



The 3rd Quarter of 2023 Management Discussion and Analysis

“ Eisenhower told his biographer that he expressed to War Secretary Harry Stimson his “grave misgivings, first on the basis of my belief that Japan was already defeated and that dropping the bomb was completely unnecessary, and secondly because I thought that our country should avoid shocking world opinion by the use of a weapon whose employment was, I thought, no longer mandatory as a measure to save American lives. It was my belief that Japan was, at that very moment, seeking some way to surrender with a minimum loss of ‘face

Timothy P. Carney
Washington Examiner, 26 July 2023



Our Key Performance Indicators

3rd Quarter 2023 Financial Performance (US Dollar Terms)

The results, reviewed by EY Office Ltd., show you the Company's latest financial position. The net profit for Q3 2023 was \$2.79 million. The earnings per day per ship for Q3 2023 were \$9,741, lower than the figures of \$11,424 and \$19,840 recorded in Q2 2023 and Q3 2022, respectively. Operating costs of \$5,141 were lower than our target of \$5,400 but higher than the \$5,113 figure recorded in Q2 2023. EBITDA was \$12.26 million, which is lower than the \$18.38 million and \$45.77 million figures recorded in Q2 2023 and Q3 2022. The profit per share for this quarter was Thai Baht 0.06.

THE HARD FACTS	Q3 2022	Q2 2023	Q3 2023
Highest earnings per day per ship in USD	52,816	25,064	22,032
Average earnings per day per ship in USD	19,840	11,424	9,741
Av. earnings per day per Handy size ship in USD	16,535	10,465	9,382
Av. earnings per day per Supramax ship in USD	22,667	11,564	8,532
Av. earnings per day per Ultramax ship in USD	25,225	13,782	12,043
Av. earnings per day per Supramax/Ultramax ship in USD	23,871	12,608	10,185
Operating cost per day per ship in USD	5,159	5,113	5,141
EBITDA in million USD	45.77	18.38	12.26
Net Profit (Loss) in million USD excluding exchange gain (loss) and non-recurring items	35.09	7.40	0.84
Net Profit (Loss) in million USD	36.37	8.21	2.79
Earnings (Loss) Per Share in Thai Baht excluding exchange gain (loss) and non-recurring items	0.83	0.17	0.02
Earnings (Loss) Per Share in Thai Baht	0.86	0.18	0.06

Consolidated Financial Performance (Thai Baht Terms)

For the quarter ending 30 September 2023, the Company earned a net profit of Baht 98.44 million, compared to a net profit of Baht 1,348.04 million in Q3 2022. The main reasons for the changes are as follows:

- The Net Vessel Operating Income (Vessel Operating Income net of voyage disbursements and bunker consumption) in Q3 2023 is 53% lower than the Net Vessel Operating Income recorded in Q3 2022. This is mainly due to a decrease in the average earnings per Vessel per day which decreased from USD 19,840 in Q3 2022 to USD 9,741 in Q3 2023, as a weak global macro environment took a toll on freight rates. The fleet size was 38 vessels as of 30 September 2023 and 30 September 2022.
- Vessel running expenses in Q3 2023 are 8% lower than the figures in Q3 2022. The average Vessel operating expenses (Opex) per day per Vessel (including depreciation/amortization of Drydocking/Special Survey expenses) decreased from USD 5,159 for Q3 2022 to USD 5,141 for Q3 2023.

- Administrative expenses (including management remuneration) for Q3 2023 were Baht 4.69 million lower than the figure in Q3 2022, primarily due to a decrease in variable compensation expenses.
- Finance costs for Q3 2023 were Baht 24.65 million higher than the figure in Q3 2022, due to an increase in the SOFR benchmark rate.
- A gain of Baht 62.27 million on derivatives for Q3 2023 was realized due to the unwinding of several interest rate swap agreements.

For the nine-month period ending 30 September 2023, the Company earned a net profit of Baht 463.01 million, compared to a net profit of Baht 4,301.61 million during the same period last year. The main reasons for the changes to the nine-months financial results are as follows:

- The Net Vessel Operating Income (Vessel Operating Income net of voyage disbursements and bunker consumption) for the first nine-months of 2023 is 51% lower than the figure during the same period last year. This is mainly due to a decrease in the average earnings per Vessel per day which decreased from USD 21,875 in the first nine-months of 2022 to USD 10,394 in the first nine-months of this year. As of 30 September 2023 and 30 September 2022, the fleet size was 38 vessels.
- Vessel running expenses during the first nine-months of 2023 are 6% higher than the figure during the same period last year driven by higher dry-dock, and stores/spares expenses. When measured in US Dollar terms, the average Vessel operating expenses (Opex) per day per Vessel (including depreciation/amortization of Drydocking/Special Survey expenses) increased from USD 4,923 in the first nine-months of 2022 to USD 5,161 in the first nine-months of 2023.
- Administrative expenses (including management remuneration) for the first nine-months of 2023 were Baht 49.69 million lower than the same period last year, mainly due to a decrease in variable compensation expenses.
- Finance costs during the first nine-months of 2023 were Baht 61.29 million higher than the figure during the same period last year, due to an increase in the SOFR benchmark rate.
- A gain of Baht 77.53 million on derivatives for the first nine-months of 2023 was realized due to the unwinding of several interest rate swap agreements.
- Exchange gain for the first nine-months of 2023 of Baht 44.12 was mainly on account of changes in the US Dollar equivalent figure of our Thai Baht liabilities.

Marine Money Ranking

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

Update on the Chayanee Naree drug smuggling incident

Since the last report, the Court hearing that was scheduled for 13th October 2023 did not take place. A new date has been announced for hearing our case: 10th November 2023 when we expect oral arguments on our no-case submissions will take place. After all arguments are heard, the Company expects the Court will render a decision about a month later. The Company continues to work closely with its insurance company and legal counsel to ensure the case is fully resolved as early as possible.

Market Segmentation

During Q3, The Baltic Handy Size Index (BHSI) averaged 492 points, as derived from an average Time Charter (TC) rate of USD 8,863 per day. In comparison, our Handy size fleet earned USD 9,382 and outperformed the BHSI TC rate by +5.86%. The Baltic Supramax Index (BSI) averaged 912 points, as derived from an average TC rate of USD 10,028 per day. In comparison, our Supra/Ultra fleet average earnings were USD 10,185 per day and outperformed the BSI TC rate by +1.57%. Our target has been to outperform both the indices.

The next SET Opportunity Day will be virtually held at 15.15 hours on the 8th of November via the SET live web casts. We hope that many of you will attend this event electronically where the Company will get a chance to thoroughly discuss Q3 results. The number of online participants attending PSL's live presentation for Q2/2023 held on 9th of August 2023 on the SET website/YouTube had 248 views and 53 on Facebook for a grand total of 301 views.

Long Term versus short term Charters

The long-term charters, about 1 year or longer, are shown in the chart below. Our forward four-year rolling book is at 29% with a visible revenue stream of USD 210.20 million.

Year	2023	2024	2025	2026
Total Available Days	13,870	13,908	13,870	13,870
Fixed T/C Days*	7,128	5,067	2,008	1,825
% age Fixed T/C Days	51%	36%	14%	13%
Av. T/C Rate/Day in USD**	13,628	11,407	14,296	14,550
Contract value in million USD	97.14	57.80	28.71	26.55

*This comprises charters on 5 ships on fixed rate charter and 17 ships on variable rate charters

**Average T/C Rate/Day for the variable rate charters is estimated based on actual earnings for 9M 2023 and rates prevailing in October 2023 for the period thereafter.

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

Factors affecting the BDI:

- According to an article in Bloomberg dated 11 Sep, the devastation and death caused by the earthquake in Morocco, would need rebuilding of 30,000 houses, 500 schools, hospitals, roads, and other infrastructure. Similar requirements are there for the recent destructive earthquake in Turkey, the destroyed village 'Derna' in the north of Libya due to the bursting of two dams flooded by Storm Daniel, and for the destruction being caused by the ongoing Russia-Ukraine war, and the latest fighting that has erupted in Israel-Gaza strip. In these man-made and Climate-change assisted disasters, it is always the poor that suffer the most. All this will require copious amounts of steel, cement and wood, cargoes mainly carried by geared dry bulk ships. The question is, who will fund this?
- Geopolitics will continue to have an extraordinary impact on the dry bulk market. The last quarter of 2023, 2024, and 2025 may surprise on the upside with energy and food security driving governments to order and store more foods and coal to counter geopolitics uncertainties and climate change shocks; China continues to economically grow as their government balances fiscal stability versus economic growth; global infrastructure spending increases as governments realize this is required to bolster their economic growth rates; and now we have the latest war in Palestine that could involve higher oil prices, a higher USD, higher inflation, higher for longer interest rates. On the supply side, the forward order book to fleet ratio to end of 2026 at 8.01% is lower than the 20-year-olds at 8.26% of the existing fleet at the start of Q4, will ensure a small trickle of new builds into the market; EEXI/CII's impact to slow the world fleet will be felt strongly from the start of 2024; and scrapping of older ships will increase. These changes will increasingly lead to spikes in rates, both up and down, as the demand-supply balance, that was achieved in the SH of 2020, remains in play, making volatility an integral part of our markets.
- The latest 1.0t Yuan stimulus announced by China on the 24th of October 2023 was aimed to make infrastructure the key driver of GDP growth. Funding this drive will be Central Government Bonds that have only ever been issued three times in the past - the Asian financial crisis of 1998, the GFC in 2007, and Covid-19 in 2020. Such funds will be deployed in combatting the destruction wrought by Climate Change, and to keep the nation's infrastructure prepared for future emergencies. This is the good news that the dry bulk markets have been anticipating with bated breath.
- China will be the wild card for dry bulk. China spent \$586 billion in 2009 on steel intensive infrastructure and it pushed the BDI to a 4,221-point high in 2009 from a low of 665 points on 6th December 2008. China allocated \$667 billion on 21st May 2020 to assist Covid-19 hits to their economy. That pushed the BDI to 5,650 points, a 13-year high, in October 2021. The real question therefore should be, what happens when China's current stimulus plans, devoted to steel intensive infrastructure development, comes into play, in such a finely supply-demand balanced dry bulk freight market, in Q4 2023 and in 2024/2025?
- Despite the alarming headlines that China's imports have slowed dramatically in USD terms, the opposite is true in volume terms with iron ore, coal, and soybeans imported into China in Jan-Sep 2023 collectively up 19% when compared on a y-o-y basis, and by 12% above the last 5-year average for the same period.
- World steel production reached 1406.4 MMT in 9M 2023, up 0.1% from 9M 2022.
- China's PMI index was 49.7 during Q3 2023, and 50.1 in 9M 2023.
- China's GDP grew by 1.3% in Q3 2023. China with its interest rate cuts and stimulus will grow its GDP at its 2023 targeted rate of about 5%, but grow it will, and dry bulk owners will cheer.

- This article by [James K Galbraith in Project Syndicate](#) 'America's "New" China Narrative' states: 'Only weeks ago, China was America's fearsome "peer competitor" on the world stage. But now, we are told, it is a wounded dragon. Once a threat by dint of its inexorable rise, now it poses a threat because it is in decline. US President Joe Biden set the terms of this new narrative. As The New York Times's Michael D. Shear reports, the White House now worries that "China's struggles with high unemployment and an aging workforce make the country 'a ticking time bomb' at the heart of the world economy.'" Biden warned that, "When bad folks have problems, they do bad things," but he did not explain how, exactly, unemployment and an aging population turns China into a threat.' This article will show you what are the real issues and if China is going to collapse tomorrow.
- Another explanation as to what is going on in China is offered by Nicholas Lardy in the [article titled 'How serious is China's Economic Slowdown?'](#)
- And an even better explanation to understand what the leadership in China is trying to achieve titled '[China must not panic over deflation and reinflate a bubble](#)' by Dr. Andy Xie in the SCMP is a must read for its clarity and brevity.
- When it rains it pours, literally, for the northeastern farmers in China's grain belt. With crops already damaged by flooding in late July and then again in FH August, they are now bracing for more wet weather. Weather disruptions to Chinese grain crops will lead to the Chinese government importing ever larger quantities of grain, at a time of rising food insecurity across the globe, during the SH of this year and into 2024.
- In 2022 China imported a record 9.96 MMT of wheat. In Jan-Aug 2023, wheat imports reached 9.56 MMT, and the record set in 2022 will be smashed as crop damage due to climate change takes its toll in China.
- An [article in Reuters dated 26 October 2023](#), states: 'China's electrical generation surged to a seasonal record in September as the economy recovered from disruptions caused by the pandemic and lockdowns. Total generation increased by almost 63 billion kilowatt-hours (kWh) (9%) compared with the same month a year earlier, according to the National
- Bureau of Statistics. There were large increases in consumption by the services sector (17%), manufacturing (9%), primary industries (9%) and residential users (7%) compared with September 2022. Most of the increase was supplied by hydro-electric generation (+40 billion kWh) as the massive new Baihetan Dam on the Jinsha River compensated for poor rainfall. The rest came from thermal generators (+13 billion kWh), solar (+4 billion kWh), wind (+2 billion kWh) and nuclear generators (+2 billion kWh). Prolonged drought across southern China since mid-2022 has depressed hydro generation, requiring more thermal output to fill the gap, almost all from coal. To ensure coal-fired generators have sufficient fuel and avert a repeat of the shortages that occurred in 2021, the central government has mandated maximum domestic coal production and a big increase in imports.' China is the economy that is the mainstay for the Dry Bulk market.
- In our last newsletter we had reminded our readers "according to a Reuters special report human encroachment into the animal kingdom has created conditions ripe for another bat-borne disease to spill over to humanity, with more than 20% of the world's population living in such 'jump zones.' Covid allowed profits for shipping to increase significantly starting six months after the WHO defined it as a pandemic, and not a single shipping-pundit predicted that." We now have an even greater danger facing us from viruses that are millennial old, but very much alive, in the permafrost of Siberia which global warming is threatening to release. Any new pandemic caused by such ancient, and likely highly potent, viruses would create disruptions that might make the Covid pandemic seem tame in comparison. And we know what a powerful/positive impact the Covid pandemic had on shipping markets.

