CAREC

Central Asia Regional Economic Cooperation Program

21st Transport Sector Coordinating Committee Meeting

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21-е заседание Координационного комитета по транспортному сектору

22–23 апреля 2024 года • Алматы, Казахстан

Global Logistics Challenges in 2023-2024, their Impacts on the CAREC Transport Corridors, and Coordinated Responses by the CAREC Community

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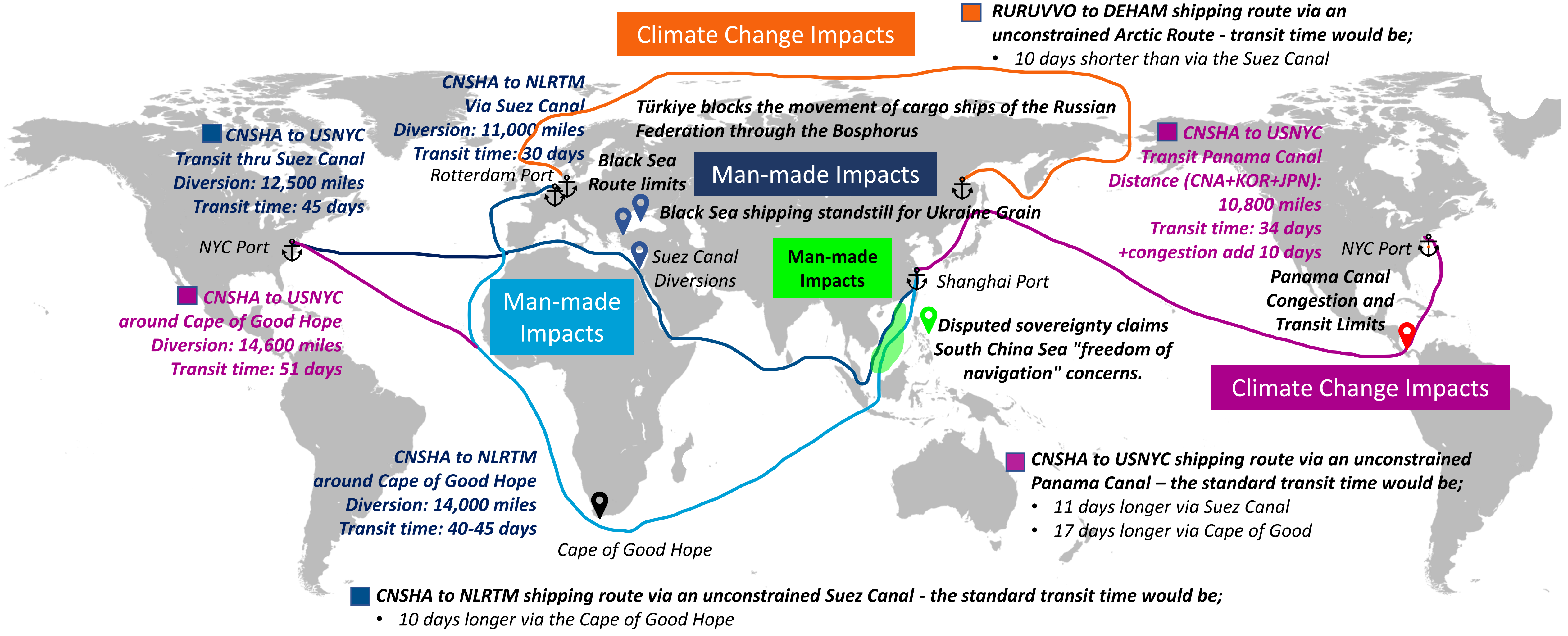
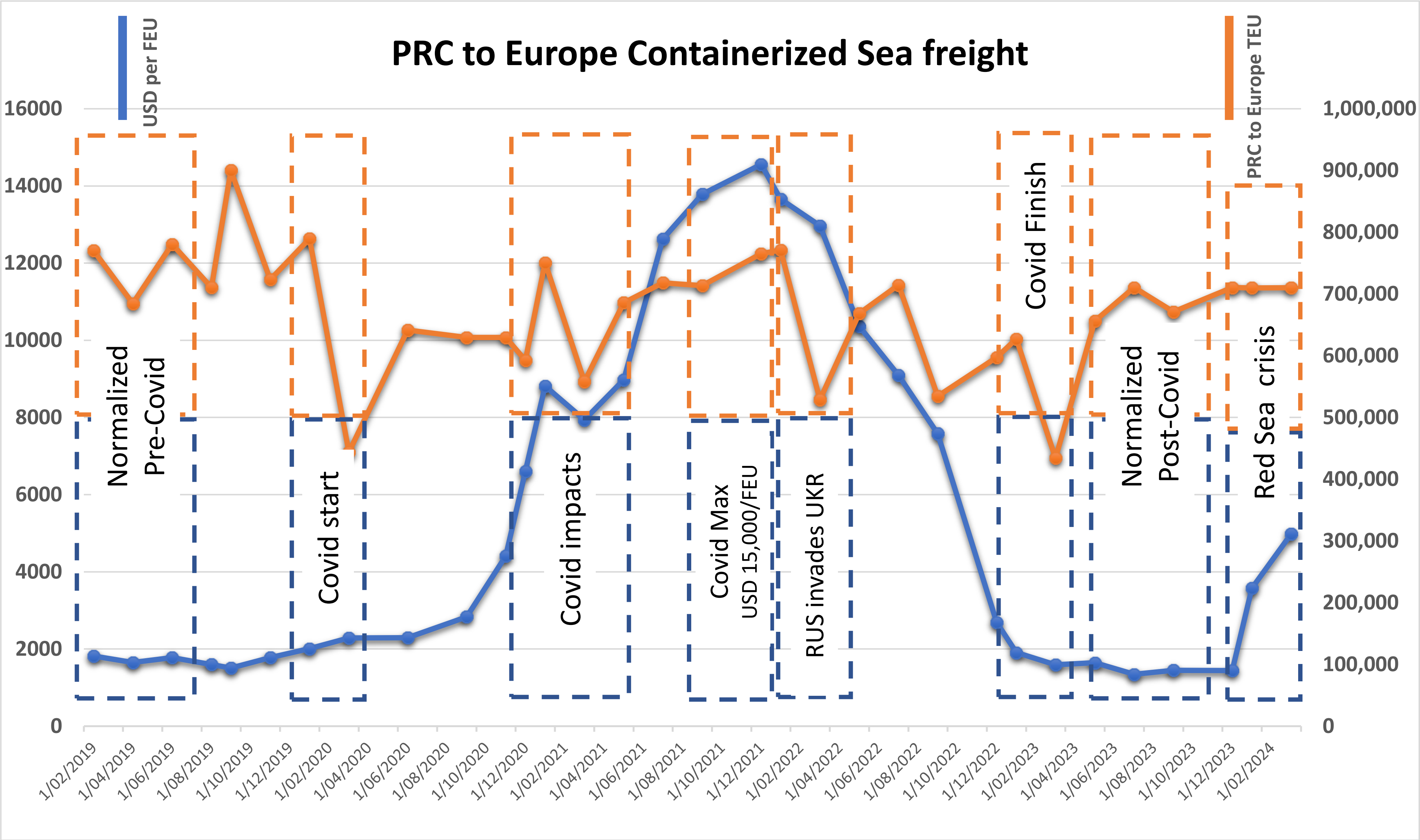
Unprecedented Global Supply Chain Events

