163.23	5.45
ULTRAMAXES	8	131,048.50	4.55	8	107,570.11	4.43	8	117,742.69	4.25
TOTAL	**36**	**521,834.64**	**7.42**	**38**	**491,824.02**	**7.14**	**38**	**525,591.79**	**6.80**

As can be noted from the table, the average CII for PSL's fleet of vessels in the year 2023 was 6.80grams of CO2 emitted per tonne-mile.

Other industry developments and new technologies:

The maritime finance and chartering sectors have also recognised their role in making shipping greener by creating the Poseidon Principles and Sea Cargo Charter – a framework for financial institutions and shipping interests (including charterers and cargo owners), to ensure that their interests are aligned with the targets set out in the IMO's greenhouse gas strategy.

Japanese shipping company Kawasaki Kisen Kaisha (K Line) developed two conceptual designs for LNG-fueled and battery-powered energy-saving bulk carriers and obtained approvals in principle (AIP) from the classification society ClassNK.



In addition to the equipment for greenhouse gas emissions reduction under the recent AIPs, the goal is to further reduce emissions going forward by installing various optional technologies.

Courtesy: Tsuneshi

Although LNG is still the most popular fuel choice for new eco vessels, Methanol-capable vessels are making up a greater proportion of new building orders this year. Methanol can be categorized into fossil-based methanol and renewable methanol. Fossil-based methanol is produced from coal or natural gas. Renewable methanol can be made from things like biomass or captured CO2 combined with green hydrogen. Methanol is a liquid at atmospheric pressure and CO2 emissions can be reduced by 7%, Sox emissions can be reduced by 9% and NOx emissions can be reduced by 60%. Methanol also biodegrades rapidly in water, which also makes it less of a risk to the environment than many other alternatives.

In 2023, ClassNK has issued approvals in principle (AIPs) for four designs, including a 210k methanol dual-fuel bulk carrier design developed by Marine Design & Research Institute of China (MARIC). For these accomplishments, ClassNK conducted the verification in line with relevant rules corresponding to respective ship type, including its Guidelines for ships using Alternative fuels.

Japanese shipbuilder Tsuneishi Shipbuilding has received an order for methanol-fueled vessels for KAMASAMAX AEROLINE (81,200 dwt) and TESS66 AEROLINE (65,700 dwt) by Mitsui & Co., Ltd, and Kambara Kisen respectively. These two designs use e-methanol produced primarily by synthesizing recovered CO2 and hydrogen produced using renewable energy sources, as well as bio-methanol derived from biogas. The vessel's design maximizes cargo space while ensuring sufficient methanol tank capacity set to allow the required navigational distance assuming various routes, at the same time maximizing cargo space.

Lloyd's Register (LR), Cargil International, Minerva Dry inc. and Nantong COSCO KHI Ship Engineering Co Ltd (NACKS) have collaborated on the design of a Kamsarmax bulk carrier with methanol and rotor sail capability. The design will provide a new energy efficient bulk carrier with new and upcoming environmental regulations which mandate the limiting of GHG emissions.

Efforts are continuing to advance the use of technologies to capture CO2 emissions from in-service vessels. Singapore-headquartered Eastern Pacific Shipping reports it has completed the installation of a filtering and carbon capture technology from Dutch start-up Value Marine. The installation was completed in early 2023 aboard the chemical tanker Pacific Cobalt, a 49,886-dwt vessel managed by Eastern Pacific. Value Marine's Carbon Capture and Storage (CCS) module added to the system can capture up to 40% of Co2 emissions from the vessel's main and auxiliary engines.

