UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

2026

Review of maritime transport

Shipping at a crossroads

Navigating risks, sustainability and resilience



United Nations
Geneva, 2026

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This publication has been edited externally.

United Nations publication issued by the United Nations Conference on Trade and Development

UNCTAD/RMT/2026

ISBN: 978-92-1-1587913
eISBN: 978-92-1-1552409
ePub ISBN: 978-92-1-1587937
ISSN: 0566-7682
eISSN: 2225-3459
Sales No: E.26.II.D.32

Acknowledgements

The *Review of Maritime Transport 2026* was prepared by UNCTAD, under the overall guidance of Angel González Sanz, Officer-in-Charge, Division on Technology and Logistics, UNCTAD, by a team comprising Frida Youssef (coordination), Regina Asariotis, Mark Assaf, Celine Bacrot, Hassiba Benamara, Jeanne Froissart, Argyro Kepesidi, Tomasz Kulaga, Luisa Rodríguez and Hidenobu Tokuda, with significant contributions from Maria Bolotnikov and inputs from Constantin Ciuta. The report also benefited from internal review and feedback from across UNCTAD.

UNCTAD gratefully acknowledges the contributions of Antonella Teodoro (MDS Transmodal) and Juan Manuel Diaz Orejas (Port Authority of Valencia).

UNCTAD further gratefully acknowledges comments and suggestions from the following peer reviewers: Syed Hashim Abbas (Clarksons Research), Christer Andersson (A.P. Moller-Maersk), John Manners Bell (Transport Intelligence), Juan Manuel Díez Orejas (Port Authority of Valencia), Christopher Dirzka (Copenhagen Business School), Division for Ocean Affairs and the Law of the Sea of the Office of Legal Affairs of the United Nations, Mahin Faghfouri (International Ocean Institute), Liliane Flour (GT Wings), Gillian Grant (International Oil Pollution Compensation Funds), Jan Hoffmann (World Bank), Sarah Holden (Clarksons Research), Ramat Jalloh (IMO International Maritime Law Institute), Philipp Ludwig (National University of Singapore), Aurelio Martinez (independent expert), Carlos Moreno (independent expert), Evariste Munyampundu (East African Community Secretariat), Annabelle Nicolas-Kopec (ITOPF Limited), Christopher Pålsson (Maritime Insight), Alberto Pérez Espinosa (Lloyd's Register), Torbjörn Rydbergh (Marine Benchmark), Rahul Sharan (Drewry Maritime Research), Peter Sand (Xeneta), Martin Stopford (Maritime Economics for Professionals), Antonella Teodoro (MDS Transmodal), Monika Tothova (FAO) and Andrew Wilson (BRS Group Brokers). Experts from the International Chamber of Shipping reviewed elements of chapter II.

The report was edited by Gretchen Luchsinger. Wendy Juan, of UNCTAD, provided administrative and proofreading support. Cover design and desktop publishing were undertaken by the UNCTAD Communication and External Relations Section. Overall production at UNCTAD was overseen by Maritza Ascencios of the UNCTAD Intergovernmental Outreach and Support Service.

Special thanks are due to Vladislav Shuvalov for reviewing the publication in full.

Note

The *Review of Maritime Transport* is a recurrent publication prepared by the UNCTAD secretariat since 1968 with the aim of fostering the transparency of maritime markets and analysing relevant developments. Any factual or editorial corrections that may prove necessary, based on comments made by Governments, will be reflected in a corrigendum to be issued subsequently.

This edition of the report covers data and events from January 2025 until July 2026. Where possible, every effort has been made to reflect more recent developments.

All references to dollars ($) are to United States dollars, unless otherwise stated.

"Ton" means metric ton (1,000 kg) and "mile" means nautical mile, unless otherwise stated.

Because of rounding, details and percentages presented in tables do not necessarily add up to the totals.

Two dots (..) in a statistical table indicate that data are not available or are not reported separately.

The terms "countries" and "economies" refer to countries, territories or areas.

Since 2014, the *Review of Maritime Transport* has not included printed statistical annexes. UNCTAD maritime statistics are accessible at the following links:

All data sets (maritime statistics): https://stats.unctad.org/Maritime

Merchant fleet by flag of registration: https://stats.unctad.org/fleet

Share of world merchant fleet value by flag of registration: https://stats.unctad.org/vesselvalue_registration

Merchant fleet by country of ownership: https://stats.unctad.org/fleetownership

Share of world merchant fleet value by country of beneficial ownership: https://stats.unctad.org/vesselvalue_ownership

Ship recycling by country: https://stats.unctad.org/shiprecycling

Shipbuilding by country in which built: https://stats.unctad.org/shipbuilding

Seafarer supply: https://unctadstat.unctad.org/datacentre/dataviewer/US.Seafarers

Liner shipping connectivity index: https://stats.unctad.org/lsci

Liner shipping bilateral connectivity index: https://stats.unctad.org/lsbci

Container port throughput: https://stats.unctad.org/teu

Port liner shipping connectivity index: https://stats.unctad.org/PLSCI

Port call performance (time spent in ports, vessel age and size), annual: https://stats.unctad.org/portcalls_detail_a

Port call performance (time spent in ports, vessel age and size), semi-annual: https://stats.unctad.org/portcalls_detail_sa

Number of port calls, annual: https://stats.unctad.org/portcalls_number_a

Number of port calls, semi-annual: https://stats.unctad.org/portcalls_number_sa

Seaborne trade: https://unctadstat.unctad.org/datacentre/dataviewer/US.SeaborneTrade

National maritime profiles: https://unctadstat.unctad.org/country-profiles/theme/008/107

Vessel groupings used in the *Review of Maritime Transport*

Group	*Constituent ship types*
Oil tankers	Oil tankers
Bulk carriers	Bulk carriers, combination carriers
General cargo ships	Multipurpose and project vessels, roll-on roll-off (Ro-Ro) cargo, general cargo
Container ships	Fully cellular container ships
Other ships	LPG carriers, LNG carriers, parcel (chemical) tankers, specialized tankers, reefers, offshore supply vessels, tugboats, dredgers, cruise ships, ferries, other non-cargo ships
Total all ships	Includes all above vessel types

Approximate vessel size groups according to commonly used shipping terminology

Oil tankers

Ultra-large crude carrier	320,000 dwt and above
Very large crude carrier	200,000–319,999 dwt
Suezmax crude tanker	125,000–199,999 dwt
Aframax/long range 2 crude tanker	85,000–124,999 dwt
Panamax/long range 1 crude tanker	55,000–84,999 dwt
Medium-range tanker	40,000–54,999 dwt
Short-range/handy tanker	25,000–39,999 dwt

Dry bulk and ore carriers

Capesize bulk carrier	100,000 dwt and above
Panamax bulk carrier	65,000–99,999 dwt
Handymax bulk carrier	40,000–64,999 dwt
Handysize bulk carrier	10,000–39,999 dwt

Container ships

Neo-Panamax	Ships that can transit the expanded locks of the Panama Canal with up to a maximum 49 metre beam and 366 metre length overall.
Panamax	Container ships above 3,000 TEUs with a beam below 33.2 metre, i.e., the largest vessels that can transit the old locks of the Panama Canal.

Source: Clarksons Research Services.

Note: Unless otherwise indicated, the ships mentioned in the *Review of Maritime Transport* include all propelled seagoing merchant vessels of 100 gross tons and above, excluding inland waterway vessels, fishing vessels, military vessels, yachts, and fixed and mobile offshore platforms and barges (with the exception of floating production storage and offloading units and drill-ships).

The 12,000–14,999 TEU Neo-Panamax fleet includes some ships that are too large to transit the expanded locks of the Panama Canal based on current official dimension restrictions; the 15,000+ TEU Post-Panamax fleet includes some ships that are able to transit the expanded locks.

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Foreword

In 2026, four of the world's critical shipping routes came under pressure at once. The conflict in the Middle East cut traffic through the Strait of Hormuz, the gateway for about a fifth of the world's oil, by around 95 per cent by early March. It left more than 20,000 seafarers stranded in the Persian Gulf, thousands of them for months. Not far from there, instability at the mouth of the Red Sea sent many ships the long way around Africa, away from the Suez Canal. Further north, security risks disrupted the grain trade across the Black Sea. And on the other side of the world, heavier traffic and new draught restrictions lengthened queues at the Panama Canal.

These shocks are part of a pattern. Disruptions now arrive more often, and increasingly at once. For decades, shipping built its business around efficiency: the lowest cost, the shortest route, cargo arriving just in time. That model assumed the main sea lanes would stay open. It now has to work in a world where they may not, at least not predictably.

Maritime trade has absorbed the strain, at a price. Volumes reached 12.3 billion tons in 2025, but growth slowed to 1.9 per cent, from 3.9 per cent in 2024. The *Review of Maritime Transport 2026: Shipping at a Crossroads – Navigating risks, sustainability and resilience* projects no growth in 2026 and a recovery in 2027. Freight rates have swung with each disruption: container spot rates more than doubled between January and August 2026.

The costs fall hardest on least developed countries and small island developing States. Their food and fuel imports often travel long, indirect routes through transshipment hubs, with few alternatives if one closes. Through shipping costs alone, the *Review* estimates, a sustained maritime fuel shock, such as this year's, would raise consumer prices in the least developed countries by almost twice the global average. Yet the least developed countries also have gains to protect: over two decades, they have improved their shipping connections about three times faster than the rest of the world.