- Brazilian iron ore exports in Jan-Sep 2023 were 7% higher on y-o-y basis, explaining the strength of the Cape size sector and the BDI in end Q3/start of Q4.
- Brazilian coarse grain exports at 47 MMT in Q3 were 32% higher than the y-o-y basis, explaining the strength of the sub-Cape sector assisted by record exports and congestion.
- US household net worth in Q2 increased by \$5.5t to \$154.3t. That means there is plenty of firepower in the American consumers' hands.
- Extremely dry weather around the Panama Canal in the 5th wettest country in the world, has forced 2 meter draught restrictions; reduced transits to 32 from the normal of 36 with news articles suggesting that this may drop to 22 transits shortly; caused queues of 160 ships in early August with some ships delayed by 21 days in early August; forced container ships to offload containers at the pacific end and reload them at the Atlantic end; caused container rates to spike by 36%; impacted 170 countries and every conceivable cargo from Barbie dolls to coal. This could be the new normal at the canal and will increase freight rates via these disruptions.
- Claudia Sahm, an economist with the Fed Reserve, discovered an accurate yet simple rule to forecast recessions in the USA. The Sahm rule confirms a recession when the three-month moving average of the unemployment rate rises by 0.5% relative to the low point during the previous 12 months. That is not the case yet, so the recession criers are akin to the 'boy who cried wolf' in Aesop's fable.
- With India banning the export of rice, and dry weather harming production in Thailand, rice prices have gone up dramatically. Great news for exporting countries but bad news for the poorer West African countries that import this staple for their people. Longer distances will be sailed when rice is exported from further away countries like Thailand, or Vietnam.
- GDP grew by 4.9% in the USA in the third quarter.
- Global Rice trade in 2023 will reach 53.8 MMT and 52.5 MMT in 2024 according to the USDA.
- India's rice exports were a record 21.5 MMT in FY22 (roughly 40% market share) but will fall to 16.3 MMT in FY23 due to the rice export ban by India in the middle of this year.
- IMF forecast for world GDP growth rates is still at a reasonable 3.0% for 2023 and 2.9% for 2024. Dry bulk demand has decoupled from world GDP growth rates and is now more dependent on government stimulus or lack of it, impact from La Nina, climate change, geopolitics, inefficiency, queues at Canals, congestion etcetera.
- The next catalyst could be anything that increases ton-mile demand; or an increase in traded volumes of commodities, all other things being equal; or any disruption; or congestion. These are just some of the catalysts that are good for shipping rates.
- Ton-mile demand has been steadily falling from 2003-2009 (5.4% per annum) to 2022 (-1.5% by Clarksons), however, as excess supply has been finally absorbed, the very marginal increase in ton-mile demand in 2021 (3.4%) compared to the reasonably robust net increase in supply (3.6%), managed to push the BDI to a 13-year high of 5,650 points in October 2021.
- The index ships in Q3 2023 compared to Q3 2022 had Capes TC of \$ 13,407 compared to \$13,695, Panamax \$11,890 to \$17,172, Supras \$10,028 to \$19,728, and Handy sizes \$8,863 to \$18,709.
- It is the inefficiency in the dry bulk fleet, the very high price of bunkers slowing ships down significantly, that has been reducing the effective supply of ships and hence, despite all the existing obstacles of an end to central bank stimulus, QE tapering, strong Dollar, rising interest rates, threat of global stagflation, not one but two hot wars (Russia-Ukraine & Israel-Palestine) and one cold war (USA-China), underwhelming China recovery from Covid, lingering Covid-19 in the world, and talk of recession in the developed world, dry bulk shipping is still doing well enough to eke out a small profit. Demand is slowly recovering in the ROW while congestion at the Panama Canal and at Brazilian ports increases fleet inefficiency, yet the dry bulk market

remains constrained as the recovery in the G7 has been patchy at best, with the EU headed for a recession.

- Rates have been ably supported by low net new supply, lack of extreme ordering of new ships due to crowding out by early ordering from container/tankers/gas/car carriers; significantly reduced shipyard capacity; fuel-transitioning period; inefficiencies in the world fleet due to congestion at Brazilian ports and at the Panama Canal; and the start of EEXI on 1st January 2023 forcing most ships to reduce speed permanently via Engine Power limits.
- The Russian-Ukrainian war, and now the Israeli-Palestinian war is heaping uncertainty onto a world that was barely getting to grips with the Covid-19 pandemic, while facing the sharpest interest rate increases in this century. The fear is that the ROW falls into a recession with QE taper combined with much higher interest rates strangling economic growth, and this needs to be avoided.
- Shipments of specialized ores required for renewable energy and battery production will provide additional ton-mile demand for the smaller size ships.
- When 4 times as much DWT is delivered annually (2012 & 2016) as is ordered, then the BDI has increased in the subsequent year (+31% in 2013 and +70% in 2017). In 2020 48.66 MDWT was delivered, while 13.86 MDWT was ordered (or 4 times), and the average BDI for 2021 at 2,943 points was 176% higher than the average BDI in 2020 at 1,066 points. In 2021 37.62 MDWT was delivered, while 37.65 MDWT was ordered, so the 4X rule should not apply. The decrease in index levels of the BDI in 2022 was -34%, Capes was -51%, Panamax -23%, Supramax -17%, and Handysize -17% lower than the 2021 averages. This again confirms that supply-demand balance has been reached and rates will react with extreme volatility with the slightest change, increase or decrease, in demand or supply. Volatility is here to stay, so get used to it. It also shows that the geared ships are less volatile and fall at a slower pace than the larger gearless ships.
- 23% of Chinese iron ore imports came from Brazil (70 MMT) up +13% and 62% from Australia (186 MMT) down -1% in Q3 2023, according to Drewry. As longer ton-mile from Brazil increased more than the shorter ton-mile from Australia, it positively affected the Cape sector in Q3 2023.
- The orderbook to fleet ratio at the end of Q3 2023 for the dry-bulk sector was 8.01% (9.46% for the geared sector and 7.21% for the gearless sector.)
- During Q3 2023 2.26 MDWT of ships were recycled across the dry bulk fleet compared to 1.43 MDWT (up by 58%) in Q3 2022. The existing age profile at the end of Q3 2023 of 81.78 MDWT or 8.26% (12% in the geared segment and 6% in the gearless segment) of the world fleet being 20 years or older, together with low levels of the order book to fleet ratio of 8.01% (order book up to end 2026 compared to net supply at the end of Q3 2023), should result in the world dry bulk fleet growing at a slower pace.
- This will tighten the net effective supply of ships, aided by the very low ordering activity in 2023, to easily counteract any increased supply from new ships. Besides, ships are being ordered to sail at the slowest possible speeds, due to lower rates, higher fuel costs, and EEXI/CII kicking in, further tightening effective supply.
- According to Clarksons, ton-mile demand will grow by 4.59% and 1.80% compared to net supply growth of 2.9% and 2.2% in 2023 and 2024 respectively (forecast dated 31 October 2023). With the inefficiencies in the net supply of ships due to Panama Canal draught issues reducing canal transit numbers and leading to long queues and Brazilian grain exports creating significant congestion, this gap between supply-demand in 2023 and 2024 should widen in favor of the ship owners and we should see better markets.

- PSL's exposure to the smaller geared segments means that we will be exposed to growth in net supply of 3.2% and 3.2%, with minor bulks growing at 3.92% and 3.77%, respectively in 2023 and 2024, according to Clarksons.
- Ships 20 years or older, comprising 81.78 MDWT or 8.26% of the existing fleet (42.80 MDWT of the geared fleet or 12% and 38.98 MDWT of the gearless fleet or 6%) at the end of Q3 2023 would be ideal candidates for recycling in 2024 under the new IMO regulations.
- Healthier recycling is expected during 2024 due to the large number of 20+ year old ships in the world fleet; pressures from BWTS; Special Survey costs on these older ships; and additional regulatory pressure from adoption of EEXI & CII regulations that came into force on 1st January 2023, that will force some of them to early recycling.

Key Supply Side Developments

We started 2023 with 966.03 MDWT and have increased to 989.66 MDWT (+2.45%) at the end of Q3 2023. If we were to apply slippage of 5.00% (it was 5.41% i.e., below projected deliveries till end of Q3 2023) to the scheduled deliveries in Q4 2023 and FY 2024 and assume scrapping reaches 8 MDWT (it was 4.81 MDWT till end of Q3 2023) we would be left with a net fleet growth of 2.99% (966.03 MDWT to 994.96 MDWT of which 340.73 MDWT to 351.52 MDWT for the geared sector +3.17%, 625.30 MDWT to 643.44 MDWT for the gearless sector +2.90%) by end of 2023 and 2.34% by end of 2024 (994.96 MDWT to 1,018.28 MDWT of which 351.52 MDWT to 363.88 MDWT for the geared sector +3.52%, 643.44 MDWT to 654.40 MDWT for the gearless sector +1.70%.) Congestion, ballasting ships, Panama Canal queues, slowing ship speeds due to lower rates, higher fuel costs, and in 2024/2025 due to EEXI/CII regulations coming into full force, will further assist in supply side tightening.

Geopolitics, Inflation & Trade Flows:

At the end of WW2, the North Atlantic Treaty Organization (NATO) was formed in 1949, and though USSR/Russia asked to be included as a member, they were denied a seat at that table. The bipolar world was born, in which the USSR/Russia were, slowly but surely, painted as the bad actor and the USA, with its coalition of the willing, painted as the good actors, all by a very compliant mainstream media that never questioned the press releases nor the developed world leaders that made such claims. The world was divided into two massive trade blocs trading within themselves but only venturing into trade agreements with the 'other' side when it was economically expedient to do so, with India leading the non-aligned third leg choosing neither side but leaning more towards the USSR/Russia end of the table.

Kissinger, with Nixon in tow, came along and ping-pong diplomacy was born in the early 1970ies, Pakistan playing the role of mid-wife, that brought China into the 'free world' culminating with a seat at the table at the WTO at the turn of this century. With the entry of China into the WTO, world trade got a steroid shot in the arm, and trade flows increased dramatically with the political blocs remaining, but most trade barriers being torn down via the WTO and other multilateral/bilateral free trade agreements. And though the bipolar world continued as before, China became the de facto manufacturing capital of the world with its hardworking industrious people led by a Communist Party that was capitalist in all but its politics. Finished products from China appeared in every corner of the globe at prices that were so low that well established industries in the West/developed world

sent their knowhow, personnel, and expertise to set up extremely profitable factories in China. Deflation was what China exported, and as a result, the ROW that traded with China, saw interest rates collapse. Disruption of supply chains has led to near/friend shoring, but as Apple is experiencing, it only pushes prices higher for end consumers, and unfortunately inflation will remain stronger for longer. For the first two decades of this century, interest rates came down sharply, and stayed at or close to zero, while trade flows and stock markets world over skyrocketed. The world got lulled into a false sense of security with the internalized mantra 'zero interest rates forever.'