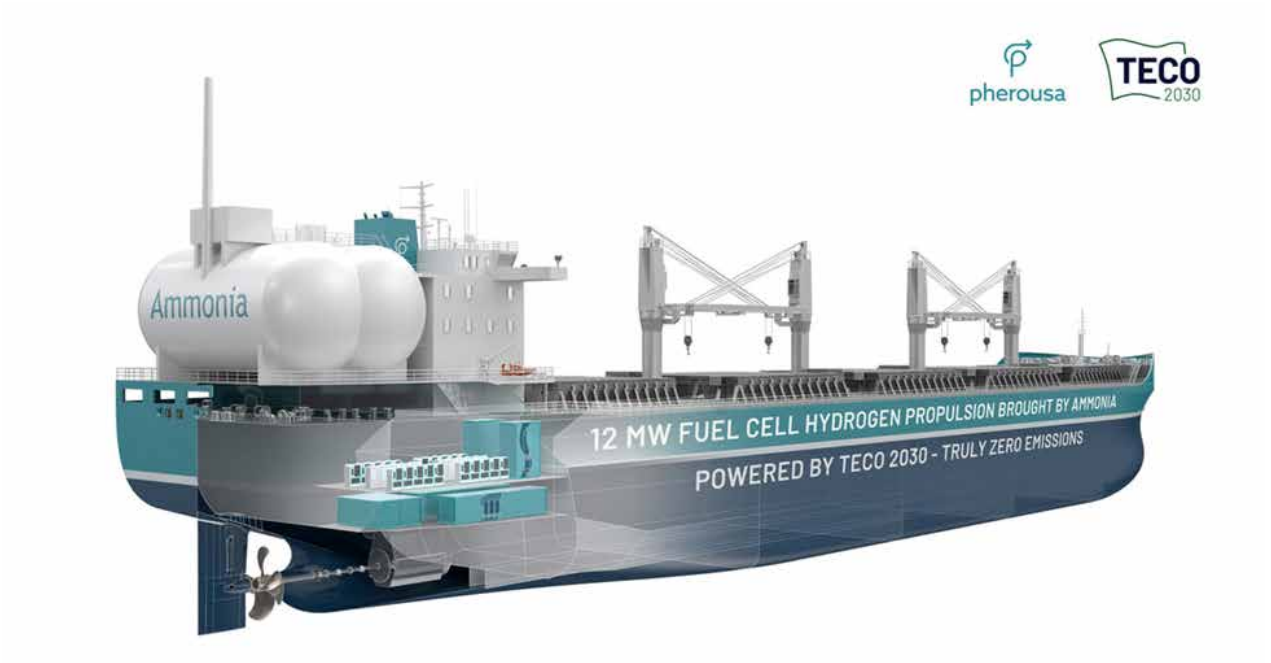
Nuclear Power Projects in Shipping: Across the world, there are now many nuclear shipping projects underway. UK-based CORE POWER, together with Terra Power, Southern Company and French atomic group Orano, is developing a modular molten salt reactor to propel ships and provide reliable energy for manufacturing synthetic green furls from hydrogen. The first prototype reactor is due to start trials in 2025.

In south Korea shipbuilding major Samsung Heavy Industries has teamed up with the Korea Atomic Energy Research Institute while Seaborg Technologies in Denmark is building floating power barges, and the Canadians are working with NuScale to develop marine power stations.

Recently, in Marintec China exhibition in Shanghai, Jiangnan Shipyard announced that a design of a prototype 24,000 teu ship powered by new molten salt reactor (MSR) technology being developed. The proposed design of super large nuclear container ships will truly achieve ‘zero emissions’ during the operation cycle of this type of ship.

Interest continues to grow in the potential of different forms of sails to provide wind propulsion assistance for large commercial vessels. In the latest development, the Singapore-based shipping subsidiary of Japanese trading house Marubeni announced plans to test a suction sail concept aboard one of its large bulkers. According to the companies, it will be the largest suction sail ever built and installed on a vessel and the first application of this form of the technology on a Panamax bulker.

Deltamarine has developed the innovative long endurance ammonia fueled Ultramax bulk carrier concept together with PGT. These ships are to be fitted with onboard ammonia crackers, which will allow the ships to run on hydrogen fuel. The planned ships will additionally feature equipment developed by Oslo-based Pherousa Green Technologies (PGT). Each vessel will be equipped with 12 megawatts of TECO 2030 fuel cells for main propulsion onboard. The TECO 2030 fuel cell system will be installed in combination with a Pherousa Green Technologies AS’ ammonia to hydrogen cracker. Bunkering ammonia and cracking to hydrogen on board the vessel will solve the storage and infrastructure challenges of hydrogen as a marine fuel and thus paving the way for zero emission deep-sea shipping.