The *Review of Maritime Transport 2026* calls for resilience by design and sustainability by default. Resilience by design means preparing before a crisis hits. The *Review* proposes continuity plans for trade corridors, agreed with neighbouring countries and tested in advance, and shared stocks of food and fuel for smaller economies. Preparation helps, but chokepoints are hard to substitute. The detour around Africa adds distance, cost and time, and the ports that took in diverted traffic became congested. In the end, ships must pass where geography sends them.

That makes a return to rules-based maritime trade essential. Its foundation is the freedoms and rights of navigation and transit under the United Nations Convention on the Law of the Sea, and the safety of the seafarers who keep trade moving. New rules are closing old gaps. From November 2027, the Hazardous and Noxious Substances Convention will, for the first time, provide compensation of up to 250 million special drawing rights per incident for damage from hazardous cargo such as chemicals and liquefied gases, a gain above all for coastal and small island developing States. Others address fraudulent ship registration, autonomous ships, electronic cargo documents and biodiversity on the high seas. Each works only if States join them and apply them.

Sustainability by default means making the cleaner option the normal one, from the shipowners' order to the fuels ships burn. The fleet grew by 3.5 per cent as of 1 January 2026, faster than the cargo it carries, yet more than two in five ships are over 20 years old. Predictable rules, and finance for ships that can run on several fuels, would help owners renew the fleet with confidence. Resilience and sustainability point the same way: efficient ships and cleaner fuels cut emissions and exposure to fuel price shocks. Renewal also opens opportunities for developing countries in ship repair, retrofitting and safe recycling.

No government, shipping line or port can build this alone. Developing countries need affordable finance, technology and skills to take part on fair terms. UNCTAD will keep working with them, from port performance to continuity planning for trade corridors. Resilience by design and sustainability by default set the standard: maritime transport that keeps essential goods moving to every port, from the busiest hub to the most remote island, whatever the next disruption.



Pedro Manuel Moreno
Acting Secretary-General
United Nations Conference on Trade and Development

Abbreviations

ABNJ	Areas beyond national jurisdiction
AIS	Automatic Identification System
AMIS	Agricultural Market Information System
ASEAN	Association of Southeast Asian Nations
ASYCUDA	Automated System for Customs Data
ASYREC	Automated System for Relief Consignments
BBNJ Agreement	Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction
Beijing Convention	United Nations Convention on the International Effects of Judicial Sales of Ships
BIMCO	Baltic and International Maritime Council
Bunkers Convention	International Convention on Civil Liability for Bunker Oil Pollution Damage
CAGR	Compound annual growth rate
CCNR	Central Commission for the Navigation of the Rhine
CGT	Compensated gross tonnage
CLC 1992	International Convention on Civil Liability for Oil Pollution Damage, 1992
CLIA	Cruise Lines International Association
COP	Conference of the Parties
DOALOS	Division for Ocean Affairs and the Law of the Sea
dwt	Deadweight tonnage
EBITDA	Earnings before interest, taxes, depreciation and amortization
EU-ETS	European Union Emissions Trading System
FAO	Food and Agriculture Organization
FEU	40-foot equivalent unit
GDP	Gross domestic product
GEF	Global Environment Facility
GHG	Greenhouse gas
GISIS	Global Integrated Shipping Information System
GTAP	Global Trade Analysis Project
HNS	Hazardous and noxious substance
2010 HNS Convention	International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea 1996, as amended by its 2010 Protocol
HNS Fund	International Hazardous and Noxious Substances Fund
IAPH	International Association of Ports and Harbors
ICC	International Chamber of Commerce
ICS	International Chamber of Shipping

IEA	International Energy Agency
ILO	International Labour Organization
IMF	International Monetary Fund
IMO	International Maritime Organization
IOPC Fund	International Oil Pollution Compensation Fund
IOPC Fund 1992	International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage,1992
ISO	International Standards Organization
ITF	International Transport Forum
LLMC	Convention on Limitation of Liability for Maritime Claims
LNG	Liquefied natural gas
LPG	Liquefied petroleum gas
LR2	Long Range 2
LSCI	Liner Shipping Connectivity Index
MARPOL	International Convention for the Prevention of Pollution from Ships
MASS	Maritime autonomous surface ships
MASS Code	International Code of Safety for Maritime Autonomous Surface Ships
MEPC	Marine Environment Protection Committee
MGR	Marine genetic resource
MPA	Maritime and Port Authority of Singapore
MSC	Maritime Safety Committee
NCD	Negotiable cargo document
NCD Convention	United Nations Convention on Negotiable Cargo Documents
NTFCs	National Trade Facilitation Committees
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
OECD	Organisation for Economic Co-operation and Development
PPS	Port Performance Scorecard
ROC	Remote Operations Centre
SCFI	Shanghai Containerized Freight Index
SDR	Special Drawing Right
SOLAS	International Convention for the Safety of Life at Sea
TEU	20-foot equivalent unit
TIR	Transports Internationaux Routiers
UNCITRAL	United Nations Commission on International Trade Law
UNCLOS	United Nations Convention on the Law of the Sea
UNECE	United Nations Economic Commission for Europe
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UN/LOCODE	United Nations Code for Trade and Transport Locations
WCO	World Customs Organization
WFP	World Food Programme
WTO	World Trade Organization



2026 Review of maritime transport

Chapter I

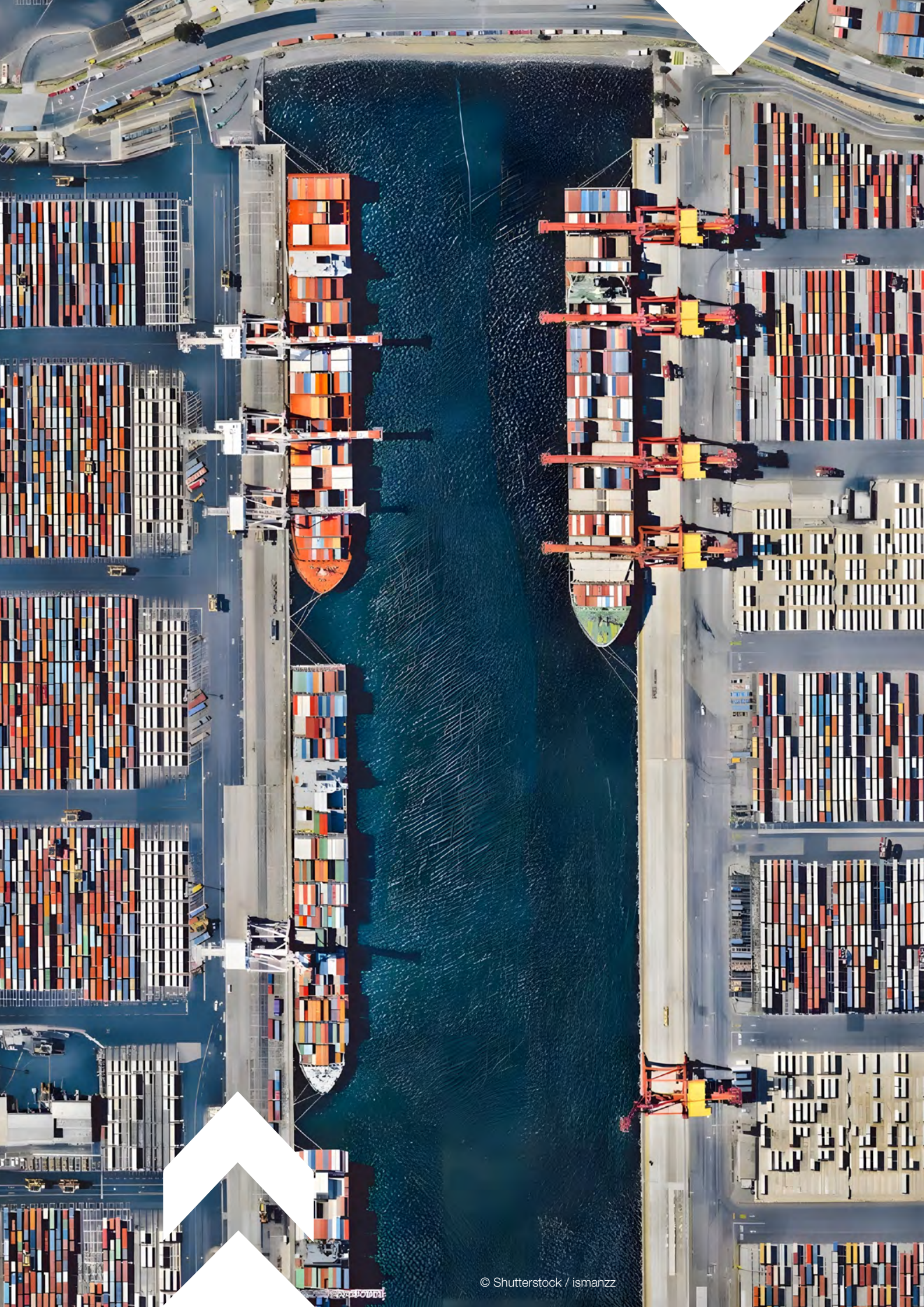
International maritime trade

Maritime trade entered 2026 amid slower growth, repeated disruption and continued changes in trade geography. Cargo continued to move but increasingly over longer routes and under conditions of greater policy, geopolitical and logistical uncertainty.

Chapter I explores what recent growth in cargo volumes and ton-miles reveals about the resilience of maritime trade. It examines whether continued movement reflects an underlying capacity to adjust or depends on longer voyages, alternative suppliers and higher costs.