The collapse of the USSR was engineered by the Reagan administration via the creation in 1978 of the Mujahideen to fight Russia that had 'invaded' Afghanistan. The Mujahideen did their task brilliantly with arms, financial aid, and training from the USA, and fierce warriors recruited from the Arab world led by Osama Bin Laden. Russia suffered and bled from a thousand cuts administered by the mujahideen between 1979-1989 who were welcomed at the White House on 16 June 1986 by President Reagan calling them freedom fighters. In 1992, the communist government in Afghanistan was overthrown and the Taliban, came to power. As there was no further use for the Mujahideen, they were discarded by their creators. The Mujahideen morphed into Al Qaeda, led by Osama Bin Laden who was killed by US Navy Seals on the orders of President Obama on 2 May 2011. Al Qaeda by then had broken up into many splinter groups, operating independently, mainly in the middle east as well as in parts of Africa. One such group morphed into ISIS in 2004, and for a time, conquered huge tracts of land within Iraq, Syria, and beyond. Luckily for the world, ISIS faded away into the dust of history by 2017, and we can all but hope that they will never be resurrected.

The Berlin wall came crashing down in 1991 and was soon followed by the collapse of the USSR, Russia remained as the core stump, and all its satellite countries gained independence. In the early 1990ies Russia was given verbal assurances from the West/developed world that there would be no induction of these newly independent states from the breakdown of the USSR into NATO. Most memoirs or articles written by Western/developed world personalities involved at the time, uniformly confirm that the Russians were led down the proverbial garden path, with the West/developed world currently in denial of all such verbal promises. That ended, with the Russian invasion of Ukraine on 24 February 2022 with the West weaponizing SWIFT and other sanctions against Russia. The net result is the EU has lost out badly with a spike in energy costs, massive deindustrialization with corporates relocating to energy surplus USA, with the IRA subsidizing such moves, all at the cost of lost jobs and lost tax revenues in the EU. As a result, the EU is headed for a recession. Meantime, India, and China, the two economic powerhouses in BRICS 11 enjoyed the benefit of plentiful, cheap, Russian oil. The sanctions also promoted the creation and growth of the shadow tanker fleet that may come to haunt the West if there were to be a massive oil spill from any such ships that are, technically, uninsured.

The world had become unipolar from the early 1990ies with the collapse of the USSR, leaving the USA being the sole hyperpower. Meantime, the mujahideen who were no longer needed as they had served their purpose with the collapse of the USSR, were neglected by the USA, and left to their own devices with their fighters ensconced in Afghanistan. With no financial aid, the mujahideen plotted against their former masters, and you had the infamous collapse of the World Trade Towers in Manhattan on 9/11 2001. With it, the interminable 'war on terror' began with the USA, and their coalition of the willing, acting as the bulwark against the 'dark forces' of the 'axis of evil.' Such comic-book categorizations would have been funny but for the loss of treasures (\$8t+ in the USA), millions of lost lives (middle east/Africa), imploded countries (middle east/Africa), with millions of refugees scrambling away from the war of terror foisted on them (to the EU).

About 15 years ago, the USA stopped wanting to be the policeman of the world and started looking strategically for the pretenders to their crown. Russia, through the war with Ukraine, had shown they were no longer a threat, yet had enough nuclear bombs to annihilate the world twice over. Meanwhile Deng Xiaoping, in control of China from 1978 to 1989, had set in motion the greatest economic boom of our times with China, from being an economic nobody, becoming the undisputed number two economic superpower in nominal terms by the second decade of this century. IMF data indicate that China overtook the USA as the world's largest economy in 2014 on a purchasing power parity basis. And since then, we have had trade wars and tariffs between USA and China as they continue to battle it out for economic supremacy. Countries have been forced to take sides with the formation of the five-eyes, the quad, and AUKUS as a bulwark against China. BRICS 11 has taken up the mandate on behalf of the Global South, or the developing world, to balance out USA/NATO's pivot towards Asia. Consequently, trade flows have been reshaped dramatically, adding ton-mile to the demand for bulk shipping services. Australian coal to China, a fading memory during 2021/2022, as China 'punished' Australia for demanding an inquiry into the origins of covid-19, came roaring back in 2023 when such restrictions were lifted.

Luckily for dry bulk shipping and Australia, the Russia-Ukraine war diverted the lost Chinese coal trade to ton-mile intensive Aussie-EU coal trade, while coal flowed freely into China from alternate sources. Similarly, the Russia-Ukraine war had far reaching impacts on trade flows, 3F prices (fuel, food, fertilizer), and inflation skyrocketed around the world. In the months immediately after the start of the war, trade flows from Ukraine to the EU and North Africa came to a grinding halt. That immediately hurt trade flows but as there was no sign of when these flows would resume, the buyers of fuel, food, fertilizers, coal, and steel scoured further afield for their requirements. This increased ton-mile demand for dry and wet bulk cargoes and was good for bulk shipping. In the meanwhile, Turkey, the country that was hurting the most due to increased ton-mile costs of grain, stepped in and with the help of the UN, stitched together what became known as the Black Sea Grain Initiative (BSGI). From August 2022, monthly 3-4 MMT of grain was shipped under the auspices of the BSGI till mid July 2023, when that came to a halt. The net result of the sudden lack of grain, fuel (coal-gas), steels, and fertilizers from 24 February 2022 pushed prices up for these commodities with the birth of 'sticky' high inflation. To combat high inflation, in early 2022 the Fed started the fastest hike in interest rates the world has seen this century, which appears to have done the trick, with the last hike coming in July 2023. At the meeting of the developed countries central bankers at Jackson Hole, Wyoming, in the week ending 26 August, the Fed stated that rates could be hiked further and/or stay stronger for longer, if inflation were to stay above their target rate of 2%. This statement has been made despite the valid concerns expressed by various economists who fear another hike might push the US economy into recession.

USA is the sole military power with its armed forces engaged in most continents and has more than 800 military bases spread around the world. China, meanwhile, has focused its efforts on gaining an economic edge over the US. Militarily it is a unipolar world with the Pentagon's latest budget heading towards the annual USD One Trillion number, that is larger than the next 10 countries combined, which mainly consists of members of their NATO alliance.

We now have a world with alliances between the developed countries led by the USA promoting inflation-inducing near/friend-shoring, and the Global South BRICS 11 led by China, promoting globalization via a win-win deflation-inducing free trade world. BRICS 11 produces about 70% of global oil, has upward of half of humanity, and so are, or can be, a potent economic force. USA and China lead a multipolar economic world in which India could stand shoulder to shoulder and have a seat at the decision-making table. Economically, both the USA and China are joined at the hip, and

their combined annual trade, the largest in the world, is the envy of every other country that wants to partake in it. The European Union of 27 countries is one of the other large economies in the world, therefore, we live in a multipolar economic world. In such a world, understanding the economic ruin that could be foisted on all by geopolitics, especially the poor, comes in this wake up article '[The Global Economy's Real Enemy is Geopolitics, Not Protectionism](#)' written by Dani Rodrik dated 6 Sep and published by Project Syndicate, that states 'America's main rival now is China, which occupies a very large position in the world economy. A true decoupling between the West and China would have major repercussions for the entire world, including the advanced economies, owing to their heavy dependence on China for industrial supplies. One therefore can find plenty of good reasons to worry about the future health of the world economy. But if the global economy does become inhospitable, it will be because of American and Chinese mismanagement of their geopolitical competition, not because of any supposed betrayal of "free trade." Policymakers and commentators must remain focused on the risk that really matters.' Bloomberg carried an [article where the IMF warned](#) in April that its outlook for global growth over the next five years was the weakest in more than three decades, and urged nations to avoid economic fragmentation caused by geopolitical tension. Another snippet from Bloomberg dated 11 Sep states, "China's apparent iPhone ban for staff in government departments, agencies and companies weighed on Apple shares, and those of its suppliers. The dynamic is the latest example of geopolitics infiltrating markets, creating a headache for investors. Apple makes most of its iPhones in China and tries to sell them there too. The latest salvo in the tit-for-tat proxy tech conflict between the US and China is notable given the appetite among US companies to relocate supply chains closer to home markets. Fund managers complain that geopolitics has made their jobs harder, as the companies they invest in struggle to decipher the shifting landscape. China has become a global hub for complex, global supply chains. For many companies, unpicking these tight links will be difficult and costly. Should relations between the world's two largest economies further spur US companies to move supply chains, this could pressure costs higher, in turn weighing on profits paid to shareholders." And there you have it, the link between geopolitics, trade flows, markets, and prosperity (or ruination).

Coming to the US Dollars domination of world trade and holding the title of reserve currency of the world. It all began with the Bretton Woods agreement in July 1944. According to Wikipedia 'Bretton Woods Agreement and System created a collective international currency exchange regime that lasted from the mid-1940s to the early 1970s. The Bretton Woods System required a currency peg to the US Dollar which was in turn pegged to the price of gold. In July 1945, Congress passed the Bretton Woods Agreements Act, authorizing US entry into the IMF and World Bank, and the two organizations officially came into existence five months later.' By the mid-1940ies, the US was at the pinnacle of its power, economically, politically, and militarily. The US possessed 22,000 tons of gold, and was the manufacturing capital of the world, with about 70% of all industrial goods being produced there. During WWII, the US shipyards were producing one liberty ship a day, with a total production during WWII of about 2,700 ships! These were ships designed for a single voyage to take oil, tanks, aircrafts, or troops to Europe from the USA, provided they survived the gauntlet of Nazi submarines and/or kamikaze attacks by the Japanese fighter aircraft. About 200 of these ships were lost on their maiden voyages. The first shipping tycoon, Aristotle Onasis, purchased these surplus liberty ships at a song after the war, and made his fortune, ending up marrying Jacquelen Kennedy, the ex-first lady of the US. The liberty ships had long lives, with two of them surviving till the present day. That was the power of the US in terms of manufacturing long lasting products. However, by 1971, Nixon announced the end of the Bretton Woods agreement, suspension of converting USD into gold, and the fiat currency world was born. At the same time, Kissinger, got the Saudis to trade all their oil only in USD and swap the proceeds for US Treasury Bills, in exchange for military protection by the US. This US-Saudi agreement did two things; it firstly made the USD

the official reserve currency of the world, though it took 12 years for the USD to replace the Pound Sterling that had long occupied this hallowed position; it allowed the US to behave in a fiscally irresponsible manner, to finance all sorts of geopolitical machinations around the globe, at no cost at all, by simply printing US Dollars. This led to the debasement of the US currency, and countries that understood this, started converting their USD holdings into gold. By 1971, the USA's gold holdings had dwindled down to 8,000 tons due to these conversions, when the US suspended this agreement. Use and misuse of sanctions by the USA, withholding USD reserves of various countries, like Russia, Iran, etcetera, has made the other economic powers like India and China nervous about holding US reserves. The BRICS 11 will use their massive trading bloc to wean themselves off US Dollar dependence, start trading in their local currencies, reduce holding their reserves in USD, and start holding reserves in a basket of currencies and gold. Just as it took 12 years before the USD became the new reserve currency of the world post the collapse of Bretton Woods, it will take a decade or two before the USD will lose this extraordinary position. So, for those expecting a collapse of the USD any time soon, the wait will be long. And now we have the gigantic Tech Companies whose market caps far exceed the annual GDP of most countries. They wield extraordinary power economically and politically. And with their assistance in Ukraine, an extraordinary military influence too, with Elon Musk's Starlink Low Earth Orbit satellites providing the backbone for the Ukrainians stand against a former fading superpower, Russia. The Tech giants silenced Trump from most social media while he was still the President of the USA. China has started to clip the wings of the Chinese Tech giants, and if the USA starts doing the same with the US based Tech giants, it could lead to another dimension with the global Tech titans forming a sort of digital superpower controlled by corporates from around the globe. More complications ahead, as we see it, especially now that the Tech giants have got the game changer, AI, on their side/pay roll.

Geopolitics, Russia-Ukraine, & Other Wars:

Let us reiterate, so that it is crystal clear – there are no winners in any wars, only losers. If you don't think this is true, just ask any of those who have sacrificed a loved one to any war, whether they happened to be on the winning or losing side, and they will speak painfully of the loved ones they have lost. Wars should never be fought, and diplomacy, the art of talking to your enemies, must be taught to all those entering politics, with a course on ethics thrown in for good measure. After all, it is senile old men in dark suits who send youngsters to die in wars in distant lands, many a times egged on by different nation states who do not care how many youngsters are slain in the proxy war that is being fought on their behalf. None of these senile old men in dark suits ever send any of their sons or daughters or loved ones to any such wars, whether in defense of their own nation, or in a proxy war with some other nations, and never have any skin or relatives in this game of thrones that they play. Killing of any one is always wrong, and killing of innocent civilians can never be justified, whether it is carried out by state or non-state actors.

This snippet from Reuters dated 24 October 2023 stating, 'World Bank President Ajay Banga said that geopolitical tensions pose the biggest [threat to the world economy](#), but that risks "tend to move around" fast, so others should not be ignored.' To make things scarier, we have another snippet from Reuters dated 25 October 2023, stating: 'China has launched its first [nuclear-powered guided missile submarines](#), according to the Pentagon's latest report - giving it land and sea attack options once the sole province of US and Russian vessels.' And there you have it; geopolitics is indeed the biggest threat.