PSL's Training Department:

Introduction:

In the dynamic landscape of today's business world, companies recognize the importance of investing in their human capital to stay competitive and adapt to ever-evolving challenges. One such exemplary initiative is the PSL Training Department, an in-house training program designed to foster skill improvement among the company's floating staff. This strategic approach not only benefits the individual employees but also contributes to the overall growth and success of the organization.

The PSL Training Department is a specialized autonomous unit within the company dedicated to honing the skills and competencies of its floating staff. These are seafarers who work on board our fleet of vessels, requiring a diverse skill set to navigate different responsibilities effectively. The training department is an embodiment of the company's commitment to continuous learning and development, acknowledging that a well-equipped workforce is the key to sustained success.

Courses conducted by PSL Training:

Courses offered at PSL Training include both licensing and tailored programs. MRM is a training program for ship's officers, engineers, pilots, and shore-based personnel. The aim is to increase knowledge about human capabilities and limitations and to reinforce positive attitudes towards safety and teamwork. MRM is generally accepted to be one of the most efficient means of improving crew cooperation and minimizing the risk of accidents caused by human errors as well as failures in effective teamwork and resource management. The MRM course is authorized and licensed by ALL Academy International AB, an independent training development company primarily involved in human factors and resource management training programs. ALL Academy is the company behind the Maritime Resource Management (MRM)™ training program that has become the industry standard for resource management training.

Apart from the MRM courses, the PSL Training Center has classrooms, Video-Based Training (VBT) and Computer based training (CBT) for the ship staff. Courses include MRM, Bridge Team Management (BTM), Bridge Team Competency (BTC), Officer Of the Watch (OOW), Chief Mate Course (CMC), Command Course (Command), Electronic Chart Display and Information System (ECDIS) officers are required to undergo further ECDIS familiarization course at our in-house facility, Shipboard Safety Course (SSC), Maritime Professional Briefing (MPB), Maritime English training (divided into 5 course levels) programs for safety and efficient ship operations of deck and engine departments. The Training Center also conducts lectures on VTS (Vessel Traffic Separation) & SMCP (Standard Marine Communication Phrases) within the BTM and MRM courses, with the aim of developing our officers' communication skills in communicating with a VTS officer using standard maritime phrases in various simulations. The courses are upgraded regularly and provide a solid foundation to the Company's training activities and enable our Officers and Engineers to keep abreast of the latest developments in ship operations.

To meet the needs of trained engineers to serve on vessels fitted with new generation Main Engines from MAN Diesel & Turbo and Wartsila, the PSL Training Center liaises very closely with the Technical Department and the engine manufacturers to continuously upgrade the training courses which were first introduced even before the vessels were delivered into the fleet. Other training courses which the engineers go through before joining the ships are "Engine Room Management and Competency Enhancement" - "EMC" for Senior Engineers, "Engineer on Watch" - "EOW" for Junior Engineers, courses on "stern tube sealing systems" and "ships' cargo gears with special focus on hydraulics", and "Shipboard Safety." The PSL Training Center also augments classroom theoretical courses with practical training, wherever possible. Because the new vessels acquired are fitted with more fuel-efficient modern engines using advanced electronic controls and technology, the Company's senior engineers, Electrical Officers and shore-based Technical Superintendents are put through the engine-maker's specific training courses designed to better understand the operation and for effective troubleshooting. Junior engineers are in turn trained at the Company's Training Center and by trickle-down methods on board ships. New courses are also being introduced to prepare the ships' staff for the challenges expected in the coming

years on account of the low Sulphur cap, carbon dioxide emissions and ballast water treatment regulations. To equip the officers with knowledge of new developments, the company has also taken the step of organizing specialized courses conducted by experienced and proficient guest teachers.

Training overview on year 2023:

In this training overview for the year 2023, we will explore the key trends, courses, and developments that are shaping the landscape of professional development for the benefit of the company. During the year 2023, we continued to train our officers using a online/onsite hybrid system. Some courses such as BTC I and BTMC were combined using both online and onsite PSL Bridge Simulator. A total of 1,153 sea going officers and crew members attended a total of 22 courses that were conducted during the year, which is a testament to the company's commitment towards training our crew members and the high premium that we place on the same.