- Covid-19 pandemic; 1 March 2020 - 5 May 2023
  - Port congestion / ships withdrawn from service / freight $ escalation
- Russia-Ukraine war; 24 February 2022 – ongoing
  - Black sea port closures / route limits / sanctions / freight $ escalations
- Red Sea crisis; 19 November 2023 – ongoing
  - Suez canal diversions extra $ voyage time / EU med ports most affected
- Panama Canal; 1 Jan 2020 – ongoing
  - Diminished water levels / limits shipping capacity / freight $ escalations
- Decarbonization of shipping; 13 April 2018[*] - ongoing
  - Retiring fossil fuel ships / renewable energy replacements / $ escalations



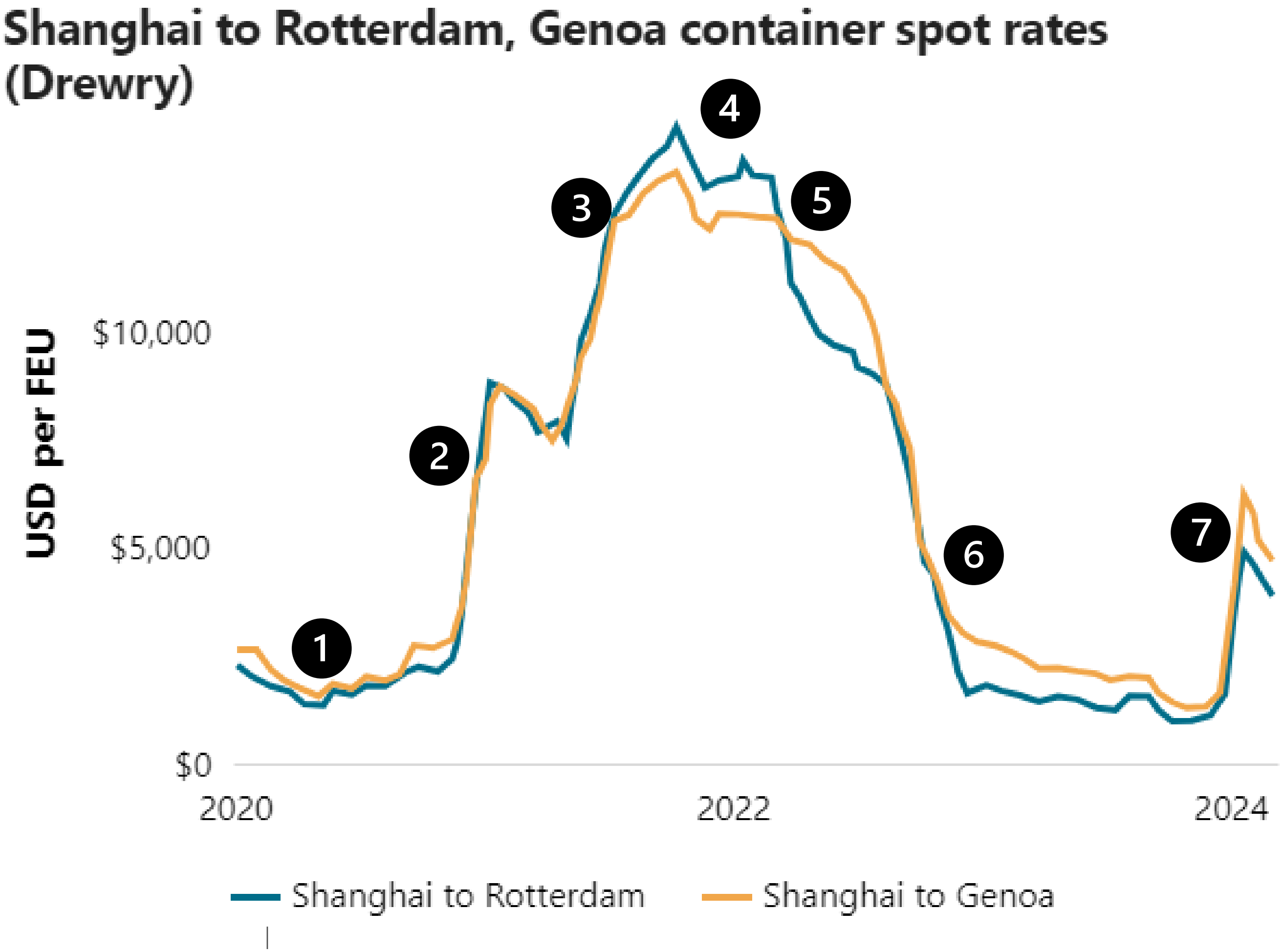
Source: Authors construction of events with base line data from

Relationship -|- Demand & Freight Price



Source: Authors construction of events with base line data from S&P Global – Drewry World Container Index

1. Initial slowdown in merchandise trade and global uncertainty with Covid lockdowns
2. Escalation in container pricing between Nov – Jan 2020 freight demand increased
3. Capacity adjustments as shipping lines laid up vessels and ‘added’ blank sailings
4. Peak of container pricing resulting from lower capacity and surge in freight demand
5. Russia-Ukraine war uncertainty- maintained freight pricing at the 2021 plateau
6. Post Covid – shipping lines increased capacity to 2019 levels market competitive tension returned
7. Red Sea crisis with attacks in shipping