The chapter also considers how containerized trade networks are being redistributed, even as China remains central to regional and global production networks. It assesses how disruption to major energy corridors is reshaping energy flows and exposing the gap between current trade patterns and low-carbon pathways. Finally, it delves into how maritime supplier and corridor concentration can increase food-related trade exposure, particularly for the least developed countries and small island developing States.

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Key takeaways

- Maritime trade resilience requires more than keeping cargo moving. Continued movement and redirection in response to disruption indicate flexibility and the ability to pivot. But resilience depends on whether routes, suppliers and logistics arrangements can be adjusted without disproportionate costs or prolonged loss of access. Better risk monitoring, contingency planning, and viable sourcing and routing alternatives would strengthen this capacity.

- Rising ton-miles alone do not imply stronger trade. Longer routes may indicate demand for maritime transport in distance-adjusted terms. But they may also increase transport and inventory costs, delivery times, uncertainty, and exposure to further disruptions in shipping corridors or chokepoints.

- Containerized trade is becoming more geographically distributed. China remains central to regional and global production networks. South–South, non-mainlane East–West and North–South routes grew faster than the main East–West routes in 2025. Capturing opportunities from these shifts requires industrial capacity, reliable logistics, port–hinterland connectivity, effective trade facilitation, and predictable trade and investment conditions.

- Energy seaborne trade faces the interconnected challenges of managing immediate supply disruptions and addressing longer-term vulnerabilities related to energy security and the transition to low-carbon energy. The 2026 disruption in the Strait of Hormuz shows how dependence on concentrated corridors can transmit shocks through energy, fertilizer, freight and financing channels, while alternative suppliers and routes provide only partial – and often costlier – adjustment. Governments and industry therefore need to strengthen short-term contingency arrangements and diversify supplies and routes, while preparing infrastructure and regulatory frameworks for the expansion of low-carbon fuels.

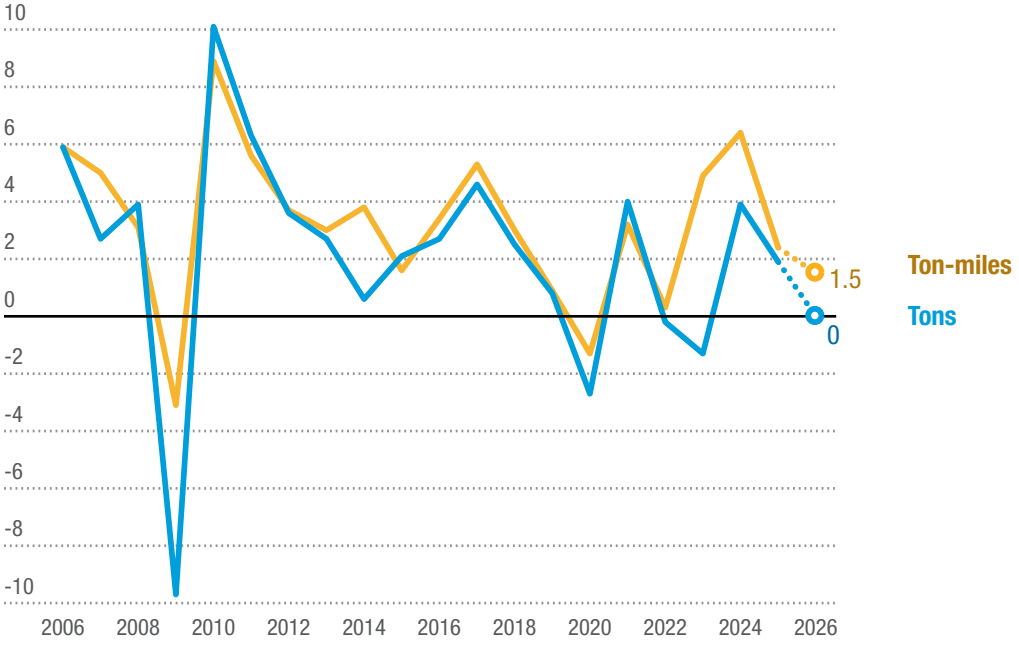
- In considering food security, analysis should incorporate vulnerability to maritime trade disruption. Seaborne trade in wheat/meslin, maize and soybeans has grown, but supplies, corridors and some bilateral flows remain concentrated. For the least developed countries and small island developing States, even with small import volumes, high dependence on a single supplier for a commodity may increase exposure to disruption and affect availability, affordability and delivery reliability.

A. International maritime trade flows

1. Maritime trade growth moderates but remains resilient

In 2025, maritime trade volumes reached approximately 12.3 billion tons, increasing by 1.9 per cent. This was slower than the 3.9 per cent in 2024. Maritime transport work reached 68,620 billion ton-miles, increasing by 2.4 per cent, down from 6.4 per cent in 2024 (figure I.1). The ton-mile slowdown reflected slower volume growth and a high base: Red Sea rerouting lengthened voyages in 2024, whereas the average haul changed little in 2025. Against 2015–2025 compound annual growth rates, volume growth exceeded 1.6 per cent while ton-mile growth fell below 2.8 per cent. Maritime trade in aggregate terms remained resilient, but momentum weakened.

Figure I.1
World seaborne trade growth
(Annual percentage change)



Source: UNCTAD calculations, based on Clarksons Research (2026a) for ton-miles and UNCTAD Seaborne Trade data and projections for tons.

By cargo segment, 2025 performance was mixed (table I.1). Volume growth was strongest in liquefied natural gas (LNG), other dry bulks, containers, steel products and liquefied petroleum gas (LPG), while coal and oil products contracted. In ton-mile terms, growth was strongest in other dry bulks, containers, LPG and steel products, while coal and oil products declined.

Table I.1
Mixed performance in international seaborne trade, 2025

Ranking	Annual percentage change (tons)	Annual percentage change (ton-miles)	Driving factors for selected commodities/sectors*
Best-performing commodities/ sectors (top five)	1. LNG (5.4) 2. Other dry bulks (5.1) 3. Containers (4.8) 4. Steel products (3.3) 5. LPG (3.1)	1. Other dry bulks (7.3) 2. Containers (4.8) 3. LPG (3.8) 4. Steel products (3.7) 5. Iron ore and crude oil (3.1 each)	• **Other dry bulks**: supported by strong bauxite shipments from Guinea to China and additional ton-mile demand from the Simandou project[1] ramp-up • **Steel products**: growth underpinned by resilient demand from emerging economies, despite softer Chinese seaborne exports • **Iron ore**: ton-mile gains supported by higher Australian and Brazilian exports
Least-performing or declining commodities/ sectors (bottom five)	1. Coal (-4.0) 2. Oil products (-1.5) 3. Grain (0.9) 4. Forest products (1.4) 5. Chemicals (1.8)	1. Coal (-7.3) 2. Oil products (-1.7) 3. LNG (0.2) 4. Forest products (0.3) 5. Grain (1.7)	• **Chemicals:** growth muted by Middle East disruptions, weak European manufacturing demand and reduced Chinese imports, especially organics • **Forest products**: sluggish construction in developed economies and softer industrial demand in Asia weighed on growth

Source: UNCTAD calculations, based on Clarksons Research (2026a), second and third columns; Clarksons Research (2026b, 2026c, June and 2026d), fourth column.

Note: *Energy, containerized and grain trade are explored in more depth in subsequent sections. Other dry bulks refers to minor bulk cargoes, excluding steel products and forest products. Coal includes steam and metallurgical coal.

The link between maritime trade and the global economy remains strong but has become less straightforward. Seaborne trade is still shaped by global output, merchandise trade, industrial production, investment and consumer demand. Recent developments, however, also show that trade policy uncertainty, tariff changes, economic measures and supply chain strategies that place greater emphasis on resilience and security increasingly affect where goods are sourced, how far they travel and when shipments take place. These factors influence maritime transport demand not only through volumes but also through route choice, shipment timing and average distance.

By the end of 2025, global merchandise and seaborne trade faced a mixed outlook. On the downside, the fading boost from front-loading, higher tariffs introduced in 2025 and subdued investment weighed on global trade and maritime demand (United Nations, 2026a; UNCTAD, 2025). On the upside were resilient commodity flows (particularly minor bulks,[2] fertilizer and steel products), Asian export strength and some recovery in energy-related trade (Clarksons Research, 2025 and 2026b). The net result was continued expansion but with weaker momentum and greater exposure to policy and geopolitical shocks.

2. Early 2026: Disruption and policy uncertainty weaken the outlook

In early 2026, renewed geopolitical tensions disrupted maritime transport and logistics, most notably around the Strait of Hormuz, one of the world's most important energy and fertilizer corridors. The effects extended beyond maritime trade, raising energy and agricultural input costs, and affecting food prices, inflation expectations, financing conditions and manufacturing supply chains, particularly in vulnerable economies.

[1] The Simandou project is a high-grade iron ore development in south-eastern Guinea, with exports beginning in November 2025 and capacity expected to reach about 120 million tons annually by 2028. Most shipments are destined for China.

[2] Minor bulks include metals, minerals (excluding iron ore), agribulks and softs.

Instability persisted in the Red Sea and Suez corridor and the Black Sea. Renewed drought concerns prompted phased draft restrictions at the Panama Canal from July 2026, in anticipation of El Niño-related pressure on freshwater availability (Panama Canal Authority, 2026). Together, these developments show how geopolitical tensions, security risks, climate variability and infrastructure constraints can overlap across major maritime corridors and chokepoints.