Significant changes introduced in the year 2023:

1. The training contents of BTC – II and BTM were combined together as the "Bridge Team Management and Competency Course" BTMC.
2. The Vessel Inspection Course has been replaced with the 'It's My Ship' course. While the Vessel Inspection Course was originally designed to prepare the vessel for inspection by third parties, 'It's My Ship' now emphasizes the continuous maintenance of the vessel to uphold high standards at all times.

What is new in 2023:

A Mental Health Survey is administered prior to joining, utilizing the questionnaire set out by the Department of Mental Health, Ministry of Public Health, Government of Thailand.

Summary of courses conducted in 2023:

Course Name	No. of Class conducted in 2023	No. of Participants in 2023	Man/day
MRM & VTS	10	177	531
BTC – I	5	29	87
BTM & VTS	9	115	345
MPB	12	182	728
OOW	5	27	81
CMC	9	38	114
COMMAND	7	24	48
ECDIS	5	30	90
Vessel inspection	4	24	24
It's my ship	4	106	530
RT – Flex	5	35	175
RT Flex Operation & Practical Advanced	5	49	245
ME Course	5	35	175
ME Engine Advance Troubleshooting	5	54	270
ME – B Control System Standard Ops	10	158	632

Course Name	No. of Class conducted in 2023	No. of Participants in 2023	Man/day
Basic English	6	67	670
Elementary English	6	94	940
Intermediate Eng – I	7	35	350
Intermediate Eng – II	2	9	90
SSC	1	11	11
Mental Health Training	2	31	31
Total	**114**	**1,153**	**5,636**

Plans for 2024:

New courses planned to introduce in 2024 as follow:

1. Shipboard Safety Course for Chief Engineer: This course is designed to enhance the awareness of responsibilities and duties for Chief Engineers who serve as Safety Officers on board.
2. Handling Hazardous Substances in Bulk and Packaged form: This course is designed for all deck staff and will focus on the safe handling of hazardous substances loaded on board, whether in solid or packaged form.
3. Hatch Cover Maintenance: This course emphasizes the importance for the Master and Chief Officer to understand the correct way to inspect and maintain hatch covers.
4. Log Lashing training course: To impart log lashing skills to all deck staff.

Joint Venture:

International Seaports (Haldia) Pvt Ltd: This is now our only investment in Ports in the Haldia Dock Complex (about 22.4% of the total capital) under our port projects investments. This JV continues to operate very well, and we have to-date received total dividends of USD 6.58 million, which works out to about 323% of our original Investment made in years 2002-2003.

In Conclusion

Demand:

The environment for 2024 is going to be characterized by extreme volatility, as it was for 2021, 2022, and 2023, for the same reason, that demand-supply came into near perfect balance during 2021. Downside risks for 2024 will include, amongst others, geopolitical tension hot spots like Ukraine, Israel, and Taiwan; China importing lower quantities of coal and iron ore; real estate, steel production, cement and aluminum manufacturing slowing down and negatively impacting GDP rates in China; QE taper in USA hurting their economy; interest rate in USA and other major economies not dropping quickly enough; higher oil prices negatively impacting world economic growth rates; and protectionism increasing. But it is not all doom and gloom. The upside potential for 2024 consists of, amongst others, fiscal and monetary stimulus by governments; China lowering interest rates, lowering reserve ratio requirements of their banks, lowering mortgage rates, and providing steel intensive stimulus; China importing more high-grade iron ore as they increase steel production; China importing more coal to reduce pollution; slower ordering of new ships due to challenging regulations covering fuels of the future, lack of traditional finance sources for ‘new fuel burning ships that could become stranded assets’; the US economy may outperform expectations and grow more strongly than forecast; and

weaker currencies in the Euro zone and Japan helping them to export their economies out of trouble. Most importantly, with geopolitical tensions around Ukraine, Israel; China rescinding its unofficial ban on coal imports from Australia; and the Chinese government adding as much stimulus as needed to keep their economy chugging along at a brisk pace, should all assist the demand side of the equation at a time when the supply side shows no signs of growing at anything but the slowest pace on record this century.