Source: S&P Global – Drewry World Container Index

Covid-19 pandemic

- Period of event: 1 March 2020 - 5 May 2023
- Period of Impact: March 2020 – ongoing changed conditions
- Quarantine measures limited access of shipping to ports
- Blank sailings (AKA cancelled voyages) by major shipping lines
- Reduced real capacity v’s nominal scheduled capacity
- Backlog of freight after the initial slowdown of trade
- Container equipment shortages at demand locations
- Freight price and shipping surcharges escalation
- Seafarers stranded and increase price for certified seafarer labour
- Inventory and stock levels depleted at retail end of supply chain
- Surge in shipping line profits – Trigger for shareholder expectations
- Alternative supply routes enabled on basis of cost and capacity

Shipping Line Financial Results 2022-23 (US$ million)

Shipping Line average profit margins fall to 1.5% below pre-covid levels (in 3rd Qtr 2023)

Carrier	Revenue 2022	Revenue 2023	%	Operating Profit 2022	Operating Profit 2023	%	Operating Profit Margin 2022	Operating Profit Margin 2023	2022
CMA CGM	46,580	22,942	-51%	26,308	6’827	-74%	56.5%	29.8%	21,840
Maersk Group	44,918	22,532	-50%	27,736	6’744	-76%	61.7%	29.9%	24,248
COSCO SHIPPING Holdings	43,476	17,707	-59%	19,701	4’189	-79%	45.3%	23.7%	13,580
ONE	18,386	7,314	-60%	11,702	1’266	-89%	63.6%	17.3%	11,019
Hapag-Lloyd	25,993	14,879	-43%	15,218	4’377	-71%	58.5%	29.4%	13,404
Evergreen Marine Corp.	16,257	6,432	-60%	10,769	933	-91%	66.2%	14.5%	9,909
Zim	10,373	3,957	-62%	6,559	-1’225	-119%	63.2%	-31.0%	4,213
HMM	9,848	3,911	-60%	6,012	285	-95%	61.0%	7.3%	6,049
Yang Ming	9,950	3,352	-66%	6,338	52	-99%	63.7%	1.6%	5,233

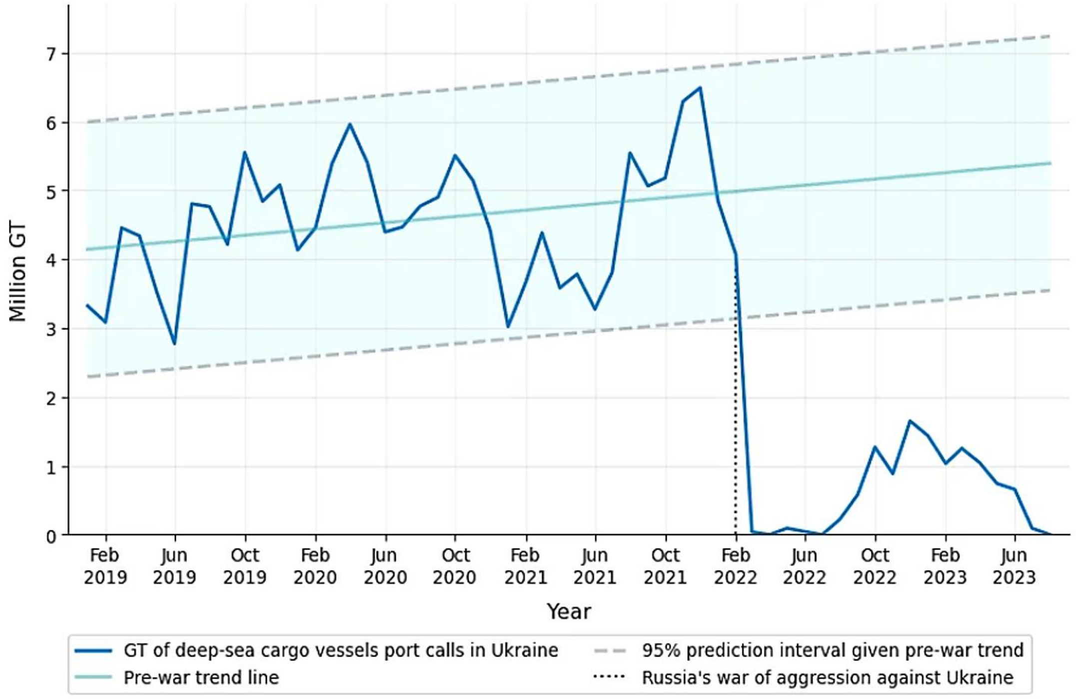
Operating Profit 2022; US$133,910 mn – VERSUS - Operating Profit 2023; US$23,292 mn

Source: Alphaliner, DynaLiners

Russia Ukraine War

- Period of event: 24 February 2022 – ongoing
- Period of Impact: February 2023 – ongoing changed conditions
- The war has contributed to longer shipping routes and, an increasing demand for LNG-carriers, due to the interruption of gas supply via pipelines from Russia to Europe
- Significant increases in the operating cost of LNG fuelled vessels following the increase in gas prices in 2022 and 2023
- Russian and Ukraine vessels nonoperational causing vessel demand and higher costs of shipping globally particularly for handy-max bulker vessels
- Higher utilization of shipping connections at Black Sea ports of Constanta, (Romania), Varna (Bulgaria) and Samsun and Zonguldak (Turkey),
- Russian Pacific ports of Vladivostok, Vostochny and Nakhodka, saw double-digit growth in traffic for 2023 uptick by general cargo ships and tankers
- Alternative supply routes enabled on basis of cost and capacity

Decrease of Gross Tonnage of ocean-going port calls at Ukraine ports 2019 - 2023



Note: Deep-sea cargo vessels include oil tankers, bulk carriers, containerships, LNG carriers, PCTCs and VLGCs. Data exclude port calls to Ukrainian ports in Crimea, under Russian occupation since 2014.