When routes become less reliable or operating conditions tighten, importers and exporters may change suppliers, routes, shipment timing, transport modes or inventory strategies. Such adjustments can maintain trade flows but often involve longer distances, higher transport and inventory costs, delayed deliveries and greater uncertainty.

Cost is a principal channel through which these disruptions affect economies. Higher freight expenditure, insurance premia and delivery times can feed into import prices. For many developing countries with limited fiscal space, high import dependence or few alternative suppliers, these pressures can reduce affordability and weaken their capacity to absorb shocks. Exporters may also face higher transport costs, shipping delays and less reliable transport services, highlighting the importance of resilience measures, including the diversification of business partners and suppliers (Verschuur et al., 2025; UNCTAD, 2022a and 2022b).

3. Distance intensity reveals the difference between observed and structural resilience

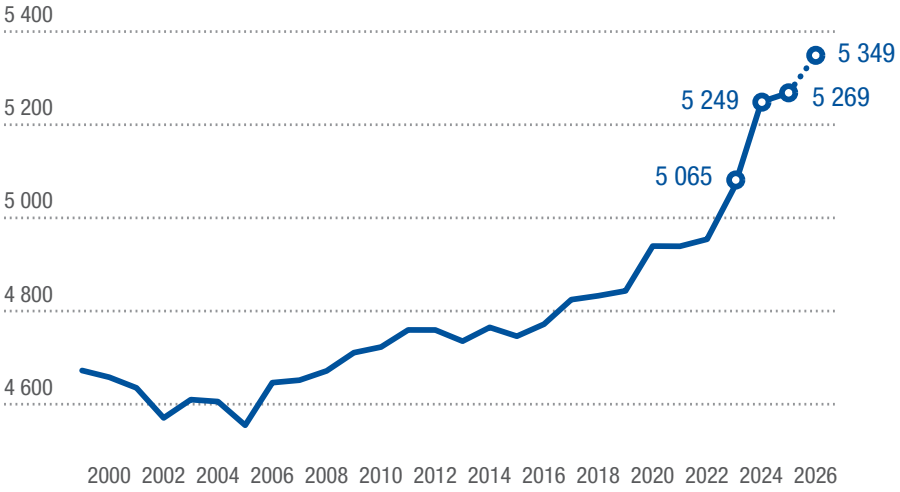
A central feature of maritime trade in recent years has been the increase in the average distance travelled per ton of cargo, or average haul, partly reflecting disruptions to shipping routes and maritime chokepoints. Average haul rose from 5,065 miles in 2023 to 5,249 miles in 2024 and 5,269 miles in 2025; it is projected to reach 5,349 miles in 2026 (figure I.2). This rise helps explain why maritime trade measured in ton-miles has grown faster than cargo volumes. From 2015 to 2025, ton-miles increased at a compound annual growth rate of 2.8 per cent, compared to 1.6 per cent for volumes (UNCTAD calculations based on UNCTAD Seaborne Trade data; Clarksons Research, 2026a, August).

The divergence was particularly marked in 2024, when ton-mile growth reached 6.4 per cent, compared to volume growth of 3.9 per cent. In 2025, the gap narrowed, although ton-miles still grew faster than volumes. In 2026, it is expected to widen again: UNCTAD projects trade volumes to remain broadly unchanged, while Clarksons Research projects ton-mile growth of 1.5 per cent (figure I.1). Maritime transport demand is increasingly shaped by how much cargo moves and how far it travels.



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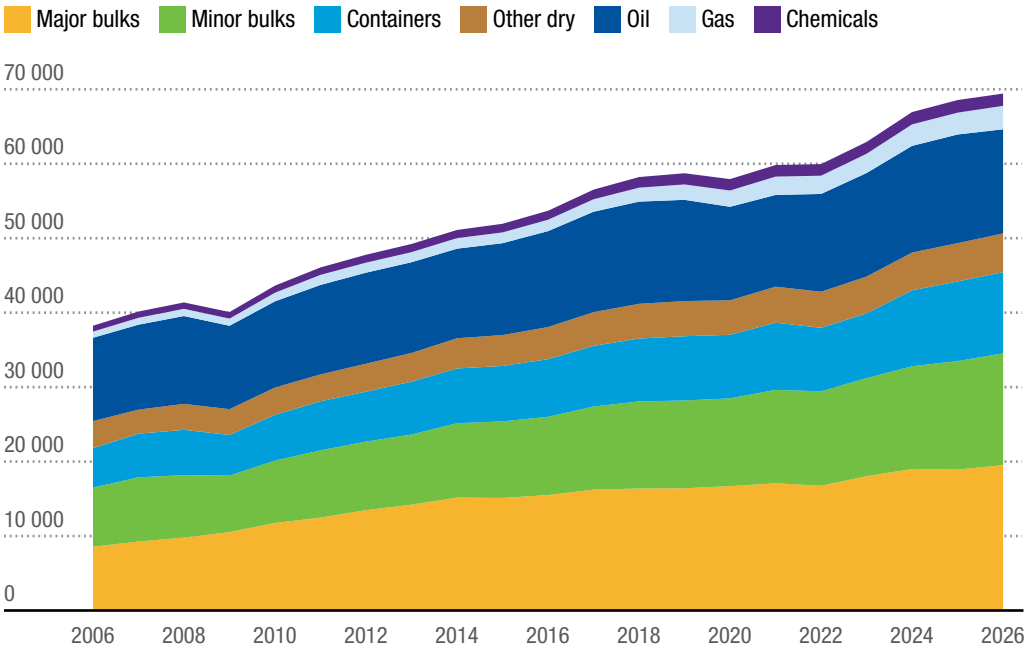
Figure I.2
World seaborne trade average haul
(Miles)



Source: Clarksons Research (2026l).

Figures I.3 and I.4 show these developments by cargo type. Major bulks and oil remain the largest components of total ton-miles. Containers, minor bulks and gas account for an increasing share of maritime transport work (figure I.3).

Figure I.3
International maritime trade in cargo ton-miles, 2006–2026
(Estimated billions of ton-miles)



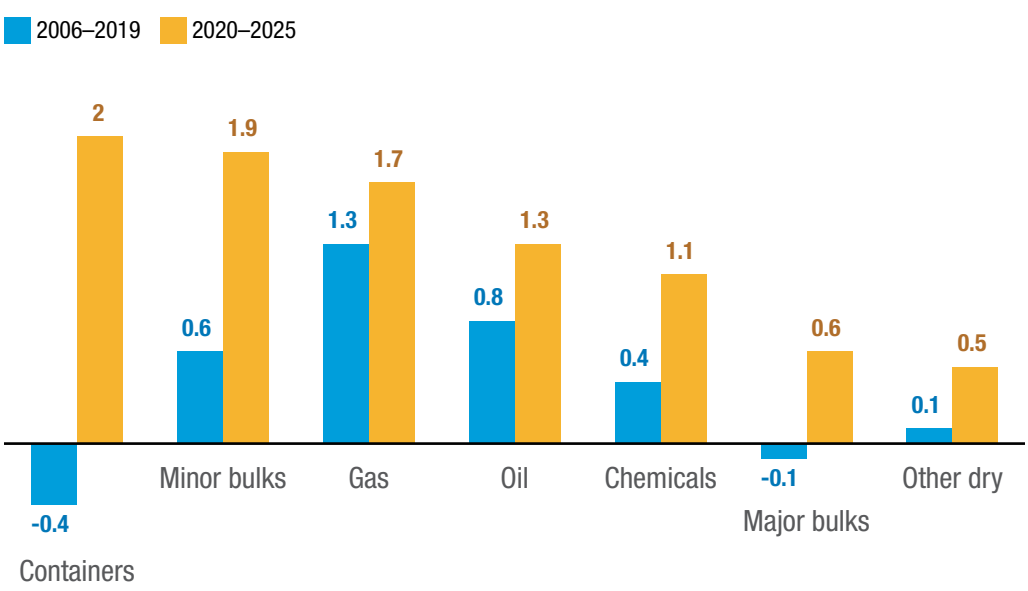
Source: UNCTAD calculations, based on Clarksons Research 2026a, July.

Note: Major bulks comprise iron ore, coal and grain. Minor bulks encompass steel products, forest products and the remaining minor bulk commodities reported by Clarksons Research. Containers and other dry cargo are shown separately. Oil comprises crude oil and oil products; gas includes LPG and LNG. Figures for 2026 are projections.

Figure I.4 compares volume and ton-mile growth in 2006–2019 and 2020–2025. In 2020, the COVID-19 shock launched a period of repeated disruption, sourcing and routing shifts, and greater volatility in transport distances. The comparison shows how the relationship between cargo volumes and maritime transport work changed after this structural break.

From 2020 to 2025, ton-mile growth exceeded volume growth across all cargo groups shown, although the size of the difference varied. The widest gaps were recorded for containers and minor bulks, followed by gas, oil and chemicals. The differences were smaller for major bulks and other dry cargo. For segments with the widest gaps, distance effects were more prominent in post-2020 performance, consistent with greater exposure to rerouting, sourcing shifts and longer average hauls than in segments where ton-mile and volume growth remained more closely aligned.

Figure I.4
Gap between ton-mile and volume growth by cargo segment, 2006–2019 and 2020–2025
(Percentage points)



Source: UNCTAD calculations, based on Clarksons Research 2026a, July.

Note: The gap is calculated as the compound annual growth rate (CAGR) in ton-miles minus the CAGR in tons. A positive value indicates that ton-mile growth exceeded volume growth.