The thing about geopolitics and war is that truth is always the first casualty, with the actual picture revealed years later. Take for example the prestigious magazine, The Economist. They seem to always want what is good and right to take place, at least that is the thrust of their editorials. Except when you get the truth years later, you see that they were those egging on coups to displace democratically elected governments. This article from Jacobin titled [‘The Economist Magazine’s Role in the Chilean Coup’](#) is worth reading to understand that one should not always believe what is being written by supposedly prestigious magazines.

Reuters carried the following statement dated 10 October. “Israel's troops were battling to clear out Hamas gunmen more than two days after they burst across the fence from Gaza, and the army said it would soon go on the offensive after the biggest mobilization in Israeli history. [Here is a summary](#) of the latest developments.” The likely fall out in geopolitical terms from this conflagration between Israel and Palestine, at the border of the open-air prison called Gaza, would be a likely freeze on diplomatic normalization between Saudi Arabia and Israel. Oil prices have already increased and would likely raise bunker oil prices and increase freight rates. Higher oil prices would collide with a world just about to escape a recession, caused by the fastest rise in interest rates this century to combat inflation. Inflation may get a boost from higher oil prices, and we could well be staring again at a likely near-term recession. In the [New York Times, there was an op-ed written by Nir Avishai Cohen, a major in the reserves of the Israel Defense Forces](#), published on 13 October that states, ‘There’s no such thing as “unavoidable.” This war could have been avoided, and no one did enough to prevent it. Israel did not do enough to make peace; we just conquered the Palestinian territories in the West Bank, expanded the illegal settlements and imposed a long-term siege on the Gaza Strip. For 56 years Israel has been subjecting Palestinians to oppressive military rule. In my book “Love Israel, Support Palestine,” I wrote: “Israeli society must ask itself very important questions about where and why the blood of its sons and daughters was spilled. A Messianic religious minority has dragged us into a muddy swamp, and we are following them as if it were the Piper from Hamelin.” When I wrote these words last year, I didn’t realize how deep in the mud we were, and how much more blood could be shed in so little time.’ As Mahatma Gandhi, the father of the Indian Republic, said, ‘An eye for an eye, and soon the world will be blind.’ Mahatma Gandhi was the spiritual guru of non-violence, achieving India’s freedom from British colonial rule, with civil disobedience blunting the violence of the oppressors. In his [letter dated 26 Aug 1938, Mahatma Gandhi stated](#), ‘But I do not believe in any war. A discussion of the pros and cons of such a war is therefore outside my horizon or province. And now a word to the Jews in Palestine. I have no doubt that they are going about it the wrong way. The Palestine of the Biblical conception is not a geographical tract. It is in their hearts. But if they must look to the Palestine of geography as their national home, it is wrong to enter it under the shadow of the British gun. A religious act cannot be performed with the aid of the bayonet or the bomb. They can settle in Palestine only by the goodwill of the Arabs.’

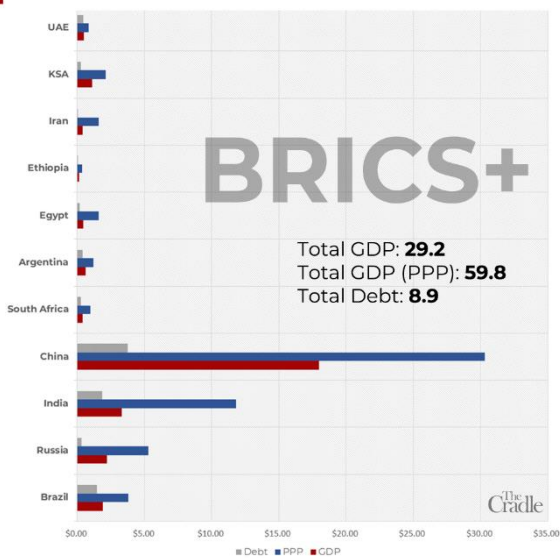
An article in The Intercept titled, [“US Helped Pakistan Get IMF Bailout With Secret Arms Deal For Ukraine, Leaked Documents Reveal”](#) states ‘Secret Pakistani arms sales to the US helped to facilitate a controversial bailout from the IMF earlier this year, according to two sources with knowledge of the arrangement, with confirmation from internal Pakistani and American government documents. The arms sales were made for the purpose of supplying the Ukrainian military, marking Pakistani involvement in a conflict it had faced US pressure to take sides on.’

Bloomberg carried this snippet, “India is studying possible responses to any potential Chinese invasion of Taiwan following discreet inquiries from the US on how it [could contribute in the event of a war](#). About six weeks ago, Defense Chief General Anil Chauhan, India’s top military

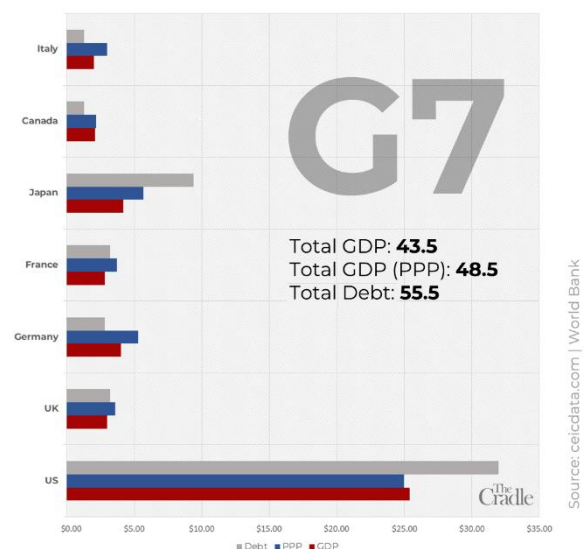
commander, commissioned a study to examine the wider impact of any war over the island democracy that also involves the US and its allies, and what action India could take in response.” Geopolitics again raises its ugly head with the US trying to get India onside for a war between Taiwan and China.

An article by [Pepe Escobar titled 'Welcome to BRICS 11'](#) has these two charts which says it all. The article itself is worth a read.

BRICS+ countries GDP & Debt (Trillion USD)



G7 countries GDP & Debt (Trillion USD)



This article by Professor [Nouriel Roubini titled 'Preventing a US-China War'](#) opines ‘Under President Xi Jinping, China has become more authoritarian and moved further toward state capitalism, rather than adhering to Deng Xiaoping’s concept of “reform and opening-up.” Moreover, Deng’s maxim, “hide your strength and bide your time,” has given way to military assertiveness. With China pursuing an increasingly aggressive foreign policy, territorial disputes between it and several Asian neighbors have worsened. China has sought to control the East and South China Seas, and it has become increasingly impatient to “reunify” with Taiwan by any means necessary. On Taiwan, the US and China should try to reach a new understanding to defuse today’s dangerous escalation. US President Joe Biden should clearly reaffirm the One China principle and realign his public commitments and statements with the principle of “strategic ambiguity.” The US should sell Taiwan the weapons it needs to defend itself, but not at a pace or scale that could provoke China to invade the island before its “porcupine” defense advances too far. America should also state clearly that it opposes any Taiwanese move toward formal independence, and it should avoid high-level visits with Taiwanese leaders.’

A news snippet from Bloomberg states that the US government is giving each resident family in Hawaii a grand total of \$700 as relief aid from the devastation of the wildfires that have killed over 100 people and destroyed countless homes. At the same time, the US government that had already 'gifted' \$115b to Ukraine, announced on 29 Aug a further \$250m 'gift' to Kyiv. And the Pentagon, on 7 Sep announced a new security assistance package worth up to \$175m for Ukraine. But nothing more or even coming close to the order of magnitude as the 'gifts/assistance' given to Ukraine, for Hawaii. Makes you wonder, what is going on?

This [article is certainly worth a read](#) and explains the above news snippet from Bloomberg. It states: On one Facebook thread, several Maui realtors described receiving similar calls. One of them told Jacobin that he received a call on August 9, just one day after the fires began. Like most locals in the close-knit Maui community, the realtor was disgusted by the opportunism. "It's been bottom-feeders calling us, asking about what kinds of lands we have available," he said. "This is not the time. It's unfathomable what people are going through with loss of life, that they would be calling. But I guess that's America." And there you have it, the exposed underbelly of capitalism, normally kept firmly out of sight.

The Guardian article titled: ['Occupied by the US: wildfires renew Native Hawaiian call for sovereignty'](#), states "At a time of climate crisis, dwindling resources and unfettered capitalism, the decades-long Native Hawaiian struggle for sovereignty has gained a renewed sense of urgency following the August wildfires that incinerated west Maui. Real estate agents were *cold-calling* survivors just days after the fire with aggressive offers for their ancestral homes, prompting the governor, Josh Green, to explore a moratorium on property sales. "The potential of being further displaced is very real," Ahia said. "If that happens, that is going to feel like the end for us." This article gives you the genesis of how the USA took Hawaii.

The article ['The Crisis of American Leadership'](#) on 3 Aug 23 by Chris Patten states, 'Since the end of World War II, the UN has been the cornerstone of the international rules-based order. That all changed with the Bush administration's decision to invade Iraq, a sovereign country, in the face of fierce international opposition and without the UN Security Council's approval. In doing so, the US severely damaged its own credibility and undermined the global rules-based system, providing many countries in Africa and Latin America with a plausible reason not to condemn Russia. Even India has maintained a neutral stance on Ukraine'. This, perhaps, explains why the Global South has not condemned Russia.

In an article in the FT quoting from BIMCO, ton mile demand for crude was up 10% and for product tankers was up by 8% in the FH of this year, all thanks to the Russia-Ukraine war.

An article discussing the Chris Nolan movie 'Oppenheimer' posits why there is hardly any mention of the devastation caused by the two atomic bombs used by the USA to quell an already-surrendered-Japan. 'A [2022 report by Ira Helfand](#) and International Physicians for the Prevention of Nuclear War estimated that a "limited" nuclear war between India and Pakistan that used roughly 3% of the world's 12,000-plus nuclear warheads would kill "hundreds of millions, perhaps even billions" of us. A full-scale nuclear war between the United States and Russia, the study suggests, could kill up to five (yes, five!) billion people within two years, essentially ending life as we know it on this planet in a ["nuclear winter."](#) Given the Nolan film's focus on Oppenheimer's story, some crucial issues related to the world's nuclear dilemma are either dealt with only briefly or omitted altogether. The [staggering devastation](#) caused by the bombings of Hiroshima and Nagasaki is

suggested only indirectly without any striking visual evidence of the devastating human consequences of the use of those two weapons. Also largely ignored are the critical voices who then argued that there was no need to drop a bomb, no less two of them, on a Japan most of whose cities had already been devastated by US fire-bombing to end the war.' The USA always claims the moral high ground but the facts, dropping not one but two atomic bombs on a vanquished enemy, suggest otherwise.

Regulations:

If the airlines say they must pass their capital expenses of \$5t, to passengers via higher ticket costs to get to zero GHG by 2050, why should shipping not be able to pass on the \$1.5 to \$3t of capital expenses required to get to zero GHG by 2050 to our customers?

The current maximum shipbuilding capacity in the world is about 40 million compensated gross tons (MCGT) reached in 2019. The maximum capacity ever reached was in 2010 at about 60 MCGT. As of the end of 2022 the existing commercial fleet of ships in the world was 959.42 MCGT, hence at 2019 shipbuilding levels you would be able to replace all existing ships in 26 years or by 2049, and if you could reach the all-time high of 2010, then you would need 16 years to do so, by 2040. This, of course, presumes that trade will NOT grow in the interim. Shipping economist, Dr. Martin Stopford, has indicated that trade would expand by 2.5 times current levels by 2050, meaning we would need 2.5 times the current fleet to handle the expected increase in trade by 2050. That would set the year for replacing all ships with ZEVs to 2064 at 2010 productivity level that it would be impossible to get to zero GHG emissions by the IMO deadline of 2050. If IMO were to put hard deadlines, as suggested below, then shipyards would have a deadline for producing/delivering fuel burning IC ships; they would know the total MCGT of ships that would need to be replaced by 2050 to take shipping to zero GHG emissions; they would be able to increase their shipbuilding capacity, by the requisite amount, to produce/deliver enough ships so that the world could have a zero GHG shipping industry by 2050. Without deadlines, zero GHG shipping by 2050 is just a pipe dream.

TradeWinds in an article dated 29 September, indicated that Maersk is regretting their splurge on methanol fueled ships, as green methanol will likely cost 30 to 50% more than green ammonia.

An article in TradeWinds indicated that Class NK felt 100 MMT of ammonia/methanol would be needed every year if shipping was to achieve its 2030 target of 20% reduction in GHG emissions from the 2008 baseline. Class DNV felt that shipping will require 30% to 40% of global carbon-neutral fuel production to achieve the target. Without hard deadlines from the IMO on a carbon tax of \$100 per ton of CO₂ from 1 Jan 2025 doubling to \$200 by 1 Jan 2030; stopping production/delivery of IC fuel burning ships from the end of 2029; and scrapping of all ships that are 20 years or older by end of 2034, none of these targets will be achieved.