Source: OECD & Clarkson Research

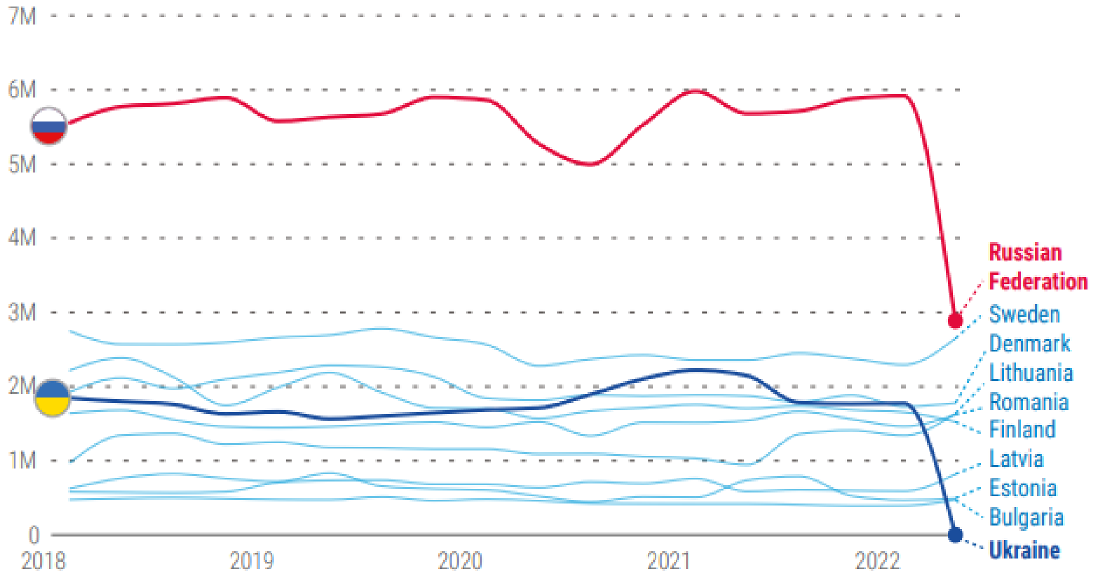
Russia Ukraine War

- Suspension of shipments to and from Ukraine and Russia using Black Sea
- Key shipping routes in the Black Sea most affected are from Odessa and the Sea of Azov – are blocked
- Ukraine grain shipments to Europe, China and Africa most affected
- Significant decrease in fertilizer and metals and minerals exports from Russia
- EU tightening sanctions include; against Russian maritime sector to refuse entry to EU ports for ships that have docked in Russia on their way to the EU

Russia Ukraine War

1. Cargo destinated for the Russian Federation and Ukraine has been piling up at ports, including Hamburg, Germany; Rotterdam, Netherlands; Constanța, Romania; and Istanbul, Sea of Marmara ports, Türkiye.
2. Shippers are facing delays and can be expected to see an increase in detention and demurrage charges at ports.
3. Russian Federation cargo is also being stranded at ports e.g., in Europe adding pressure on warehousing and storage capacity and drives up supply chain costs.
4. Freight rates surged since the pandemic and the need to reposition ships and containers due to the war adds to continued upward pressures on freight rates.

Container ship deployment for Russian Federation and Ukraine V's Container shipping fleet deployment, selected countries, in TEU capacity 2018 - 2023



Source: June 2023 UNCTAD & MSD transmodal index.
TEU capacity is based on annualized vessel nominal capacity

Russia Ukraine War

1. Increased daily charter rates on global index noting the increase from Feb 2022
2. An increase of 35% in 2022 saw ship charter rates surge because of geopolitical conflicts including the Russia-Ukraine war and higher demand from PRC for ships post-pandemic
3. The ship brokers are commenting that this is largely due to increased demand for bulkers and tankers.
4. War Risk surcharges for all types of ships and cargoes is evident on global fixtures
5. There has been a normalizing of ship charter rates in 2023 calendar year, yet brokers indicate volatility will remain

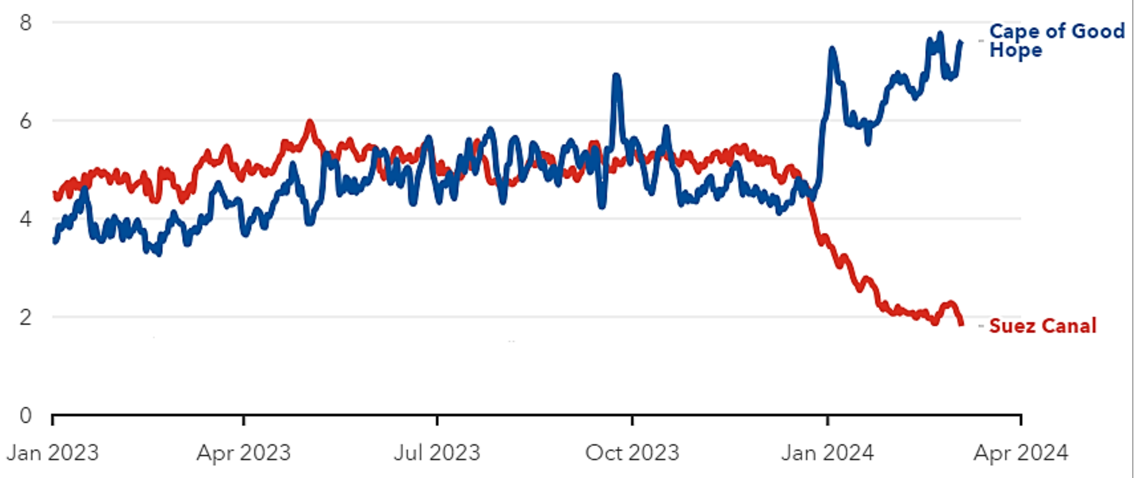
Rising shipping prices (daily vessel earnings, in US$/day)

Source: June 2022 UNCTAD & Clarkson Charter index for vessel earnings across major shipping sectors

Red Sea crisis

- Period of event: 19 November 2023 – ongoing
- Period of Impact: November 2023 – ongoing changed conditions
- Major transcontinental container shipping lines diverted to C of GH
- Increased transit time by approx. 6-10 days PRC to EU Atlantic ports
- War-risk insurance premiums increased by up to 900% since the attacks on shipping in the Red Sea began
- Additional voyage times have created issues for EU ports as fixed berthing windows are no longer used – resulting port congestion
- Suez Canal Authority (SCA) increased transit fees for ships passing through the canal by 5-15%, effective from 15 January 2024
- Freight price and surcharges escalation
- Inventory levels - lead times are extended at retail end of supply chain
- Alternative supply routes enabled on basis of cost and capacity

Suez Canal v Cape of Good Hope Daily transit trade volume
(million metric tons, 7-day moving average)



Sources: UN Global Platform, IMF PortWatch.