The growing distance intensity of maritime trade requires careful interpretation. Longer routes and rising ton-miles increase maritime transport demand in distance-adjusted terms. But they do not necessarily indicate stronger underlying trade volumes or improved economic outcomes. For carriers, longer voyages may support demand for shipping capacity. For shippers and importing economies, however, the same longer route can raise transport and inventory costs, extend delivery times, and increase uncertainty and exposure to further disruption. A rise in ton-miles, therefore, may reflect both the continued movement of trade and the additional distance, cost and complexity involved in sustaining it.

Against this background, Chapter I distinguishes between observed and structural resilience. Observed resilience refers to trade continuing or recovering despite disruption. Structural resilience is the capacity to adjust routes, suppliers, shipment timing and logistics arrangements

without disproportionate costs or prolonged loss of access. Maritime trade in 2025 and early 2026 displayed observed resilience, but structural resilience remained uneven. Adjustment often depended on longer routes, alternative suppliers, transshipment, inventory management and additional logistics costs. The following sections apply this distinction across cargo segments and economies.

4. Outlook for 2026: Stagnation amid high uncertainty

The outlook for 2026 points to stagnation in aggregate volumes and uneven performance across trade segments. UNCTAD projects total seaborne trade volumes to remain broadly unchanged during the year. This would represent a sharp slowdown from 2025 and a clear deviation from longer-term trends. Seaborne trade volumes grew at a compound annual rate of 1.6 per cent over 2014–2024 and 2.4 per cent over 2004–2024.[3] Containerized trade is expected to remain more resilient, expanding by 3.3 per cent in 2026, although at a slower pace than in 2025. Growth is projected to recover in 2027, to 3.2 per cent for total seaborne trade and 3.5 per cent for containerized trade, before moderating over the remainder of the period. From 2026 to 2031, the two segments are predicted to grow at compound annual rates of 2.5 and 2.7 per cent, respectively (table I.2).

Table I.2
UNCTAD forecasts for international maritime trade
(Tons, annual percentage change)

	Total seaborne trade	Containerized trade
2026	0	3.3
2027	3.2	3.5
2028	2.4	2.6
2029	2.4	2.5
2030	2.3	2.4
2031	2.3	2.3
CAGR, 2026–2031	**2.5**	**2.7**

Source: UNCTAD calculations, based on UNCTAD World Seaborne Trade data; IMF (2026); and recent monthly maritime trade and port-activity indicators, including data from Clarksons Research.

Note: The forecasts refer to UNCTAD's international seaborne trade series. Historical UNCTAD World Seaborne Trade data provide the basis for the projections, including containerized trade. The forecasts are derived from estimated relationships between seaborne trade and global economic indicators, including world gross domestic product (GDP), merchandise trade volumes and the investment-to-GDP ratio. They incorporate the International Monetary Fund (IMF) July 2026 World Economic Outlook and recent monthly maritime trade and port-activity indicators, including data from Clarksons Research. The short-term forecast gives greater weight to recent observed trade developments. The 2026 forecast assumes that conditions affecting transit through the Strait of Hormuz during the first half of the year broadly persist during the second half.

The forecast reflects the interaction of economic conditions, trade policy developments and ongoing disruption to maritime corridors and chokepoints. Persistent geopolitical volatility and the disruptions affecting the Strait of Hormuz and Red Sea are increasing transport costs, route complexity and delivery uncertainty

[3] Per the UNCTAD World Seaborne Trade database; see https://stats.unctad.org/seabornetrade.

(UNCTAD, 2026d; United Nations, 2026b). At the same time, higher energy prices, tighter financial conditions and subdued global growth are weighing on demand for trade-intensive goods. Evolving tariff regimes are also affecting the composition and direction of trade, while weak industrial activity in several developed economies constrains volume growth (United Nations, 2026a). Additional downside risks comprise renewed logistical constraints, including possible Panama Canal restrictions associated with El Niño conditions.

Moving from reactive adaptation to resilience by design

Some developments could nevertheless support maritime trade demand. Inventory rebuilding and supply chain reconfiguration may contribute to a partial recovery in volumes. Trade diversion and changes in sourcing could shift cargo towards more distant suppliers and increase ton-mile demand. Evolving trade geographies and new commodity and infrastructure projects may also create opportunities for selected developing economies (UNCTAD, 2026d and 2026e). Capturing these gains, however, requires adequate port and logistics capacity, reliable hinterland connections and predictable trading conditions.

Overall, the 2026 outlook remains weak and highly uncertain. The continued movement and redirection of cargo demonstrate observed resilience, but reliance on longer routes, higher costs and greater operational complexity shows that structural resilience remains uneven. The central challenge is therefore to move from reactive resilience through costly adaptation towards resilience by design, capable of sustaining reliable and affordable access to global markets under disruption.

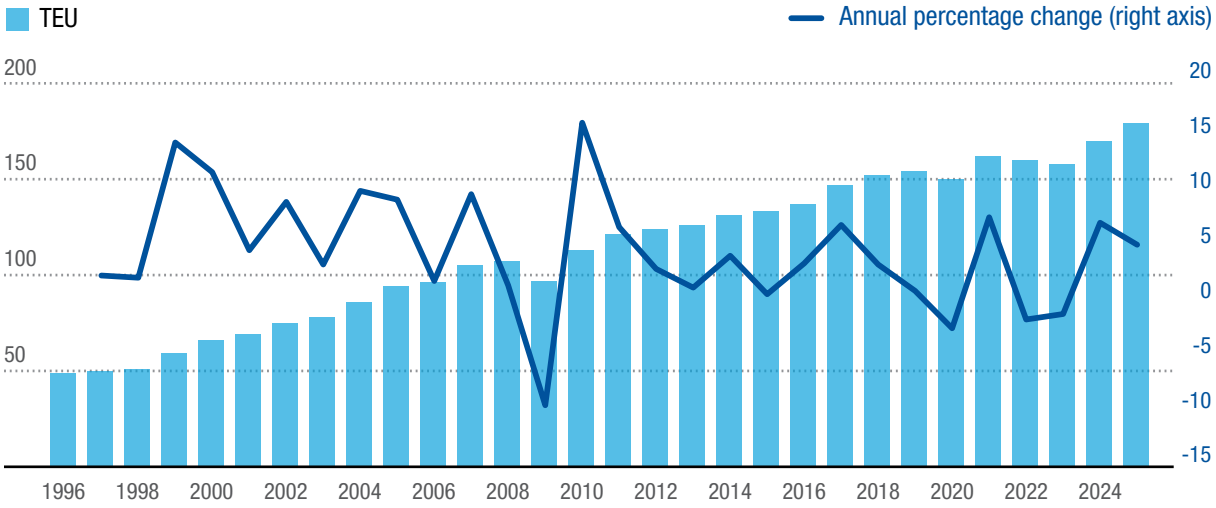
B. Strategic maritime trade segments in a reconfigured trade landscape

1. Containerized trade: Distributed networks and new growth corridors

South–South routes lead containerized trade growth

Containerized trade remained resilient in 2025, growing 5.3 per cent to an estimated 179 million maritime loaded 20-foot equivalent units (TEU) (figure I.5). This was despite trade policy uncertainty and geopolitical tensions, although performance varied across routes and corridors. During the first half of 2026, TEU-mile demand remained elevated, supported by an estimated 11–12 per cent uplift associated with continued rerouting. Diversions around the Cape of Good Hope increased average voyage distances on Asia–Europe routes by about 30 per cent (Clarksons Research, 2026h, Q2). For carriers, longer voyages supported transport demand; for shippers and importing economies, however, they increased transport costs, transit times and exposure to disruption.

Figure I.5
Growth of global containerized trade volumes, 1996–2025
(Estimated millions of maritime loaded TEU and annual percentage change)



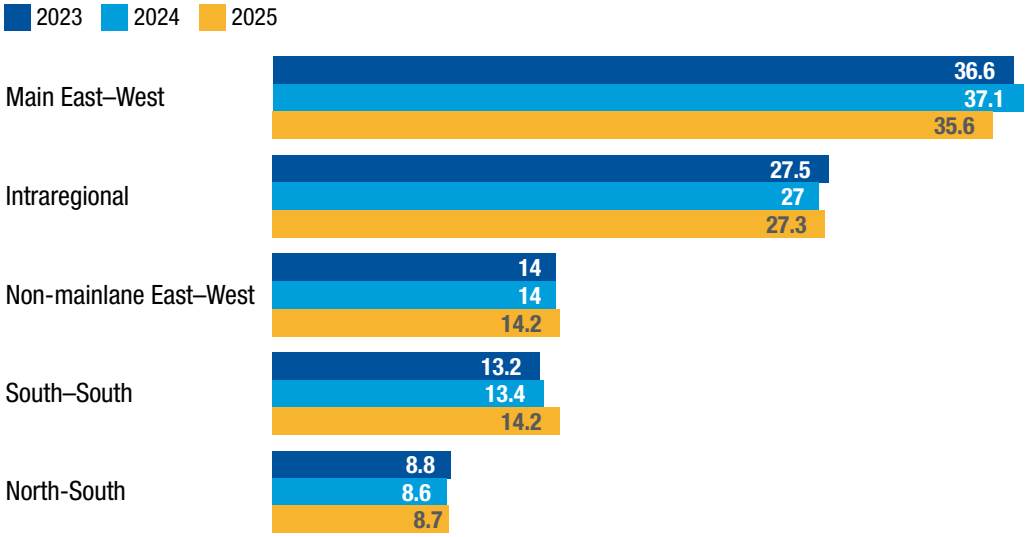
Source: MDS Transmodal, World Cargo Database, 2 July 2026.