Another article in TradeWinds dated 26 September 2023, states: 'Methanol used today is just another fossil fuel, produced from natural gas. When you burn methanol (CH₃OH), you emit CO₂. And it has worse well-to-wake emissions (estimated at 14% higher) than VLSFO. Green fuels needed by shipping and other sectors, such as aviation, will be both scarce and expensive. This was underlined last week by many people, including maritime economist Dr. Martin Stopford and DNV Maritime chief executive Knut Orbeck-Nilssen. University College London estimates that each year of inaction this decade will add an extra \$100bn to the cost of shipping's decarbonization. It is inevitable that there will continue to be a basket of fuels.'

An [article in TradeWinds](#) quoting Mikal Boe states that their Molten Salt Reactor will only have a prototype ready on a ship by 2032. This is already 2 years later than their most recent forecast made this year. Delays will make this another scary technology that will come much too late to help shipping.

[“Japan’s Insane, Immoral, Illegal, Radioactive Dumping”](#) article by Robert Hunziker in Counterpunch dated 8 Sep states “TEPCO’s treacherous act of dumping radioactive water into a wide-open ocean is a deliberate violation of human decency, as it clearly violates essential provisions of the International Atomic Energy Agency’s (IAEA) General Safety Guide No. 8 (GSG-8). Japan should be forced to stop its diabolical exercise of potentially destroying precious life. Shame on the IAEA and shame on the member countries of the G7 for endorsing this travesty. They’ve christened the ocean an “open sewer.” Hark! Come one, come all, dump your trash, open toxic spigots, bring chemicals, bring fertilizers, bring plastic, bring radioactive waste that’s impossible to dispose... the oceans are open sewers. It’s free!” And yet people are promoting nuclear energy as a safe, quick, and effective solution to bring shipping’s GHG emissions to zero. What am I missing here? Why are we rushing into such a dangerous area? It reminds me of the quote from [Alexander Pope in his seminal poem](#) ‘An Essay on Criticism’ where he admonishes the reader in part 3 with “For fools rush in where angels fear to tread” to show that foolish people are often reckless, attempting feats that the wise would avoid.

This [article in Grist released on 31 Aug 23](#) states ‘A new study found trace amounts of nuclear waste in sea turtles in the Marshall Islands and five locations in the continental United States, underscoring the enduring legacy of nuclear testing and weapons development. The findings coincide with Japan’s decision to release treated, contaminated wastewater from the Fukushima Daiichi nuclear power plant into the Pacific Ocean. The move prompted China to ban seafood from Japan, inspired protests in Fiji and South Korea and has [particularly frustrated Indigenous peoples](#) in the Pacific who have spent decades fighting against the dumping of nuclear waste in the region.’

When people try to sell the safety of nuclear use, especially on ships where every single voyage is legally termed a ‘marine adventure’, please take such statements with the skepticism it deserves. This article titled [‘Carcinogens found at Montana nuclear missile sites as reports of hundreds of cancers surface’](#) should be read by those that think nuclear reactors on board ships is a good idea that will get us to net zero quickly, and safely.

Reuters has an article on [how the world sees the discharge of ‘treated’ radioactive water](#) from the Fukushima plant in Japan. Once again, this article is a must-read for those who think that nuclear reactors on board ships is such a good idea.

And then there is this [article that asks if the release of ‘treated’ nuclear cooling water from Fukushima is acceptable or safe](#). Please read it and then decide if shipping with small nuclear reactors onboard ships would be safe or a good choice.

This [article in TradeWinds, states](#): “Aon is warning shipowners could be next in line to be hit by so-called “nuclear” or “thermonuclear” personal injury awards in the US. Nuclear awards refer to jury awards amounting to tens of millions of US dollars while thermonuclear awards are more than \$100m. The broker is advising that shipowners adopt a thorough watertight safety-first culture throughout the organization through factors such as crew training, robust maintenance and accident response and investigation. “Companies are often portrayed as corporate entities who value profits

over safety,” Aon advised. “Being able to demonstrate that the shipowner provided comprehensive training to crew, all necessary equipment and PPE for the job and carried out regular monitoring, maintenance and repair of all shipboard equipment/machinery can go a long way to showing a jury that such allegations are without merit.” It also advises shipowners to be proactive in the event of an accident to provide support to the injured party and to show it is ready to handle the situation with compassion and empathy.” This is in relation to personal injury claims on board ships. Imagine if this personal injury claim was due to a nuclear accident on a ship, the jury award would be far larger than the combined atomic explosions in Hiroshima and Nagasaki.

Inequality:

Inequality is a social construct marred by stark disparities in wealth, income, education, and opportunities in a society. It is caused by issues, like unequal access to quality education, healthcare, and employment; concentration of power in mega corporates; and the wealthy elite not caring for the have-nots. Discriminatory practices, and taxation systems are loaded in favor of the ‘haves.’ And it matters very little if you live in the richest country like the US, the homeless capital of the world, or in the poorest countries from the Global South, it is the poorer sections of humanity, mainly people of color, that gets hurt the most by geopolitics and the excesses of neoliberal capitalism. As if these issues were not enough, now you have racism in the mix as stated in this snippet from Reuters dated 25 October 2023. ‘[Racism towards Black people](#) is growing in Europe, with Germany, Austria and Finland showing the highest rates of discrimination and harassment, a survey of first- and second-generation Black immigrants in 13 EU countries found.’ When will the meek ever inherit the earth, as promised in the scriptures?

[High levels of inflation](#) and increased costs of living are contributing to worldwide hunger, according to a survey of 16 countries commissioned by the humanitarian group World Vision International. This is from a Reuters article dated 12 Oct 2023.

The article titled ‘[A Wake-Up Call on Poverty](#)’ by Shailly Gupta Barnes, dated 6 October 2023, states: ‘This fall, the Census Bureau released new poverty data showing a stunning reversal in economic security over the course of 2022. The findings included a record jump in the Supplemental Poverty Measure just one year after hitting a record low. Child poverty doubled. Some 12.4% of Americans were poor last year, according to that measure. But when you crunch the numbers fully, the number of poor and low-income people in this country rose to more than 135 million. That is over 40% of the nation’s population.’ If this is the state of the poor in the richest nation on earth, I shudder to even think how poverty has increased, and impacts the poor, in the Global South.

A foreword from a website, TomDispatch, on an article by Liz Theoharis, ‘[Abandoning the Poor](#)’ states “As you think about the ongoing United Auto Workers (UAW) strike, consider this: [of the CEOs](#) of the three companies being struck, Ford’s Jim Farley got nearly \$21 million (yes, that is not a misprint!) in what’s called “compensation” last year, a jump of 21% from the previous CEO’s pay in 2019; General Motors’ Mary Barra got nearly \$30 million in 2022, a jump of 24% from 2019; and Stellantis’s Carlos Tavares, somewhere between a mere \$15 million and \$25 million (depending on what account you read) and his [pay may represent](#) a leap of 77% over his predecessor’s in 2019. Oh, and just in [case you missed it](#), in the first half of this year, Ford reported earnings of \$3.7 billion; GM, \$5 billion; and Stellantis a measly \$11.9 billion.” The UAW union in the USA are striking for a raise in pay as they see their CEOs getting a raise of 40% with no such similar raises for the workers

whose efforts make the profits for those companies. On the other side of the planet, the CEO at Qantas took an 872% increase in pay! Inequality is alive and well, and on the march.

In the article titled '[Inequality and Democracy](#)' dated 31 August, Joseph Stiglitz writes, 'we have a growing list of authoritarians and would-be autocrats who channel a curious form of right-wing populism. Though they promise to protect ordinary citizens and preserve longstanding national values, they pursue policies that protect the powerful and trash longstanding norms – and leave the rest of us trying to explain their appeal. While there are many explanations, one that stands out is the growth of inequality, a problem stemming from modern neoliberal capitalism, which can also be linked in many ways to the erosion of democracy. Economic inequality inevitably leads to political inequality, albeit to varying degrees across countries.' This link between neoliberal capitalism, democracy, and inequality makes this a must-read article.

In the article '[Disaster Capitalists Are Circling Maui Like Buzzards](#)' by Guthrie Scrimgeour, he states 'Before the embers were even cold in Lāhainā, Maui, survivors of the wildfires started reporting cold calls from land speculators hoping to scoop up Hawaiian properties at bargain prices, proving once again that capitalists never let a good crisis go to waste.' Capitalists sure make it easy to dislike them, and to clearly see the inequality that this system has spawned.

Google's parent company, Alphabet had cash and liquid securities worth \$118b, lower than Apple that had \$167b, at the end of Q2. These numbers are more than the GDP of quite a few countries and should make us question the power and influence of such behemoths, and the inequality that it continues to generate.

An article in Project Syndicate authored by Jennifer Clapp and Phil Howard, titled "[The Hunger Profiteers](#)" states, 'Global grain traders have similarly been able to translate tighter supplies into record profits. In mid-2022, grain multinational Archer-Daniels-Midland (ADM) recorded [its highest-ever quarterly profits](#). Its rival Cargill also [banked record profits](#), with total revenues soaring [by 23%](#). Such profiteering is made possible by growing corporate concentration in the food and fertilizer sectors. ADM and Cargill are two of the four "ABCD" firms, along with Bunge and Dreyfus, that control [an estimated 70-90% of the world grain market](#). Just four firms account for [75% of nitrogen-fertilizer production](#) in the United States, and [72% of the potash-fertilizer market globally](#).' Once again, monopolies have cornered the food and fertilizer markets at the cost of hunger for the poorest segment of humanity based in the Global South.

Saudi Aramco was the 2nd largest corporate, and the most profitable ever at \$159b, in the Fortune global 500 list. The combined revenues of all 500 corporates on this list was \$41t, more than a third of global GDP, and they employ just 70m people. The question to ask ourselves is, how did we ever allow corporates to grow so large or so profitable, that in effect, they run the world?

Tesla was in the news in July, for all the wrong reasons. After being sued, their board of directors returned \$735m to the company, while admitting no wrong, for unjustly enriching themselves during the period 2017-2020. Meanwhile their CFO, who stepped down on 7 Aug 23, amassed a \$590m fortune during his 4-year stint with Tesla. And their CEO Elon Musk has a \$230.6b net worth according to the Bloomberg billionaire's index. Inequality, thy name is Tesla.

Global household wealth fell by \$11.3t to \$454.4t down by 2.4% with \$10.9t falling in North America and European households.

In this [article written by Samuel McIlhagga](#), on 2nd August 2023, titled 'California leaves its poor to burn' states 'As the California historian Mike Davis points out in his essay "[The Case for Letting Malibu Burn](#)", Californians live in a "separate and unequal" system of fire prevention funding, regulation, and media attention. The wealthy in the Hollywood Hills, and what Davis calls "the fire coast" of the Santa Monica Mountains, continue to rebuild larger and larger houses after each wildfire while mouthing shallow support for "green" causes. In contrast, LA's urban working classes and peripheral rural towns such as Paradise suffer broken infrastructure and displacement. [Some leave California](#) permanently while others, rendered homeless by fires, live in encampments that themselves increase the risk of fire because cooking there is done on open flame.'

Climate Change:

The UN Human Rights chief, Volker Turk, met with Iraqi leaders and traveled across the country, sometimes in 50C heat, and said 'the era of Human Boiling is here'. Please watch this must-see video covering [Wet-bulb temperatures](#) to better understand the impact of humidity plus high temperatures.

China will double its renewable energy, and blow past its 1,200 giga watts of renewable power target set for 2030, in 2025 (1,371 GW).

This article by David Simon, titled '[Cities battling climate change better](#)' states "Until very recently, a common response to climate change by governments and individual citizens alike was, 'It is not our problem—we can leave it to the next generations.' But kicking the climate change can down the road is clearly no longer an option. Climate change is real and with us now, everywhere. Fortunately, many city governments worldwide are being proactive in taking both mitigating and adaptive action, no doubt because cities are nowadays where most emissions are generated, and most people experience the impacts of climate change." We need to learn from the best if we are going to survive the climate change of our lives. Speaking of which, [this must-read article by Frida Berrigan](#) offers some choices that each of us can make that would help reduce the impact of climate change.

In late July, typhoon Doksuri hit northern China with flash floods in the largest grain producing province, and at least 20 deaths. Typhoon Khanun, in Japan, knocked out power lines to 200,000 people in Okinawa with one death, and 20 injured. Chile is experiencing 37C, an anomaly of 15C above normal temperatures in the middle of their winter. All this is a nightmarish prequel of Alice in Climate-Change land. Of course, this means that most nations will target food security and grain trade will increase to the benefit of dry bulk shipping.