Red Sea Crisis

- Ship canal transits maintained until 30 Dec 2023 Maersk Hangzhou container ship hit
- Volume of Suez Canal trade dropped by 50% year-on-year first two months of 2024.
- Volume of trade transiting Cape of Good Hope surged est. 74% above 2023 level.
- Increased transit times reduces the effective capacity of an Asia-Europe voyage by 25%.
- EU Port authorities anticipate congestion at ports due to ‘non-window’ arrival times leading to lower productivity.
- Surcharges to cover war risk premiums.
- +312% increase in container freight rates between China-Med ports (15 Feb. 24)
- Eight years for the Suez to reopen after being closed during the Six Day War in 1967

Red Sea Crisis

Real-time maritime data maps the increase in trade voyages between China and Europe via the Cape of Good Hope from October 2023 to January 2024.

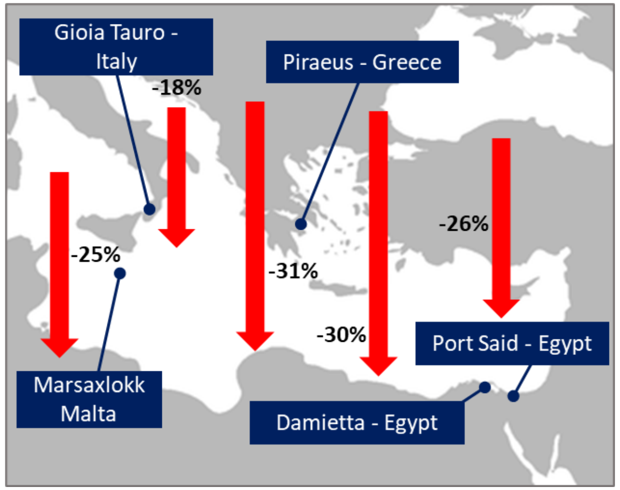
The detour has meant that freight container volumes through the Red Sea region fell by around 78% from expected values in January, affecting 10% of all globally shipped goods.

Freight containers transport most of the world's goods, from raw materials to consumer goods such as electronics. The "current situation appears more dramatic than it is economically", with current delays expected to normalize once the longer shipping route is accounted for logistically.

Source: Spire Global analytics & Kiel Institute for the World Economy

Red Sea Crisis

- Re-routing of trans-continental vessels via the Cape of Good Hope has resulted in a downturn in vessel call capacity across East and Central Mediterranean hub ports.
- Gioia Tauro had -18% decline and -31% drop at Piraeus – (Q1/2024 v Q3/2023).
- Sri Lankan port of Colombo is emerging as a key transshipment hub, offering carriers the opportunity to transship cargo between services diverting via the Cape and services to/from the Middle East.
- with no resolution to the security situation in the Red Sea, carriers are continuing to divert mainline vessels trading between Asia and Europe via the Cape of Good Hope

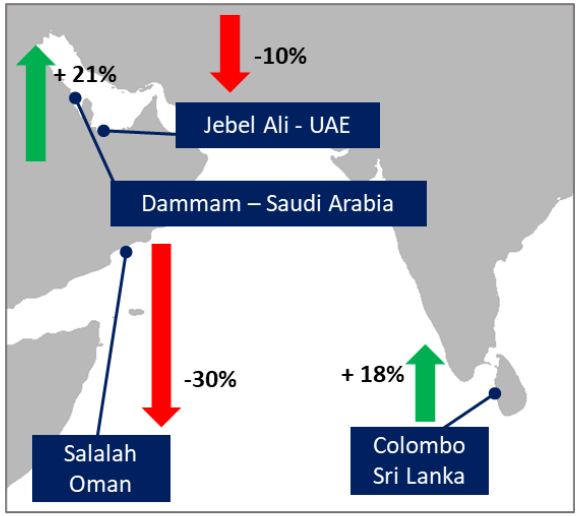


East Mediterranean ports

Change in container volumes being handled (Q1/2024 v Q3/2023).

Middle East & South Asian Ports

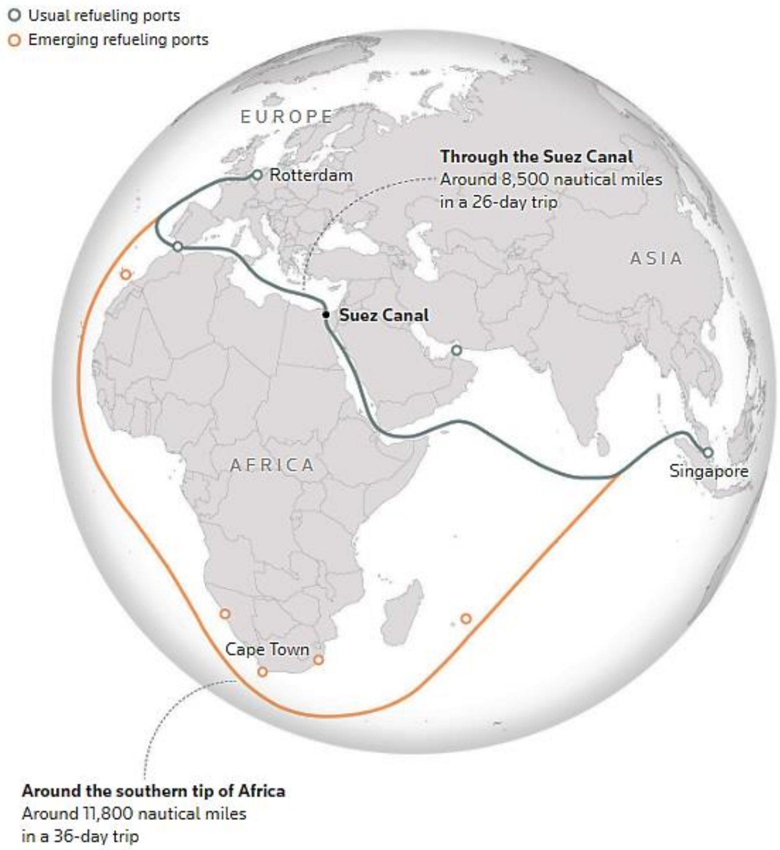
Change in container volumes being handled (Q1/2024 v Q3/2023).