Note: Transshipment and empty containers are excluded from the estimated maritime loaded TEU volumes.

The main East–West and intraregional routes accounted for 35.6 and 27.3 per cent of global containerized trade in 2025, respectively. Combined, they comprised almost two thirds of the total (figure I.6).

Growth in 2025 was stronger on South–South, non-mainlane East–West and North–South routes. The main East–West routes expanded by only 0.9 per cent, well below both their 2024 rebound and the growth recorded by other route groups.

Figure I.6
Market share of global containerized trade by route, 2025
(Percentage)



Source: MDS Transmodal, World Cargo Database, 2 July 2026.

Note: Main East–West routes link Asia with Europe and the Americas. Non-mainlane East–West trade involves East Asia, Europe, North America, Western Asia and the Indian subcontinent. North–South trade entails Europe, Latin America, North America, Oceania and sub-Saharan Africa. South–South trade occurs among East Asia, Latin America, Oceania, sub-Saharan Africa and Western Asia.

South–South routes drove nearly a third of global container trade growth in 2025

South–South routes grew fastest in 2025, by 12.1 per cent, followed by non-mainlane East–West and North–South routes at 7.3 and 6.7 per cent, respectively (table I.3). South–South routes represented a critical growth engine, responsible for nearly a third of global container trade growth in 2025. Asia's[4] trade volumes to sub-Saharan Africa rose by 27 per cent, while exports to Latin America and the Middle East and Indian subcontinent grew by 15 per cent and 14 per cent, respectively (Clarksons Research, 2026h, Q2).

Major East–West routes performed unevenly in 2025. Trans-Pacific trade contracted by 2.9 per cent, following its strong rebound in 2024, although volumes remained above both 2019 and 2023 levels. Asia–Europe trade, by contrast, expanded by 5.2 per cent (table I.4).

Table I.3
Containerized trade along mainlane and non-mainlane routes

	2019	2020	2021	2022	2023	2024	2025	2026 (forecast)
TEU								
Main East–West routes	**60 260 906**	**59 456 638**	**63 626 459**	**60 089 344**	**57 813 331**	**62 916 997**	**63 508 833**	**66 362 519**
Other (non-mainlane) routes	**93 655 754**	**90 872 865**	**98 482 534**	**99 661 820**	**100 353 507**	**106 752 396**	**115 128 165**	**118 409 831**
Non-mainlane East–West	20 400 640	18 862 585	20 290 320	20 749 917	22 109 208	23 688 177	25 408 956	25 663 157
North–South	14 292 860	14 013 104	15 114 617	14 851 827	13 989 898	14 544 728	15 512 680	15 350 593
South–South	18 122 275	17 700 144	19 298 365	19 244 564	20 815 985	22 677 951	25 425 229	27 655 647
Intraregional	40 839 978	40 297 031	43 779 232	44 815 511	43 438 416	45 841 539	48 781 300	49 740 434
World total	**153 916 660**	**150 329 502**	**162 108 993**	**159 751 163**	**158 166 838**	**169 669 393**	**178 636 998**	**184 772 350**
Percentage change								
Main East–West routes	**-0.1**	**-1.3**	**7.0**	**-5.6**	**-3.8**	**8.8**	**0.9**	**4.5**
Other (non-mainlane) routes	**1.8**	**-3.0**	**8.4**	**1.2**	**0.7**	**6.4**	**7.8**	**2.9**
Non-mainlane East–West	3.8	-7.5	7.6	2.3	6.6	7.1	7.3	1.0
North–South	0.2	-2.0	7.9	-1.7	-5.8	4.0	6.7	-1.0
South–South	4.9	-2.3	9.0	-0.3	8.2	8.9	12.1	8.8
Intraregional	0.2	-1.3	8.6	2.4	-3.1	5.5	6.4	2.0

Source: MDS Transmodal, World Cargo Database, 2 July 2026.

Note: Main East–West routes link Asia with Europe and the Americas. Non-mainlane East–West trade involves East Asia, Europe, North America and Western Asia and the Indian subcontinent. North–South trade entails Europe, Latin America, North America, Oceania and sub-Saharan Africa. South–South trade occurs among East Asia, Latin America, Oceania, sub-Saharan Africa and Western Asia.
The 2026 projections are MDS Transmodal estimates in TEU and are distinct from UNCTAD's forecasts in tons presented in table I.2.

UNCTAD projects global containerized trade growth of 3.3 per cent in 2026 (table I.2), close to the 3.6 per cent annual average in 2005–2024 (Clarksons Research, 2025). Growth is expected to moderate as geopolitical tensions, trade policy uncertainty and weaker demand on some main East–West routes weigh on trade, while continued expansion on South–South and selected non-mainlane routes provides support (Clarksons Research, 2026h, Q1).

[4] Refers to China, Japan, Republic of Korea, Taiwan Province of China and ASEAN.

Recent resilience should nevertheless be interpreted cautiously. Part of the strength observed in early 2026 may reflect geopolitical and policy-driven front-loading rather than a lasting increase in underlying demand. Importers in North America and Europe brought forward shipments in anticipation of possible tariff changes, responsive measures and shifts in trade agreements. Uncertainty surrounding the conflict in the Middle East encouraged some shippers to secure inventories earlier to limit exposure to freight cost volatility and possible disruptions to major trade routes.

These timing effects can support near-term container volumes but may reduce demand later in the year as inventories normalize (Drewry Maritime Research, 2026).

MDS Transmodal route-level projections for 2026 (table I.4) point to uneven performance across trade lanes. The main East–West and South–South trade is expected to grow by 4.5 per cent and 8.8 per cent, respectively, while North–South trade will likely contract by 1 per cent (table I.3). Within the main East–West group, trans-Pacific trade is projected to increase by 1.3 per cent and Asia–Europe trade by 9.2 per cent.

Table I.4
Containerized trade on major East–West routes

	Trans–Pacific			Asia–Europe			Transatlantic		
	Eastbound East Asia to North America	**Westbound** North America to East Asia	**Total**	**Eastbound** Northern Europe and Mediterranean to East Asia	**Westbound** East Asia to Northern Europe and Mediterranean	**Total**	**Eastbound** North America to Northern Europe and Mediterranean	**Westbound** Northern Europe and Mediterranean to North America	**Total**
	TEU (millions)								
2019	19.8	7.6	**27.4**	8.4	16.1	**24.5**	3.1	5.1	**8.3**
2020	20.2	7.4	**27.6**	8.2	15.9	**24.1**	2.7	5.0	**7.7**
2021	24.0	6.5	**30.5**	7.8	17.0	**24.8**	2.7	5.6	**8.4**
2022	22.7	6.1	**28.8**	6.7	16.5	**23.2**	2.6	5.5	**8.1**
2023	20.8	6.3	**27.2**	6.6	16.6	**23.2**	2.5	4.9	**7.5**
2024	23.9	6.4	**30.3**	6.3	18.4	**24.7**	2.6	5.2	**7.8**
2025	23.3	6.2	**29.5**	6.0	20.0	**26.0**	2.8	5.2	**8.0**
2026	23.6	6.3	**29.8**	6.2	22.2	**28.4**	2.9	5.2	**8.1**
	Annual change (percentage)								
2019–2020	1.8	-2.0	**0.8**	-2.4	-1.5	**-1.8**	-14.7	-2.2	**-7.0**
2020–2021	18.8	-12.8	**10.3**	-5.5	7.2	**2.8**	1.0	12.3	**8.4**
2021–2022	-5.4	-6.5	**-5.7**	-13.3	-3.3	**-6.4**	-4.3	-1.9	**-2.7**
2022–2023	-8.1	3.8	**-5.6**	-2.4	1.0	**0.0**	-2.4	-11.0	**-8.2**
2023–2024	14.8	1.6	**11.8**	-3.7	10.6	**6.6**	3.6	6.0	**5.2**
2024–2025	-2.7	-3.6	**-2.9**	-5.7	8.9	**5.2**	6.6	0.4	**2.5**
2025–2026	1.2	1.7	**1.3**	3.6	10.9	**9.2**	2.8	-0.2	**0.9**

Source: MDS Transmodal, World Cargo Database, 2 July 2026.

Note: The 2026 projections are MDS Transmodal estimates in TEU and are distinct from UNCTAD's forecasts in tons presented in table I.2.

A more distributed trade network with China remaining at the centre

Supply chains are diversifying, but China remains central to global maritime trade

Route-level trends show where containerized trade is growing.[5] Bilateral data reveal how sourcing is diversifying and connector economies are emerging. Connector economies refer to those acting as intermediaries, helping to maintain market access amid geopolitical tensions and tariff policy (box I.1). Their role is particularly relevant in the context of "China Plus One" strategies, comprising near-shoring, supply chain resilience and trade rerouting associated with China–United States trade policy shifts and tariffs.

Recent expansion has spread across a broader network of production, sourcing and logistics hubs, with several economies assuming more important connecting roles within regional and global supply chains. This diversification has not displaced China's central position. Throughout 2015–2025, the China–United States corridor remained the world's largest bilateral maritime containerized trade route.

The expansion of alternative production locations and connector economies (figure I.7) highlights two shifts. First, United States sourcing diversified across Asian production bases, seeking to reduce tariff exposure and supplier concentration. The largest increases were in Viet Nam (+387 per cent), Thailand (+177 per cent), India (+95 per cent) and Malaysia (+92 per cent), although the last two followed a more uneven trajectory.