According to Bloomberg 'As the Amazon hurtles toward a catastrophic tipping point that is eroding its status as a major carbon sink for the entire planet, a new study maps out which banks have pumped the most money into oil and gas extraction from the world's largest rainforest. JPMorgan Chase, and Citigroup [are at the top of the list](#). Over the past 15 years, JPMorgan and Citigroup were behind \$3.8b in loans and bonds for oil and gas production and infrastructure.'

A must-read [article by Tom Engelhardt](#) dated 3 August states 'Who even remembers that this June was the hottest since records have been kept or that July 6th was the hottest day in recorded history (and July 3rd through 6th, the hottest four days ever)? And don't be surprised if 2023 ends up setting a record for the hottest year or assume that such a record will last long on a planet where the previous eight years were the warmest ever.' Once you have read this, you will no longer be a

climate change sceptic. We are living the climate change of our lives, and unfortunately, we still have a livestock industry with 15% of all GHG emissions getting a free pass. Worse still, the militaries of the entire world are exempted from even reporting their GHG emissions by the UN, let alone being forced to cut them to zero.

The Russia-Ukraine War News:

Rerouting of oil and fuel shipments due to the war in Ukraine is keeping tanker rates high. Chinese and Indian refineries have stepped in to cover lost Russian supply. Tonne mileage rose almost 10% and 8% for crude and product carriers in the FH of 2023, reports Bimco. (FT – 8 Aug 23)

The US announces another \$250m in aid to Kyiv, which is making slow progress in a counteroffensive in the nation's southeast. (Bloomberg – 29 Aug 23)

Fuel costs have risen as the result of geopolitical tensions, mainly the war in Ukraine. (Seatrade – 31 Aug 23)

The Russia-Ukraine war contributed to extremely volatile grain prices in 2022, with crises and shortages popping up in regions across Asia, Africa, the Middle East, and Latin America. At their latest meeting, Vladimir Putin told Recep Tayyip Erdogan that he wouldn't revive the grain deal unless restrictions on Russia's agricultural exports were removed, including on food and fertilizer, that have been hampered by sanctions on financing and shipping. (Seeking Alpha – 5 Sep 23)

The Pentagon announced a new package worth up to \$175m for Ukraine, including depleted uranium ammunition for Abrams tanks, the first time the US is sending the controversial armor-piercing munitions to Kyiv. (Reuters – 7 Sep 23)

Tanker tonne-miles are set to grow 3.8% in 2023, and this would be the strongest expansion since 2017. Trade pattern shifts related to sanctions arising from the Ukraine war are supporting this growth, even with Opec production cuts "dampening" volumes. (TradeWinds – 25 Sep 23)

Bulk Shipping News:

LNG has a record orderbook of 55.7m cbm, double the start 2022 figure and equal to over 50% of the fleet. The containership and car carrier orderbooks are also significant, at ~29% of the fleet, with LPG at 22%, and cruise at 20%, though down from 40% at start 2020, following closely behind. At the other end of the scale are tankers and bulkers, where the orderbook remains limited. The bulker orderbook is now just 7% of the fleet, having stood below 10% since 2019. Although tanker ordering has picked up this year, notably in product tankers, the overall tanker orderbook is still small at just 5% of the fleet. LNG fleet growth is projected at c.10% in 2024, whilst across 2023-24 boxship fleet growth is projected at an average c.7% p.a., vs c.3% p.a. in bulkers, and c.1% p.a. in tankers. The average time to scheduled delivery for LNG carrier contracts placed this year stands at 48 months, vs 31 for containerships, 29 for product tankers and 27 for bulkers. (Clarksons – 28 Jul 23)

A bulk carrier chartered by commodity giant Cargill just finished her maiden voyage from Shanghai to Singapore powered, in part, by wind. The ship has been retrofitted with two steel and composite-glass “sails,” each 37.5 meters (123 feet) high. Calculating the amount wind-assisted propulsion can reduce emissions is not easy. Performance depends on a ship’s route, how many sails are installed and, of course, the wind. But on an average route, each sail can save 1.5 tons of fuel oil per day, according to designer BAR Technologies. (Bloomberg – 21 Aug 23)

The Panama Canal has reduced maximum draughts and daily ship crossings in a bid to conserve water. Maritime experts fear such events could become the new normal as rainfall deficits in the world's fifth-wettest country spotlight climate risks affecting the ocean shipping industry that moves 80% of global trade. Queues at the canal earlier this month backed up 160 vessels and delayed some ships by as much as 21 days. The restrictions already are sending China-US spot shipping prices up as much as 36% amid soaring sea temperatures that climate scientists warn could supercharge extreme weather. More than 14,000 ships crossed the canal in 2022. Container ships are the most common users of the canal and transport more than 40% of consumer goods traded between Northeast Asia and the US East Coast. Restrictions at the canal affect about 170 countries and virtually every type of good, including soybeans and LNG from the US, copper and fresh cherries from Chile, and beef from Brazil. Some energy companies are rerouting vessels laden with coal and LNG to the Suez Canal. The canal cut the number of daily ship crossings to 32 from 36 during normal operations. (Reuters – 21 Aug 23)

The IGC has increased its total world trade forecast for 2023 by 3 MMT primarily because of an increase for maize and despite predicting a 2 MMT fall in rice trade following the Indian ban. Global wheat and coarse grains output is forecast to be the second largest on record at 2.294 BMT, supplying a 2% increase in global consumption. The IEA, in a July 2023 report, noted a 1.5% increase in global coal consumption in H1 as thermal coal prices fell. The IEA expects a 7% increase in coal trade in 2023. (Splash Extra – 30 Aug 23)

Since the latter part of 2022, a tsunami of newbuildings is set to increase global fleet capacity by around 30%; inflation driving up interest rates and demand down in a period where inventories are at record levels; freight rates having climbed the proverbial mountain are now plumbing the depths of the San Andreas Fault; and fuel costs are rising as a result of geopolitical tensions, mainly the war in Ukraine. (Seatrade – 31 Aug 23)

One can use a global growth baseline of 3% - 4%, which suggests that during upcycles this growth rate will be exceeded and during downcycles it will be lower. This year it seems as if dry bulk demand growth has entered an upcycle, with volumes growing by 5.5% year-to-end Aug-date. Usually such upcycles (and downcycles) last for 2 years and on that basis one can assume that growth rates will be below 3% from mid- 2025 until mid-2027. (Fearnleys – 1 Sep 23)

Freight markets have seen huge volatility in the 2020s, primarily driven by the consecutive “disruption events” of Covid and the Ukraine conflict. Shipping has largely “managed” the impacts (its recovery profile post-Covid was healthier than many parts of the economy), but events still in many instances increased freight rates facing cargo owners by significant multiples. Dry bulk freight costs generally peaked in 2021 as a demand rebound from the negative impacts of the onset of Covid met with notable logistical disruption. Brazil-China Capesize iron ore freight peaked in Oct-21 at \$47/t, +32% or ~2.6 times the 2010s average of ~\$18/t (2023 ytd: x1.1). Brazilian iron ore exports were up 7% y-o-y in Jan-Sep. Amplified transportation costs have been felt by both industrial and manufactured cargo, and impacts from e.g., the Ukraine conflict continue. Specific peaks aside, and

though rates in some sectors have obvious downside, the average cost of freight in the 2020s so far has clearly exceeded that in the 2010s: indicators here show increases of 18% in iron ore, and 27% in grain. Alongside global events, underlying cost increases and inflation have also impacted; the switch to low sulphur has seen bunker costs for most ships up ~20% vs the 2010s. Shipping markets remain cyclical, but the 2020s have so far left a material mark on transportation costs. Freight has had to adjust to enable shipping to maintain its essential service whilst bearing the costs of disruption. Freight rates are now down from peak levels in many cases, but how shipping manages growing complexity (decarbonization, fleet renewal, geopolitics) should be high up on cargo owners' "watchlists". (Clarksons – 6 Oct 23)

China is scouring the globe for wheat, with annual imports on track to hit record levels, as buyers scoop up cheap supplies after heavy rains damaged the domestic crop. Following a splurge on Australian wheat earlier in the year, large quantities have been booked this month from some of the other main exporters, including the US, Canada, and France. Last year, total imports hit a record 9.96 MMT as buyers swapped in wheat for other ingredients in animal feed, and Chinese citizens eat more bread. China now vies with Egypt as the world's top importer. Overseas purchases in the first eight months of 2023 have already hit 9.56 MMT, with more than 60% sourced from Australia. (Bloomberg – 12 Oct 23)

Deliveries of bulkers in 2023 will total 29.27 MDWT based on the orderbook, after accounting for slippage. In Jan-Sep 2023, there were deliveries of 24.93 MDWT, +10.1% y-o-y in DWT from 22.64 MDWT in Jan-Sep 2022. Demolition in 2023 is expected to total 6.1 MDWT, based on the age profile and recent trends. In Jan-Sep 2023, demolition totaled 4.36 MDWT, +113.6% y-o-y in DWT from 2.04 MDWT in Jan-Sep 2022. Net fleet growth for bulkers over 20,000 DWT is expected at +3% y-o-y in 2023, and +2% in 2024, based on the orderbook, expected slippage, and demolition. The fleet expanded by a net +3% y-o-y in 2022. Contracting activity has slowed this year. The orderbook-to-trading ratio for bulkers is now 7.0% in DWT. In Jan-Sep 2023 global iron ore loadings increased by +4.7% y-o-y to 1201.5 MMT. From Australia it increased by +2.0% y-o-y, and from Brazil was up by +6.1% y-o-y. In Jan-Sep 2023 global coal loadings increased by +5.5% y-o-y to 991.7 MMT. From Indonesia +9.8% y-o-y, from Australia +3.3% y-o-y, from Russia +3.0% y-o-y, USA +13.6% y-o-y. (Banchemo Costa – 19 Oct 23)

Other Shipping News:

The [article from the FT by Richard Milne](#) dated 4 Aug 23, describes the state of the container market. 'AP Møller-Maersk has warned a contraction in global trade will prove longer and deeper than the container shipping giant had feared, as companies cut their inventories in the face of recession risks in Europe and the US.' Maersk estimated container demand would fall by 1-4% in 2023 versus the boom experienced during, and after the lifting of, covid lockdowns in 2020-2022. As a result, Maersk's Ebitda would fall from a peak of \$37b in 2022 to \$9.5-\$11b in 2023. Container lines are also trying to help themselves by recycling their older ships with the two biggest players, MSC and Maersk, leading the charge. Carnival Corp's net profit for Q3 was \$1.07b. For the first nine months of fiscal 2023 ended 31 August, Carnival had a \$26m net loss. (TradeWinds – 29 Sep 23)

After negative impacts from the initial onset of Covid (Q2-20: -10%), global volumes in containers saw one of the swiftest and firmest recovery profiles across seaborne trade. After growth of 4.1% y-o-y in 2H-20, global container trade grew by an impressive 6.6% in 2021, helping, along with port

congestion and supply chain disruption, drive extraordinary markets. However, with the onset of the Ukraine conflict and the knock-on effects on the world economy, inflation and a “cost of living” crisis for consumers in many regions, container trade went quickly into reverse, with volumes in TEU down -3.7% in 2022 (-5.1% in TEU-miles). In 2023, consumers are still under pressure, retailers have been faced with excess inventories and clear vulnerabilities in the world economy remain. In 1H-23 volumes were down by -5.0% y-o-y, and by June y-o-y growth had been negative for 19 of 21 months. Comparing projected 2023 volumes to 2019, reveals a stark difference between trades involving developing economies and the “west”. For example, mainlane east-west trade volumes, largely driven by “western” economies, are expected to be 1.6m TEU lower in 2023 than in 2019; though the eastbound Transpacific has gained 2.3m TEU, only 0.1m TEU has been added to the westbound Asia-Eur. trade, whilst Transatlantic, and backhaul volumes from N.Am. and Eur. to Asia, have shrunk. Volume growth has been focused on trade involving developing economies. 2.5m TEU will have been added in intra-Asian volumes, 2.4m TEU on trades from Asia to ME/ISC/Lat.Am./Africa, 1.3m TEU in exports from ISC and 0.5m TEU from Africa to the “north”. So, after big swings in container volumes, it can be hard to identify longer-term trends. Comparison to ‘pre-Covid’ reveals limited underlying growth in total, with expansion focused on trades involving Asia and other developing economies. Geo-political/economic trends (‘re-shoring’, ‘friendshoring’, regionalization, supply chain de-risking?) will impact trade going forward, but container market players will still be hoping for firmer and broader expansion. (Clarksons – 20 Oct 23)

Inequality News:

CEOs are not the only corporate officers getting paid more. In fact, compensation for some members of the C-suite, like the CFO and general counsel, is rising at even faster rates than the CEO. (Fortune – 3 Aug 23)