Sources: Drewry market intelligence and Journal of Commerce

Red Sea Crisis

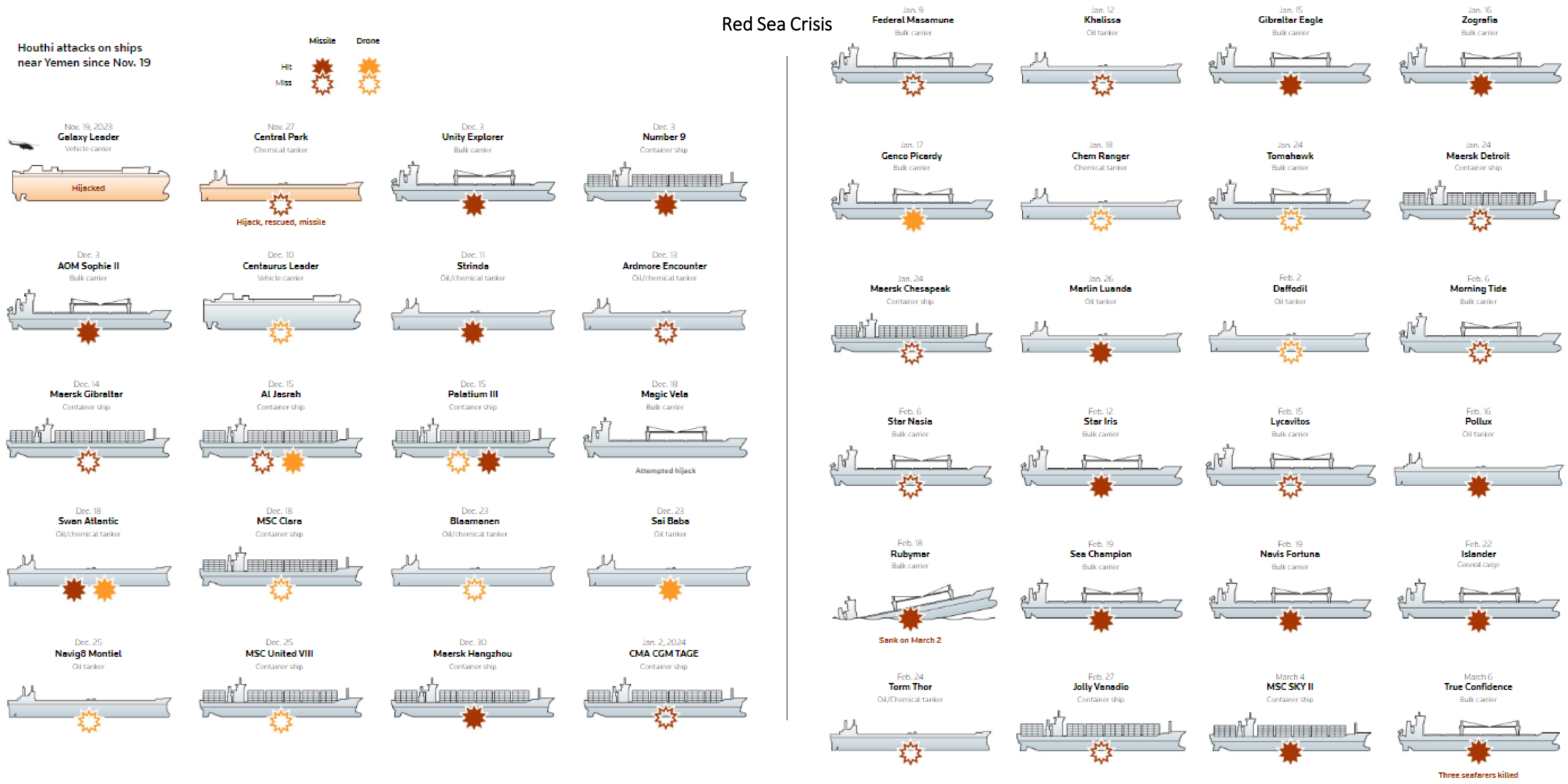
Vessel re-routing - example of from Singapore to Rotterdam.)



Sources: The Maritime Security Centre – Horn of Africa (MSCHOA)

- The Suez Canal is used by roughly one third of global container ship cargo. Redirecting ships around the southern tip of Africa is expected to cost up to US$1 million in extra fuel for every round trip Asia to N. Europe.
- Disruption to Middle Eastern supply after the latest Red Sea attack drove oil prices higher in the first trading session of 2024.
- Container freight rates have surged as a result. Rates on Asia–Europe routes have increased by 284% and more than doubled on other main East–West lanes, Fitch said.
- Cost of insuring a seven-day voyage through the Red Sea has risen by US$100,000 since the attacks began.

Red Sea Crisis



Panama Canal Crisis

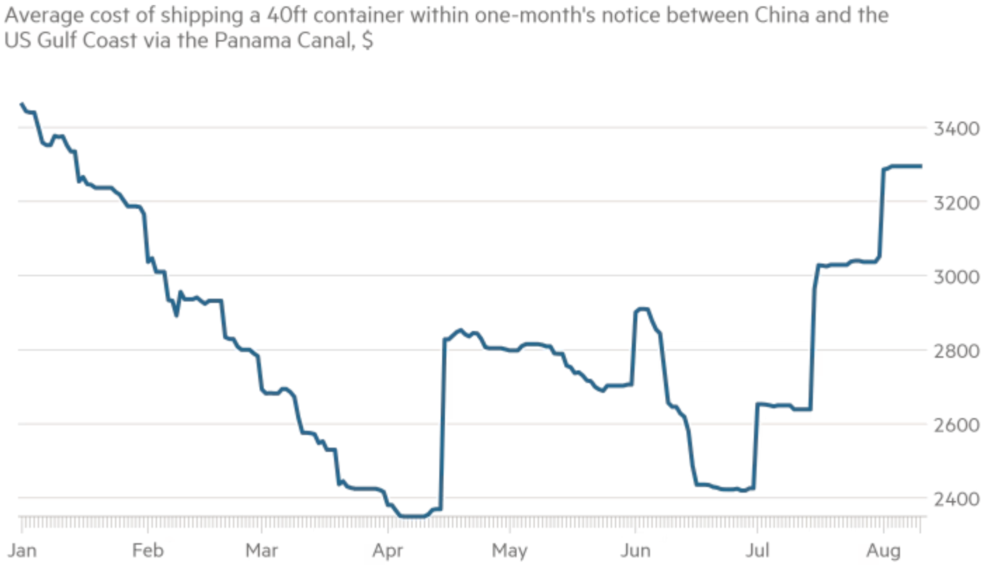
- Panama Canal - 1 Jan 2020 – ongoing
- Diminished water levels due to drought limits shipping capacity
- Shipping Lines had altered networks - services from Asia to East Coast US are opting for routes through the Suez Canal instead of the Panama Canal.
- Attacks on ships by Houthi rebels from Yemen on Red Sea, traffic on this route too is being diverted to Cape of Good Hope
- Increased transit time by approx. +6-10 days PRC to EU Atlantic ports
- Additional voyage times have created issues for USEC ports as fixed berthing windows are no longer used – resulting port congestion
- Panama Canal Authority (PCA) increased transit fees for ships passing through the canal by 5-15%, effective from 15 January 2024
- Shipping Lines have introduced surcharges for Panama Canal transits, resulting in an additional U$400 - U$500 per FEU atop base spot rates
- Inventory levels - lead times are extended at retail end of supply chain
- Alternative supply routes enabled on basis of cost and capacity