This shift is significant but should be interpreted in relation to scale. From 2015 to 2025, the expansion of the United States–Viet Nam corridor raised its share of global containerized trade from 0.5 to 1.8 per cent. Over the same period, China–United States volumes declined by 21 per cent; the global share fell from 8.0 to 4.7 per cent. Nevertheless, the China–United States corridor remained about 2.6 times larger than the United States–Viet Nam one in 2025.

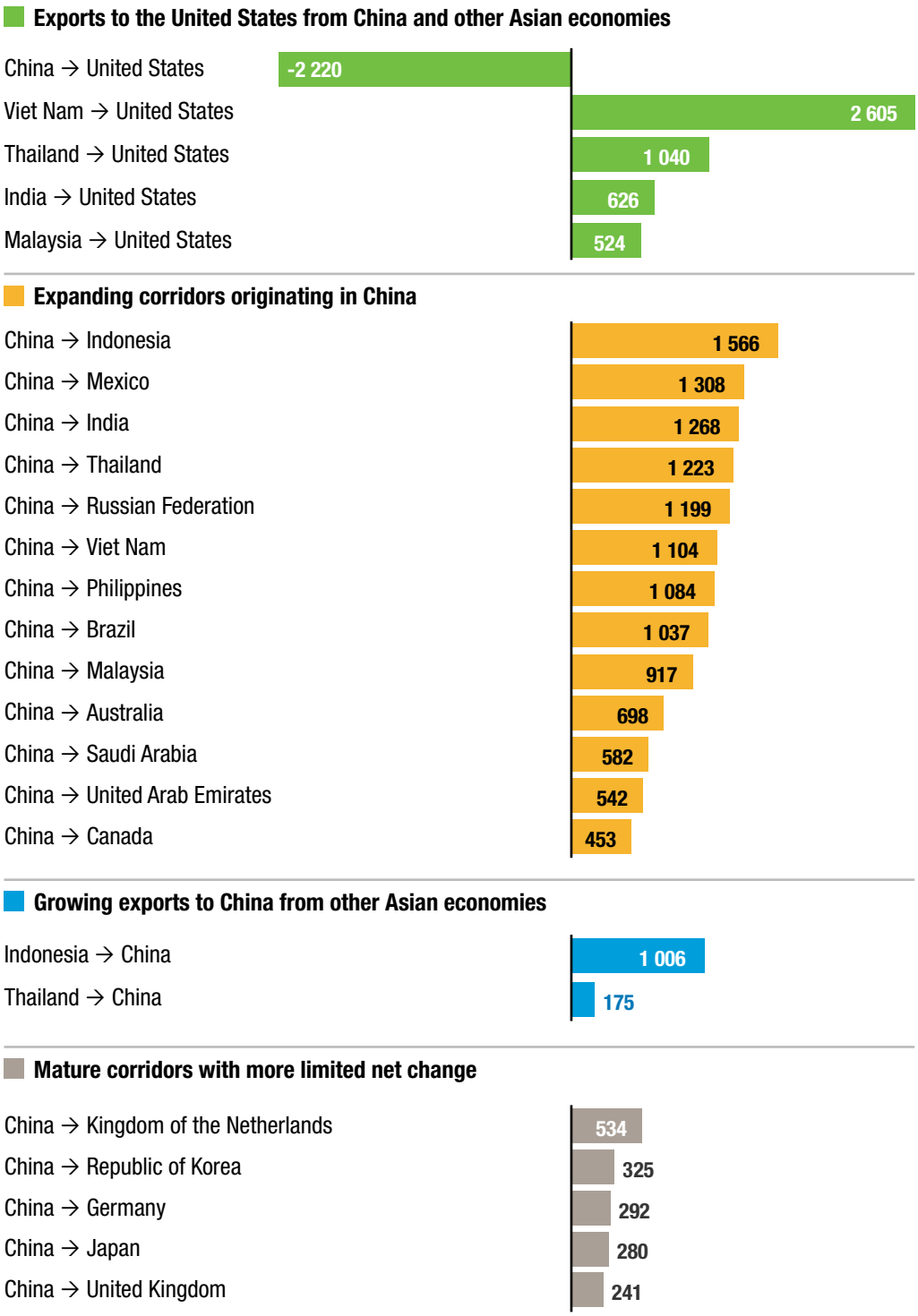
Second, China strengthened containerized trade with many of these economies. From 2015 to 2025, exports to the Philippines (+226 per cent), Viet Nam (+204 per cent), Indonesia (+185 per cent), Mexico (+177 per cent), Thailand (+171 per cent) and India (+131 per cent) increased substantially.

These developments suggest a reconfiguration, rather than a simple relocation, of manufacturing activity. China remains a major upstream manufacturing platform and supplier of intermediate goods, machinery, chemicals and components, while several Association of Southeast Asian Nations (ASEAN) economies are capturing larger roles in assembly, processing and export-oriented manufacturing. As production is divided across more stages and locations, cross-border container flows within Asia increase, reinforcing China's central role within a more geographically distributed production network (Drewry Maritime Research, 2026). Mexico's expanding trade links with China are evident in both container volumes and merchandise trade values: shipments from China to Mexico rose by 177 per cent in TEU between 2015 and 2025 (UNCTAD calculations based on MDS Transmodal), while merchandise export value increased by 77 per cent between 2019 and 2023 (OECD, 2024).

These patterns may broadly indicate a combination of production relocation, deeper regional supply chain integration and trade diversion. Together, they show that alternative Asian suppliers and connector economies are expanding their roles, often from a smaller base. China remains a major source of containerized imports into the United States, while its containerized exports to several Asian economies and Mexico have expanded (UNCTAD calculations based on 2026 MDS Transmodal data). In essence, the emerging trajectory is one of greater geographic distribution within a trade network in which China continues to occupy a central position.

[5] The MDS Transmodal World Cargo Database is the source for all data in this subsection.

Figure I.7
Change in estimated maritime loaded TEU across the world's top 25 containerized trade corridors, 2015–2025
(Thousands of TEU)



Source: MDS Transmodal, World Cargo Database, 2 July 2026.

Note: The figure presents the 25 largest corridors by 2025 volume among country pairs recording at least 100,000 loaded TEU in one or more years during 2015–2025. Values show the net change between 2015 and 2025 and do not reflect annual fluctuations within the period. Corridors are grouped by pattern of change and ranked by size of change within each group.

Box I.1
How connector economies can benefit from trade reconfiguration

Connector economies, such as Mexico, Indonesia and Viet Nam, act as key links in a decentralized trade system with multiple nodes. As global value chains restructure, connector economies facilitate trade across markets, helping to bypass frictions and sustain systemic resilience. Connector economies play two roles.

- Vertical connectors link different stages of supply chains, often attracting foreign direct investment to produce exports for major consumer markets. This strategy enables rapid integration into manufacturing corridors but may face greater scrutiny from destination markets regarding input origins and investment characteristics, as seen in the case of Mexico.
- Horizontal connectors maintain diversified trade and investment ties across a wide geopolitical spectrum. By balancing export markets and investment sources, they are less exposed to disruptions in any single economy and can better exploit trade diversion opportunities. Such diversification can generate economic gains by reducing dependence on individual markets while attracting investment from multiple sources. It can also produce social benefits, including higher employment and wages for traditionally disadvantaged groups, such as women and young workers. Viet Nam exemplifies this model.

Sustaining a connector role depends on supportive maritime trade and logistics conditions, notably:

- Liner shipping connectivity and port capacity to handle cargo reallocations without severe congestion
- Diversified container shipping links across foreign partners to lower network vulnerability to national route restrictions or chokepoints
- Efficient logistics and robust hinterland links that reduce port delays, enhance cargo tracking and streamline customs procedures, supporting transhipment

The opportunities that connector economies gain are not automatic. Converting trade and investment diversion into lasting development advances also requires skills, technology and strong links among domestic relevant institutions.

Source: Aiyar and Ohnsorge (2024); Tran (2024); de Bruce and Tschanz (2024); Chen et al. (2025); Bonadio et al. (2025); Aiyar et al. (2026); UNCTAD (2026c).

From a trade perspective, a broader distribution of production and sourcing can strengthen resilience by widening the range of suppliers, markets and production locations available when trade frictions or disruptions arise. Diversification does not automatically reduce vulnerability, however. Its benefits depend on whether firms and economies can shift sourcing, production and market access without disproportionate costs, and whether trade agreements, predictable tariff regimes, investment conditions and industrial capabilities support viable alternative trade relationships.

The continued movement and redirection of containerized cargo demonstrate observed resilience. Whether greater geographic distribution translates into structural resilience depends on the availability of alternative services, gateways, transshipment options and intermodal connections. Chapters II and IV examine related adjustments to shipping services and networks, ports, corridors and trade facilitation.