Tesla’s directors were in the news last month for, among other reasons, getting forced to return a sizable chunk of their compensation to the company. Board members at the automaker were sued for overpaying themselves from 2017 to 2020 and offered to give back most of that pay to settle the lawsuit while admitting no wrongdoing. In total, they agreed to return a stunning \$735 million in cash and stock. (Fortune – 8 Aug 23)

Tesla’s former chief financial officer Zachary Kirkhorn, who stepped down on Monday, amassed a \$590 million fortune during his four-year stint in the role. The number is comprised mainly of Tesla shares and options he received as compensation. (Bloomberg – 8 Aug 23)

With Russian President Vladimir Putin’s annulment of the Black Sea Grain Initiative and attacks on export infrastructure in Ukraine, grain prices have ticked upward again. But dysfunctional food markets are the long-term risk. Wheat remains more than twice as expensive as it was before the pandemic. Moreover, food-price inflation is still running above 5% in most developing countries, and as high as 30% in Rwanda and Egypt. Another global food-price spike is likely. (Project Syndicate – 8 Aug 23)

Alphabet is facing a welcome problem, how to spend its rapidly expanding pile of cash. The Google owner generated nearly \$29b in cash in Q2 after firing thousands of people and efforts to stanch losses in its various moonshot projects. That left the parent company with cash and short-term marketable securities of about \$118b, more than any other company in the Nasdaq 100 Stock Index aside from Apple’s total of about \$167b. (Bloomberg – 11 Aug 23)

Total global wealth decreased by \$11.3t or 2.4% to a total of \$454.4t, according to Credit Suisse's annual global wealth report published on Tuesday. The bulk of the decline was felt in North American and European households, which lost a combined \$10.9t. (Bloomberg – 15 Aug 23)

Iran has been subjected to extensive sanctions for the better part of the last decade. The sanctions were meant to target the country's elite; instead, they have hurt the poor most and enabled the richest households to take a greater share of Iran's wealth. (Jacobin – 28 Aug 23)

Morocco's government pledged to help survivors of the earthquake on Friday that killed more than 2,700 people, including financial assistance for the reconstruction of homes and schools. The work ahead includes rebuilding at least 30,000 houses as well as 500 schools, hospitals, roads and other infrastructure, Prime Minister Aziz Akhannouch said in remarks carried by local media. (Bloomberg – 11 Sep 23)

Around 10,000 people are thought to be missing in Libya, an official from the Red Cross and Red Crescent Societies said. Around a quarter of the city of Derna was wiped out after a dam burst in a storm, and more than 1,000 bodies have been recovered. (Reuters – 12 Sep 23)

When the CEO gets a 40% raise, what do the workers deserve? That question is at the heart of the United Auto Workers union's strikes. Australia's Qantas said its former chief took a pay increase of 872%, but added it was cutting and withholding hefty bonuses amid damaging lawsuits. (Reuters – 20 Sep 23)

Economic News:

In 2019, while working as a senior economist at the Fed, Claudia Sahm published a measure to show when the US has fallen into a recession. The Sahm Rule is elegant in its simplicity and has been praised for its accuracy. It holds that the economy is contracting when the three-month moving average of the unemployment rate rises by 0.5 percentage point relative to the low point during the previous 12 months. As of June, Sahm's indicator was nowhere near the threshold. As the US continues to defy a year of incorrect recession forecasts, Sahm has become part of a growing number of economists who concede that the economy is headed for a soft landing, meaning Fed Chair Jay Powell's interest-rate hikes will succeed in subduing inflation without a downturn that causes unemployment to spike. (Bloomberg – 1 Aug 23)

Fitch Ratings downgraded the US to "AA+" status, one grade below the highest possible ranking. The agency cited expanding fiscal deficits and an "erosion of governance" relative to the US's peers. Fitch is the second ratings agency to downgrade the US, following S&P Global Ratings in 2011. US companies added more jobs in July than expected, highlighting the persistent strength of the labor market. (Bloomberg – 2 Aug 23)

The BoE raised its interest rate by 0.25% to a 15-year peak of 5.25%. Unlike the US Fed or the ECB, the BoE's Monetary Policy Committee gave little suggestion that rate hikes were about to end as it fights inflation. (Reuters – 3 Aug 23)

Moody's cut ratings of several small/mid-sized US banks and said it may downgrade some of the nation's biggest lenders, warning that the sector's credit strength will likely be tested by funding risks and weaker profitability. (Reuters – 7 Aug 23)

China slid into deflation in July as consumer and producer prices fell together for the first time since 2020. While that adds pressure on Chinese policymakers to step up monetary and fiscal support, it could help global central banks fight inflation in their own countries. Slowing consumer demand in China, combined with a property slump, and rapidly falling exports, is pushing manufacturers to cut prices to get rid of excess stock. That could ripple through to developed countries, where central banks are still hiking interest rates to tame inflation. (Bloomberg – 10 Aug 23)

Fed policymakers are increasingly likely to leave interest rates unchanged at their next meeting after fresh evidence of easing inflation emerged. But they'll be careful to strike a tone that their job isn't done yet. The core CPI, which excludes food and energy costs, rose 0.2% for a second month in July, marking the smallest back-to-back gains in more than two years. (Bloomberg – 11 Aug 23)

The impact of America's China strategy and the unwinding of globalization was meant to increase America's resilience and boost national security by "friend shoring" supply chains and "de-risking" the economic relationship. Supply chains might become more tangled and opaquer, but the pros (greater security) are expected to outweigh the cons (less efficiency). Unfortunately, the evidence suggests otherwise. The consequences of this new thinking are now becoming clear. And it brings neither resilience nor security. (The Economist – 11 – Aug 23)

Country Garden Holdings, one of China's largest property developers, warned in a late Thursday exchange filing that it could report as much as a \$7.6 billion loss in the FH of 2023. Country Garden missed a \$22.5m debt payment earlier this week, setting up a potential default. (SCMP – 11 Aug 23)

Minneapolis, the first city to tame inflation, is largely due to affordable housing. Rents are starting to flatline in places but are soaring in NYC. (Bloomberg – 11 Aug 23)

Some of the world's biggest companies are turning to artificial intelligence to navigate increasingly complex supply chains as they face the impact of geopolitical tensions and pressure to eliminate links to environmental and human rights abuses. (FT – 13 Aug 23)

Fed Reserve officials at their meeting in July remained concerned that inflation would fail to recede and that further interest rate increases would be needed. At the same time, minutes of the meeting showed two members of the Federal Open Market Committee favored leaving rates unchanged or "could have supported such a proposal." (Bloomberg – 16 Aug 23)

Market-driven restructuring is driving China's deflation. It leads to more efficient allocation of resources and greater purchasing power for consumers. If China can resist the reflationary pressure from those who lose out due to the deflation of property and financial bubbles, a healthier and more sustainable growth cycle is coming, which will turn China into a high-income country. (SCMP – 22 Aug 23)

China slapped a ban on all imports of Japanese seafood after Tokyo Electric officials began to discharge treated wastewater from the wrecked Fukushima nuclear site into the Pacific Ocean. Hong

Kong, another major importer, has also imposed curbs on Japanese food imports. (Bloomberg – 24 Aug 23)

China's \$18 trillion economy is decelerating. Consumers are downbeat, there's a real estate crisis, exports are struggling, prices are falling and more than one in five young people are out of work. Many of those woes can be traced back to President Xi Jinping's determination to shift away from the debt-fueled growth model of his predecessors. But if China's economy is a "ticking time bomb," as US President Biden called it, Xi's aim is to defuse it. (Bloomberg – 26 Aug 23)

Evergrande lost as much as \$2 billion, or 80% of its market value, on Monday after its shares resumed trading in a crucial step for the world's most indebted property firm as it seeks to restructure its offshore debt. (Reuters – 28 Aug 23)

As more companies seek to diversify away from China, some consumer favorites may be getting pricier. The splintering of the global supply chain away from China to nations like India and Vietnam threatens to push up prices for Apple's vast consumer base, as producers, shippers, and brands grapple with manufacturing in less-established locales and managing multiple entry and exit points. High-end models are likely to become more expensive to make. (Bloomberg – 28 Aug 23)

Governments and insurance companies need to stop looking to the past to predict the effects of a warmer future, [Bloomberg columnist Alex Webb argues in this video](#). Corporate boards may want to heed the same lesson and avoid "risk blindness." (Fortune – 29 Aug 23)

China's largest banks are preparing to cut interest rates on existing mortgages and deposits, the latest state-directed measures to shore up its sagging economy. (Bloomberg – 29 Aug 23)

Chinese developer Country Garden warned that it may default on its debt and raised concerns about staying in business after posting a record first-half loss of almost \$7 billion. The company said in a filing that if its financial performance continues to deteriorate, the group might not be able to meet debt obligations. (Bloomberg – 30 Aug 23)

The Chinese economy is not crashing. Economists are expecting Chinese GDP to grow 5.1% this year, 4.5% next year and 4.6% in 2025. By comparison, the US is forecast to grow 2% this year, 0.9% next year and 1.9% in 2025. In the first 19 years of this century, the American economy grew at about 2% each year. That means expected growth for the US is still where it's been for the past two decades. China's economy expanded on average 9% a year from 2000 to 2019. Now China's growth seems to be slowing to about half that pace. (Bloomberg – 31 Aug 23)

The US economy has been looking so solid lately that the Federal Reserve will probably need to double its projection for growth in 2023 when the central bank publishes an updated outlook later this month. Following a string of stronger-than-expected reports on everything from consumer spending to residential investment, economists have been boosting their forecasts for gross domestic product. (Bloomberg – 6 Sep 23)

Mortgage rates in the US have been above 7% for the past four weeks and have more than doubled since the start of 2022. The surge in costs has stifled home sales and sidelined many buyers, squeezing affordability. (Bloomberg – 7 Sep 23)

Workers at Chevron's liquefied natural gas projects in Australia went on strike after talks broke down, potentially disrupting output from facilities that account for over 5% of global supply. (Reuters – 8 Sep 23)

US household net worth jumped to a record in Q2 as the value of real estate holdings and stocks rose. It increased \$5.5 trillion, or 3.7%, in the April-June period to \$154.3 trillion, a Fed report showed. (Bloomberg – 8 Sep 23)

The biggest US banks are poised to write off more bad loans than they have since the start of the pandemic as higher-for-longer interest rates and a potential downturn put borrowers in a bind. JPMorgan, Citigroup, and Wells Fargo, which report third-quarter results Friday, will join BofA, which reports Tuesday, in posting roughly \$5.3 billion in combined third-quarter net charge-offs, the highest for the group since the second quarter of 2020. (Bloomberg – 12 Oct 23)

US retail sales increased more than forecast in September, in a broad advance that suggests durable household demand. The data showcases a consumer that's powering ahead despite an energy-driven pickup in inflation. Wage growth is starting to lose steam, but the labor market remains strong, offering Americans the leeway to keep spending. "The death of the US consumer has been greatly exaggerated," Omair Sharif, president of Inflation Insights, says. (Bloomberg – 17 Oct 23)

China's economy grew at a faster-than-expected 4.9% clip in the third quarter, while consumption and industrial activity in September also surprised on the upside, suggesting the recent flurry of policy measures is helping to bolster a tentative recovery. (Reuters – 18 Oct 23)

China's new sovereign bonds will help bolster the economic recovery, China's vice finance minister Zhu Zhongming said, as the government's stepped-up fiscal stimulus sharply raises its budget deficit. (Reuters – 25 Oct 23)

Regulation News:

Capital investment of \$5t may be needed to deliver carbon neutrality by 2050 for aviation. With the clock ticking, industry leaders say, that costs of weaning air travel off fossil fuels will land on passengers. (Bloomberg – 11 Aug 23)

Japan said it will start releasing more than 1 MMT of treated radioactive water from the wrecked Fukushima nuclear power plant on Aug 24, a plan that has drawn strong criticism from China and local fishing groups. (Reuters – 22 Aug 23)

Japanese classification society ClassNK released a forecast estimating that the shipping industry will require 100 MMT of ammonia and methanol annually if it is to achieve the IMO's carbon emission reduction targets for 2030. The IMO has set a target of reducing carbon emissions by at least 20% of its 2008 levels by 2030. Norwegian classification society DNV's recent energy forecast calculated that shipping will require 30% to 40% of global carbon-neutral fuel production to achieve the target. (TradeWinds – 8 Sep 23)

Shipping nuclear power start-up Core Power, led by Mikal Boe, is aiming to develop a molten salt reactor to power ships within a decade. The first experimental reactor, which is now being built at

Idaho National Laboratory under a US government scheme, is due in 2026. The first marine deployment is targeted for 2032. (TradeWinds – 11 Sep 23)