Panama Canal Crisis

1. Panama Canal Authority cut ship numbers allowed to pass Panama Canal -36% in 2023
2. As of 18 Jan 2024, wait time for a ship to get through the canal was from two to 55 days, depending on type of ship and N or S bound
3. Options include sailing south via S America or Africa or transiting the Suez Canal
4. Longer routes +2 weeks to shipping times, fuel, crews and ship charter rates
5. Ship brokers indicate volatility will remain
6. Panama Canal Authority (ACP) announced a slight increase in the number daily vessel transits through the drought-hit waterway.

Source: Global port agency WaterFront Maritime Services

The cost of shipping via the Panama Canal has jumper in 2023



PRC main ports to USEC has risen 36% to U$2400/FEU by the end of June 2023

Source; Xeneta

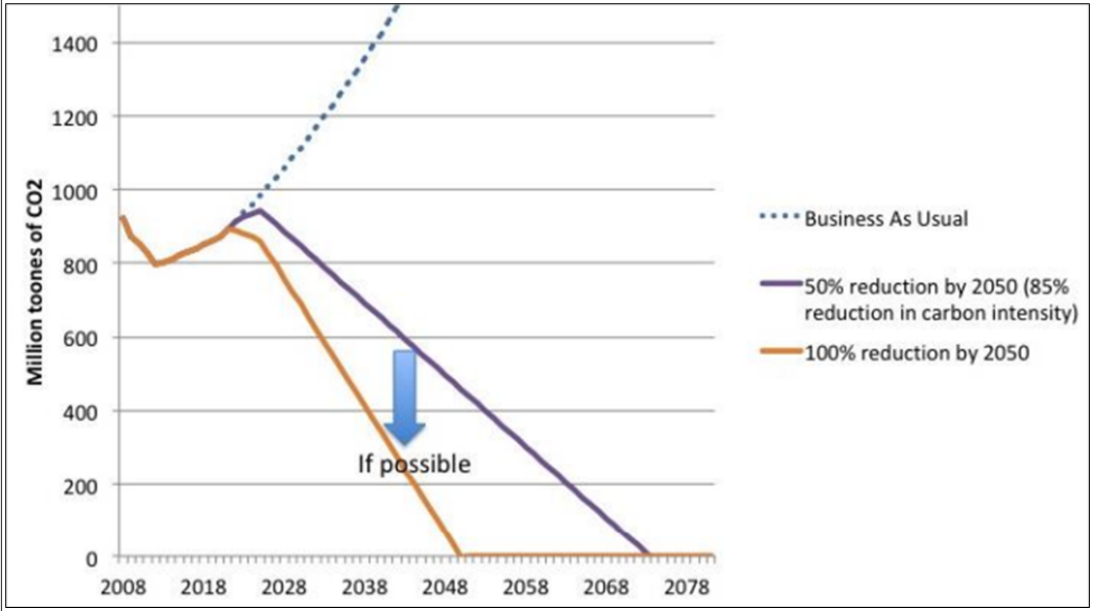
Global Shipping Decarbonization

- Shipping accounts for 3% of global Green House Gas (GHG) emissions and the transition from fossil to green fuels is declared in the UN International Maritime Organization (IMO) GHG 2023 Strategy
- UN signatory countries have agreed to reduce CO2 emissions per transport work, as an average across international shipping, by at least 40% by 2030.
- According to International Energy Agency the transition from fossil fuels to renewable energy sources will require an investment of US$4 trillion by 2030 to put the world on track for net-zero emissions by 2050, three times what is being invested today. UNCTAD put the cost of decarbonizing the shipping industry at more than US$1 trillion, a price that will require both public and private investment with a solid regulatory framework.
- Shipping companies will recoup additional costs of reducing emissions by applying successive surcharges on the overall shipping freight rates.

Shipping Decarbonization

1. Panama Canal Authority cut ship numbers allowed to pass Panama Canal -36% in 2023
2. “Maritime shipping has a plan set in stone and reaching net-zero GHG [greenhouse gas] emissions from international shipping by 2050 is a mind-blowing target*”
3. Modelling shows that sustainable (non petroleum) fuels will be up to five times more expensive than today’s fossil fuels by 2030, and the European Union’s emissions trading system carbon tax was an example of how government policy could be applied in closing the price gap.