Supply:

Under the current conditions, approximately 14.24% (153.75 MDWT) of the existing world fleet would be over 20 years of age between 2024-2026 if no ships are recycled till the end of 2026. These ships would come under tremendous financial pressure due to the upcoming regulatory requirements. Depending on how challenging the freight markets turn out to be and the increasing regulatory pressure on older ships in the period 2024 to 2026 many of these ships would be forced to take the decision to head to the recycling yards in Asia.

With respect to the 8.33% of new ships (83.01 MDWT) scheduled to be delivered to the end of 2026, the lack of funding for fuel burning ships coupled with slippage in deliveries at shipyards would help slow down their arrivals into the freight market.

Financing:

As we began the year 2023, every economist worth their salt forecast a Fed induced global recession that would slow global GDP growth. The only point of conjecture was the severity of this much anticipated recession. How wrong were they! The US recorded a blistering 4.9% GDP growth rate in 3Q 2023, China's GDP growth for the year was above 5%, while India's was above 7%. The only laggard was Europe, which recorded a rather placid growth rate of less than 0.5%, much of this due to the loss of low cost energy from Russia. Economists, perhaps embarrassed by the impotency of their prophecies on full display, don't seem to have the courage to forecast a downturn for 2024. We may have to wait a bit longer for this recession if it decides to show its head at all!

Meanwhile, newspapers and business news channels were, and continue to be, inundated with articles about China's ailing property sector adding to the general gloominess, most especially for the dry-bulk sector. China, on the other hand, has different ideas with dry-bulk imports of virtually every major commodity reaching new highs in 2023. Weakness in the property sector was comfortably offset by growth in the automotive, ship building and infrastructure sectors. Unbeknownst to most, 2023 is, in fact, a milestone year for the Chinese automobile industry as this is the year that it established itself as the world's largest automobile exporter.

The impending global recession, coupled with the doom and gloom of the Chinese property sector, permeated the boardrooms of many financial market participants. This resulted in a reduction of capital availability for the shipping industry, from USD 16.6 billion in 2022 to USD 7.3 billion in 2023. Participants in the shipping industry were somewhat indifferent, too. Many had already utilized the extraordinary earnings of 2021 and 2022 to build up substantial cash reserves on their balance sheets. Additionally, newbuild ordering in the dry-bulk and tanker sector remained relatively muted. This was due to uncertainty over future fuels, limited yard capacity, and high prices, all of which contributed to keeping the demand for finance low.

The global demand for shipping is steadily increasing and there's a pressing need for companies to update their ageing fleets. Our own fleet is showing signs of age, with the average age now being 12 years old. Recognizing the need to stay competitive, we have initiated the process of fleet renewal. In 2023, we signed six loan agreements, with a significant portion of proceeds to be utilized to acquire new vessels.

The theme of ESG (Environmental, Social, and Governance) continued to be a significant focus for participants in the financial industry, with many financiers now requiring a sustainability component in every financing transaction. However, these financiers and industry participants remain realistic about the feasibility of these initiatives, acknowledging the limitations imposed by current technology and commercial viability.

According to Clarksons, the shipping industry (excluding offshore) as a whole raised USD 6.6 billion

from capital markets in 2023, compared to USD 15.2 billion in 2022. USD 6 billion came in from bonds and about USD 557 million from public equity and private placements, out of which about USD 319 million of public equity was raised through primary offerings (IPOs), down from the USD 1 billion raised through IPOs in 2022. The container shipowner company JJ Shipping had the largest shipping IPO in 2023, raising USD 305 million through a listing on the Shanghai Stock Exchange, while the second largest IPO was that of Chinese bulk carrier Shipping Fujian Highton, which raised about USD 208 million on the Shanghai Stock Exchange. Bond issuances in the shipping industry were dominated by the cruise sector, while equity issuances were dominated by dry bulk.

Concluding Remark:

Considering all the above, we are taking advantage of the opportunities that are present in the market. We hope to deliver to all our stakeholders the promise of this potential. This will, in no small measure, be due to the very dedicated and hardworking professionals that make up the office, as well as the floating staff at PSL.

For and on behalf of the Board of Directors of
Precious Shipping Public Company Limited

Chaipatr Srivisarvacha

Chairman of the Board of Directors

Khalid Moinuddin Hashim

Managing Director

12 February 2024