Maersk saw methanol as the future. The trouble is, the more you learn about green methanol, the more troublesome it becomes. Biomethanol is likely to have the same issues as any other biofuel, which is scarce and difficult to scale in sufficient quantities for shipping. That leaves methanol pioneers such as Maersk with the option of making methanol from renewable electricity. For that, you need green hydrogen and a source of renewable carbon. The only sustainable supply of renewable carbon (avoiding biogenetic sources such as trees and food) is through direct air capture. Methanol produced in this way has the same greenhouse gas intensity reduction as green ammonia, says Smith. But it is 30% to 50% more expensive from a total operational cost perspective. So, the only way methanol produced in that way can be competitive is if ammonia is not viable. (TradeWinds – 29 Sep 23)

Climate Change News:

Body bags have become a life-saving technology. When patients with heat stroke show up at Valleywise hospitals in Phoenix, they're placed in body bags filled with ice and water. It is a quick-cooling method ER doctors are having to turn to more frequently. (Bloomberg – 26 Jul 23)

Beijing urged residents to consider working from home as heavy rain bears down on the Chinese capital and other northern regions, threatening to knock down power lines and inundate crops. (Bloomberg – 31 Jul 23)

Extreme rain battered Beijing, Tianjin, and the province of Hebei in the wake of Typhoon Doksuri in late July, causing widespread flooding in a region the size of Britain. The storms killed at least 20 people and displaced hundreds of thousands, with Beijing experiencing its heaviest rainfall in 140 years. (Reuters – 3 Aug 23)

Scientists say they have spotted a huge leak. A natural gas well blowout in a remote region in Kazakhstan has triggered a huge release of methane. Satellites observed giant clouds of methane spewing from the site at least nine times in the month leading up to July 23. (Bloomberg – 3 Aug 23)

Chile is experiencing temperatures of 37C in the middle of the South American country's winter, which climatologists describe as "extraordinary". Rain pelted swathes of China's biggest grain producing province, submerging farms and worsening floods that have already swamped cities around the country as rescue workers scramble to contain the havoc caused by Typhoon Doksuri. (Reuters – 4 Aug 23)

Forest fires in Canada have released 290 MMT of CO₂, doubling a previous annual record, and emissions are set to rise as hundreds of flames remain active across the country. By mid-July fires scorched more than 25m acres, an area the size of Iceland, with no quick end to the burning. The Mediterranean sea's surface hit 28.7C last week, the highest median recording for any day since 1982, that may soon be surpassed, with the sea hottest in end Aug. (Bloomberg – 4 Aug 23)

Since 2000, the number of days with snow cover globally has declined as the Earth warms, and southern New England has lost nearly a month of its annual snow cover, among the steepest losses globally, according to a new study, published in the journal Climate. (Boston Globe – 6 Aug 23)

Not even the World Scout Jamboree is safe from climate change. The gathering, which drew 43,000 youths from 158 countries, kicked off last week in South Korea. But extreme heat has taken a toll on attendees. (Bloomberg – 7 Aug 23)

Sea ice in the Antarctic region has fallen to a record low this year due to rising global temperatures and there is no quick fix to reverse the damage, scientists said in a study of the impact of climate change on the continent. (Reuters – 7 Aug 23)

Heat-sensitive photography in late July reveals an even hotter Phoenix, where concrete on the street registers 66°C, outdoor workers' bodies reach 41°C and homeless people swelter, surrounded by surfaces as hot as 62°C. Central and southern regions of Italy recorded 7% more deaths than normal in July, while firefighters battled fires on Sardinia, hailstones and floods battered the northeast. (Reuters – 8 Aug 23)

July was officially Earth's hottest month. Global average temperatures rose above the previous record set in July 2019 by "the unusually large margin" of 0.33C. (Bloomberg – 9 Aug 23)

Severe thunderstorms, the kind that come with lightning, hail, and sharp changes in temperature, in the US accounted for nearly 70% of all insured global natural catastrophe losses in FH 2023, according to an annual midyear report from Swiss Re, the reinsurance giant. (Bloomberg – 9 Aug 23)

This year, temperatures could exceed Europe's record of 48.8C, recorded in Sicily on Aug 21. The Glomma River dam in Norway partly collapsed after heavy rain, sending water gushing through a gap in the structure, and the PM said the country should be prepared for more floods. (Reuters – 11 Aug 23)

About 14 to 21 named storms are expected, the National Oceanic and Atmospheric Administration said in an update to its outlook. In May, NOAA predicted as many as 17. Storms get named when winds reach 63 KMPH, with an average Atlantic season producing 14. Five have formed since the year started. (Bloomberg – 11 Aug 23)

In nine months of Pennsylvania's Department of Environmental Protection monitoring, Shell repeatedly violated state law and exceeded emissions limits for an array of hazardous chemicals and pollutants. (ICN – 12 Aug 23)

More than a million households in Australia are spending more than one month's worth of their gross annual income on home insurance, as weather catastrophes and higher building costs play havoc with premiums. (Bloomberg – 14 Aug 23)

President Biden has encouraged Hawaii residents to apply for help and said the Federal Emergency Management Agency is offering temporary shelter assistance. Households are eligible for \$700 relief payment. (Bloomberg – 15 Aug 23)

Record-breaking rainfall in August, triggered the worst floods in history, and displaced over a million people in China's Hebei province. (Reuters – 18 Aug 23)

Jeff Bezos's space company, Blue Origin, routinely emits methane because it is developing a rocket that runs on LNG, which is pure methane. The June release was detected by an instrument on board the International Space Station. Blue Origin's emissions of 3.4 million cubic feet per year pale in comparison with wells and pipelines in the Permian Basin, that give off 2.7 million tons of methane a year. (Bloomberg – 21 Aug 23)

Operators in the Permian Basin in the US released hundreds of tons of natural gas into the air as crucial equipment was forced to shut down. That unleashed a geyser of planet-warming methane into the atmosphere. Extremes of both hot and cold temperatures have wreaked havoc in the past. (Bloomberg – 23 Aug 23)

The French national weather service reported the highest average temperature for the period after 15 Aug since records began in 1947. Some areas of southern France would experience temperatures of 42 Celsius. (Reuters – 24 Aug 23)

Insured losses for weather-related incidents are set to cross \$100b for the third consecutive year. In 2023, over two-thirds of insured losses came from US thunderstorms. (Bloomberg – 28 Aug 23)

Exxon Mobil, the largest US oil producer, projects 25 BMT of energy related CO2 emissions in 2050, with the world failing to keep global temperature increases below 2 Celsius, according to its energy outlook. (Reuters – 29 Aug 23)

India received the lowest August rains since at least 1901, prompting concerns about weaker crop output and the potential for more export restrictions following the nation's curbs on rice. (Bloomberg – 31 Aug 23)

Last month was the hottest August globally, the third straight month in a row to set such a record. (Reuters – 6 Sep 23)

The death toll from heavy rains in southern Brazil rose to 36, local authorities said, as a tropical cyclone battered and flooded the region. At least two people died and four were missing after torrential rain flooded homes and businesses in central Greece, the fire brigade said. In Turkey, at least five people died when floodwaters carrying logs and uprooted trees swept away houses near the city of Kırklareli. Two lives were lost in Istanbul, where subway stations were inundated after torrential rain. Fields of white snow and ice are giving way to rocky gray outcrops in the Swiss Alps as glaciers melt after another hot summer. (Reuters – 7 Sep 23)

Hong Kong was drenched by the heaviest rain since records began 140 years ago, killing one person and injuring 83, as unusually wet weather caused by typhoons brought more disruption. Videos showed cascades of water surging down steep hillsides, inundating malls, metro stations and tunnels. In Europe, August was wetter than normal over large parts of central Europe and Scandinavia leading to flooding, while France, Greece, Italy, and Portugal saw droughts that led to wildfires. Well-above average temperatures were also recorded in Australia, several South American countries and around much of Antarctica in August (Reuters – 8 Sep 23)

Kyle Bass said the US Banks will lose \$250b from exposure to the office property market. (Bloomberg – 11 Sep 23)

Emergency workers [uncovered hundreds of bodies](#) in the wreckage of Libya's eastern city of Derna, and it is feared the toll could spiral, with 10,000 people still reported missing after floodwaters from Storm Daniel smashed through dams and washed away entire neighborhoods. (Al Jazeera – 12 Sep 23)

PM Rishi Sunak announced a series of U-turns on key climate pledges yesterday afternoon. Will this be the biggest mistake of his premiership? It will be bad for Britain's economy as well as the planet; and does nothing to prove that Sunak deserves re-election. (FT – 21 Sep 23)

Net zero by 2050 is still possible, technically. It would require tripling renewable energy capacity by 2030 and boosting green investments to \$4.5t a year globally. (Bloomberg – 30 Sep 23)

Agriculture contributes approximately 38% to Ireland's greenhouse gases. (Bloomberg – 2 Oct 23)

2023 is on track to be the hottest on record, with global mean temperature to date 0.52 Celsius higher than average. The temperature for Jan-Sep is also 1.4C higher than preindustrial average. At least 14 people were killed and 102 are missing after heavy rains caused a Himalayan glacial lake in India to burst its banks. Rescuers are being hampered by washed out bridges and fast flowing rivers. It is the latest deadly weather event blamed on climate change. (Reuters – 5 Oct 23)

Virologist Jean-Michel Claverie's discoveries shine a light on a grim reality of global warming as it thaws ground that had been frozen for millennia. Claverie's team published research showing they had extracted multiple ancient viruses from the Siberian permafrost, all of which remained infectious. Ways in which this could present a threat are still emerging. A heat wave in Siberia in the summer of 2016 activated anthrax spores, leading to dozens of infections, killing a child and thousands of reindeer. In July this year, a separate team of scientists published findings showing that even multicellular organisms could survive permafrost in an inactive metabolic state, called cryptobiosis. They successfully reanimated a 46,000-year-old roundworm from the Siberian permafrost, just by re-hydrating it. Permafrost in Siberia can reach up to a kilometer deep, the only place in the world where it goes down that far and covers two thirds of Russia. Just one gram was found to harbor thousands of dormant microbes, according to a paper in Nature journal in 2021. (Bloomberg – 9 Oct 23)

The death toll from flash floods unleashed by a glacial lake bursting its banks in India's Himalayas climbed to 74 with 101 people still missing days after the calamity struck, according to provincial officials. (Reuters – 10 Oct 23)

China is on track to double its current wind and solar capacity by 2025 and blow past the country's clean power target five years early, according to Global Energy Monitor. The nation has begun construction on enough projects that its total wind and solar capacity is likely reach 1,371 GW by 2025, GEM said in a June report. (Bloomberg – 16 Oct 23)

Green investments of \$4.5t is needed yearly by the early 2030s for the world to achieve net zero by 2050, according to the IEA. (Bloomberg – 17 Oct 23)

Direct air capture (DAC) plants would need 66 exajoules of energy by 2100 to limit global warming in line with the Paris Agreement. For comparison, the world consumed 595 exajoules of energy in 2021. (Bloomberg – 20 Oct 23)

The max CO2 captured per year was 800K tons by the biggest carbon capture plant from 2018 to 2022, less than 10% of its capacity. (Bloomberg – 24 Oct 23)

Global daily average temperatures exceeded 1.5C for 38 days as of Sept. 12, beating every other year, according to the annual State of the Climate report. (Bloomberg – 30 Oct 23)

Health News:

The WHO issued a global alert about a cold medicine made in India that was contaminated with toxic chemicals. A batch of Cold Out syrup made last year “is unsafe and its use, especially in children, may result in serious injury or death,” the WHO said Monday. It’s the sixth warning the WHO has issued in the past year regarding syrup medications tainted with poisonous industrial solvents, and the fifth tied to an Indian manufacturer. (Bloomberg – 7 Aug 23)

Covid-19 hospitalizations are creeping up in the US for the first time this year as extreme heat keeps people indoors and protection against infection fades. Covid hospital admissions rose 43% in the last week in July from a low in the week ending June 24, according to CDC data. While they are still lower than at any other point over the past three years, public health officials across the country are urging caution. (Bloomberg – 9 Aug 23)

The risk of new disease, disability and death remains elevated in some patients as long as two years after catching Covid-19, according to a large study showing the infection’s prolonged health impact. People who were never sick enough to be hospitalized for acute Covid still had a higher risk than uninfected people of developing long Covid-related disorders such as dangerous blood clots, diabetes and lung, gastrointestinal and musculoskeletal disease two years later, according to a new study. (Bloomberg - 23 Aug 23)

China’s sudden decision to end its strict Covid Zero policy in December 2022 led to nearly 1.9 million excess deaths in just two months, according to one of the first independent studies to estimate the scale of the virus’s devastation on the country. (Bloomberg - 24 Aug 23)

Asia and Africa are suffering the most from the lack of clean air. Air pollution has been found to cut life expectancies by more than five years per person in South Asia, one of the world’s most polluted regions, in a report that linked hazardous air with poor health. (Reuters – 29 Aug 23)