The cost of decarbonization of global shipping



PRC main ports to USEC has risen 36% to U$2400/FEU by the end of June 2023

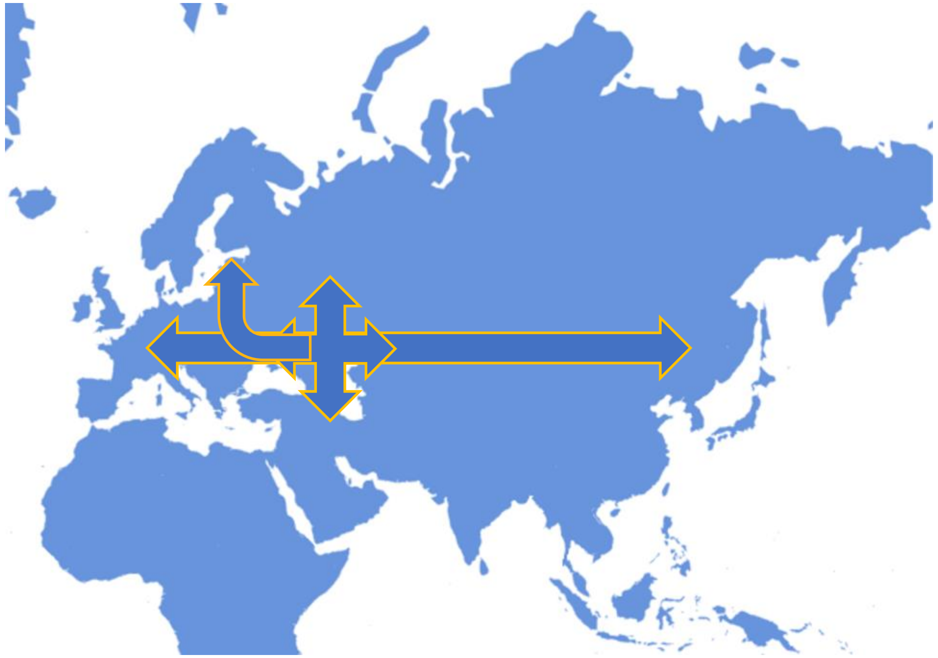
Source: Global port agency Waterfront Maritime Services
Source: *Peter Sand, chief analyst at rate benchmarking platform Xeneta

Source; CO2 emissions reduction goals for international shipping (IMO / UNCATD)

Multi-Modal Trans-continental Opportunities

- CAREC Transport Strategy 2030
  - Middle Corridor connects Central Asia to Europe emerged as an alternative to the Northern Corridor (Russian controlled rail territory), and the conventional sea route through the Malacca Straits, Indian Ocean, Red Sea or Cape of Good Hope.
  - Middle Corridor's multi-modal transport infrastructure links the Caspian and Black Sea ferry terminals with the rail / multi-modal systems of China, Kazakhstan, Azerbaijan, Georgia, Romania, Bulgaria, and/or Turkey, (Ukraine) and Poland to EU. Trains operating along this corridor deliver cargo from China to Europe on average in 20-25 days.
  - Baku-Tbilisi-Kars railway opened 2017 is part of the Middle Corridor, deliveries from Asia to Turkey via the South Caucasus take only 15 days.
  - Baku Port, Caspian Sea - 2nd phase increase capacity 15 to 25mn tonnes per year of cargo and 500,0000 TEU (Twenty-foot Equivalent Unit).
  - Trans-Caspian International Transport Route handled 2.8mn tonnes of cargo in 2023, an 86% increase on 2022. The target for 2024 is set at approximately 4mn tonnes. World Bank and IBRD has predicted by 2030 the volume could rise to 11mn tonnes.

Transcontinental Transport routes can cater to many needs



Source: Authors interpretations of CAREC and Transit Trade opportunities

CAREC MIDDLE CORRIDOR (2a-b-c-d)

- CAREC Middle Corridor provides transport / trade connectivity to;
  - South and East Asia to/from CAREC Countries
  - Europe and Western countries to/from CAREC Countries
  - Inter CAREC Countries – landlocked and those with deep seaports
  - North & East Asia transcontinental trade to/from Europe
  - Caucuses to/from CAREC Countries

Middle Corridor

- Middle Corridor provides transit trade connectivity; Altynkol / Dostyk - Aktau/Kuryk–Baku/Alat, Turmenbashi-Baku/Alat, Batumi/Poti – Constanta, Burgas or Istanbul and reverse direction
- Overland infrastructure features rail and road networks that interface with rail and RoPax ferries that transit the Caspian.
- Opportunity to modernize the traditional methods of freight handling dominated by rail loading services less upon truck+trailers
- Port relocation occurred at some ports, urban encroachment constraints is evident

Source: Authors interpretations of CAREC and Transit Trade opportunities

The Opportunities for Transcontinental Trade

1. Depth of voyage routes, port channels & berths dictates the Caspian maximum size vessels – design alternatives
2. Terminal Operators are mostly govt. owned or JS ventures – potential for PPP’s – Private sector investments
3. Opportunity to improve vessel schedule integrity which has potential to improve productivity and reliability for end-to-end supply chain beneficiaries and decision makers

CAREC Countries Modal Access

CAREC Country	Landlocked	Sea port access	Range to nearest sea ports (km)	Mode of access to nearest sea port
AFG	Yes	Nil	1,200 – 1,600	Road
AZE	Yes	Caspian	800	Rail – Road - Canal
GEO	No	Black Sea		
KAZ	Yes	Caspian	3,000	Road – Rail - Canal
KGZ	Yes	Nil	4,500 – 5,200	Rail – Road
MON	Yes	Nil	1,700 – 6,000	Rail – Road
PAK	No	Arabian Sea		
PRC	No	Pacific		
TAJ	Yes	Nil	1,500 – 2,500	Rail – Road
TKM	Yes	Caspian	1,600	Rail – Road - Canal
UZB	Yes	Nil	2,000 – 1,800	Rail – Road

Multi-Modal Trans-continental Opportunities

- CAREC Transport Strategy 2030
  - RELIABILITY - Traditional Transcontinental sea transport has become unreliable and end to end transit times and forward freight cost exposure uncertain. Middle Corridor can prove capability, reliability and stability of pricing.
  - PORTS - CAREC transport corridors provide overland connectivity to deep-sea ports of the Black Sea & Arabian Sea, provide landlocked countries access to overseas trade.
  - CONNECTIONS - Connectivity improvements at multimodal corridors via Caspian Sea.
  - EFFICIENCY - Despite significant investments in seaports and shipping operations, multimodal logistics and transport operations in the region remain slow and costly.
  - RELIABILITY - Delays and additional costs are caused by inter-operability between water transport and land transport operations, adverse weather, border crossing procedures, insufficient logistics facilities, and technology upgrade requirements.
  - ECONOMICS – The CAREC Program focuses on developing economic corridors that will provide significant opportunities for expanding regional trade at consistent cost base.
  - POSSIBILITIES - include corridors between Mongolia and the PRC, and between Central Asia and South Asia, Trans-Caspian corridor connecting Central Asia and the Caucasus and – Multi Modal Transcontinental Transport between Asia and Europe.

THANK YOU

Transport 21st CAREC Transport Sector Coordinating Committee Meeting

Almaty

22 Apr - 23 Apr 2024