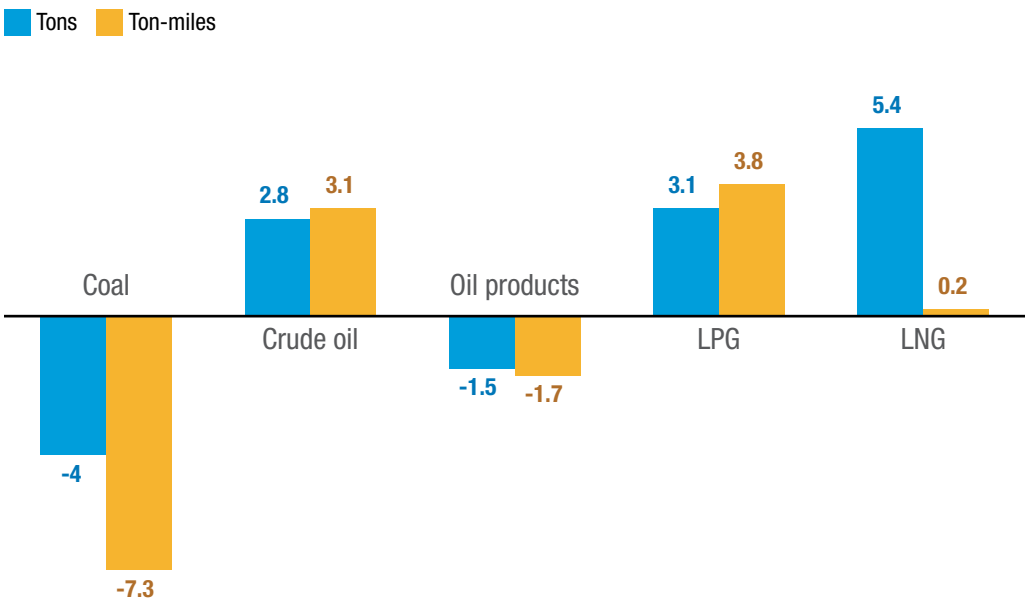
2. Energy seaborne trade: Disruption, route reconfiguration and the energy transition gap

2025 saw divergent cargo performance and the growing importance of distance

By 2025, pandemic disruption had receded, but the energy trade remained fragmented and increasingly distance-intensive as geopolitical and corridor disruptions interacted with shifting sourcing patterns and energy security strategies. The gap between volume and ton-mile growth became more pronounced after 2020 as changes in the geography of supply and demand increased average transport distances.

Performance varied significantly across energy commodities in 2025 (figure I.8). Crude oil shipments expanded by 2.8 per cent, while LNG and LPG trade increased by 5.4 per cent and 3.1 per cent, respectively. By contrast, shipments of coal contracted by 4 per cent and oil products by 1.5 per cent. Strong domestic coal production in China and India, together with expanding renewable generation, reduced import requirements. In China, imports account for a relatively small share of total coal consumption and respond partly to relative prices and coal quality. Nevertheless, changes in Chinese purchases can have an outsized impact on the international seaborne market.

Figure I.8
Energy seaborne trade by fuel type, 2025
(Annual percentage change)



Source: UNCTAD calculations, based on Clarksons Research 2026a, July.

The 2026 Strait of Hormuz disruption reduced energy flows and triggered partial route adjustments

In the first half of 2026, disruption around the Strait of Hormuz affected one of the world's most important maritime energy corridors. The Strait normally handles 37 per cent of global seaborne crude oil trade and 19 per cent of oil product trade (Clarksons Research, 2026e, UNCTAD, 2026b). By May, the disruption was already visible in trade data, with crude oil and oil product volumes estimated to have fallen by around 15 per cent year-on-year (Clarksons Research, 2026f, May). Projections in early July suggested that full-year crude oil and oil product trade could decline by 5.4 per cent and 5.9 per cent, respectively (Clarksons Research, 2026a, July). By late July, vessel transits through the Strait remained around 95 per cent below normal levels in tonnage terms, indicating very limited recovery in flows (Clarksons Research, 2026i; see chapter II on the implications for shipping operations, capacity and alternative routes). These forecasts remain subject to considerable uncertainty and depend on the duration and severity of the disruption.

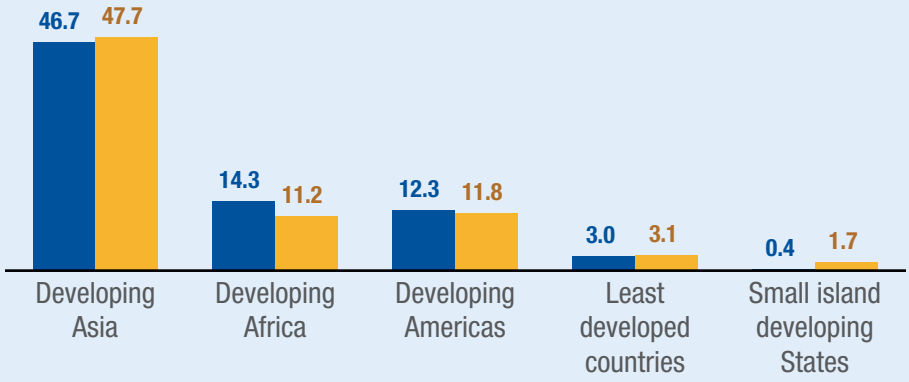
Developing economies' growing roles as both crude oil suppliers and consumers have increased the importance of resilient maritime energy corridors. Developing Asia now accounts for around 49 per cent of global crude oil discharged (box I.2).

Box I.2
The changing geography of crude oil trade: Concentrated supply and a decisive shift in demand towards developing Asia

While the supply of crude oil has remained geographically concentrated, demand has shifted decisively towards developing Asia. Developing economies accounted for about 71 per cent of world crude oil loaded in 2024, with developing Asia still the largest loading region (box figure I.2.1). This reflects the prominent role of Western Asia: Saudi Arabia was the leading exporter in 2024, followed by the United Arab Emirates and Iraq, while Kuwait, Oman and Qatar were also significant suppliers. Compared with 2000, the largest increases in loadings among major exporters were in Iraq and the United Arab Emirates. The continued concentration of exports in the Middle East is consistent with longer-term assessments that the region will remain the principal source of internationally traded oil (IEA, 2025).

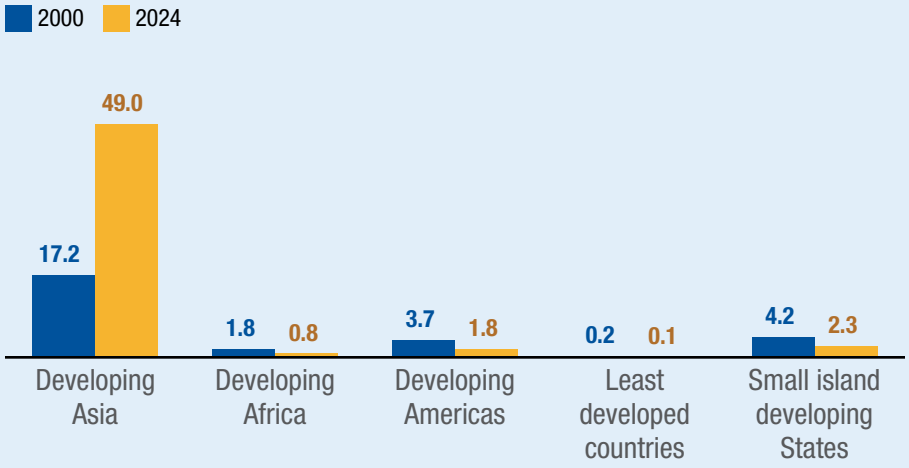
The more pronounced transformation occurred on the demand side. Developing economies increased their share of world crude oil discharged from 23 per cent in 2000 to 51.5 per cent in 2024, driven overwhelmingly by developing Asia. Its share rose from around 17 to 49 per cent (box figure I.2.2). China accounted for the largest increase, with discharged volumes rising from about 70 million to 551 million tons, while India increased from about 72 million to 240 million tons. Imports also expanded in several South-East Asian economies, including Indonesia, Malaysia, Thailand and Viet Nam, although on a smaller scale. Japan's volumes declined. The shift therefore reflects not only the rise of China and India but a broader reorientation of crude oil demand towards developing Asian import centres.

Box figure I.2.1
Crude oil loaded by developing region, 2000 and 2024
(Percentage share of world crude oil loaded)



Source: UNCTAD calculations, based on UNCTAD Seaborne Trade data, available at https://stats.unctad.org/seabornetrade.

Box figure I.2.2
Crude oil discharged by developing region, 2000 and 2024
(Percentage share of world crude oil discharged)



Source: UNCTAD calculations, based on UNCTAD Seaborne Trade data, available at https://stats.unctad.org/seabornetrade.

This changing geography has concentrated an increasing share of crude oil trade in maritime corridors linking producing regions in Western Asia with markets in developing Asia. Many flows pass through key maritime chokepoints, particularly the Strait of Hormuz and, for cargoes moving further east, the Strait of Malacca. As demand has shifted eastward, the reliability of these corridors has become increasingly important to the continuity of the energy trade. Exporting economies depend on continued access to international markets, while major importing economies rely on secure supply and sufficient scope to diversify suppliers and routes when disruption occurs (UNCTAD, 2024; Ahn and Tan, 2025).

For the least developed countries and small island developing States, vulnerability cannot be inferred from their relatively small share of global crude oil trade. Many face structurally higher maritime transport costs, weaker connectivity and limited capacity to absorb freight rate and energy price shocks (UNCTAD, 2024). Disruptions can therefore have disproportionate effects even when their absolute import volumes are small. The changing geography of crude oil trade shows that structural resilience depends not only on supply availability but also on diversified sourcing, reliable maritime corridors and the capacity to adjust without excessive cost increases or prolonged loss of access.

Source: IEA (2025); Ahn and Tan (2025); UNCTAD (2024).

Note: Groupings follow UNCTAD statistical classifications. The terms developing Asia, developing Africa and developing Americas refer to developing economy regional groupings. Regional and development status group lists are available at https://unctadstat.unctad.org/EN/Classifications/DimCountries_All_Hierarchy.pdf.

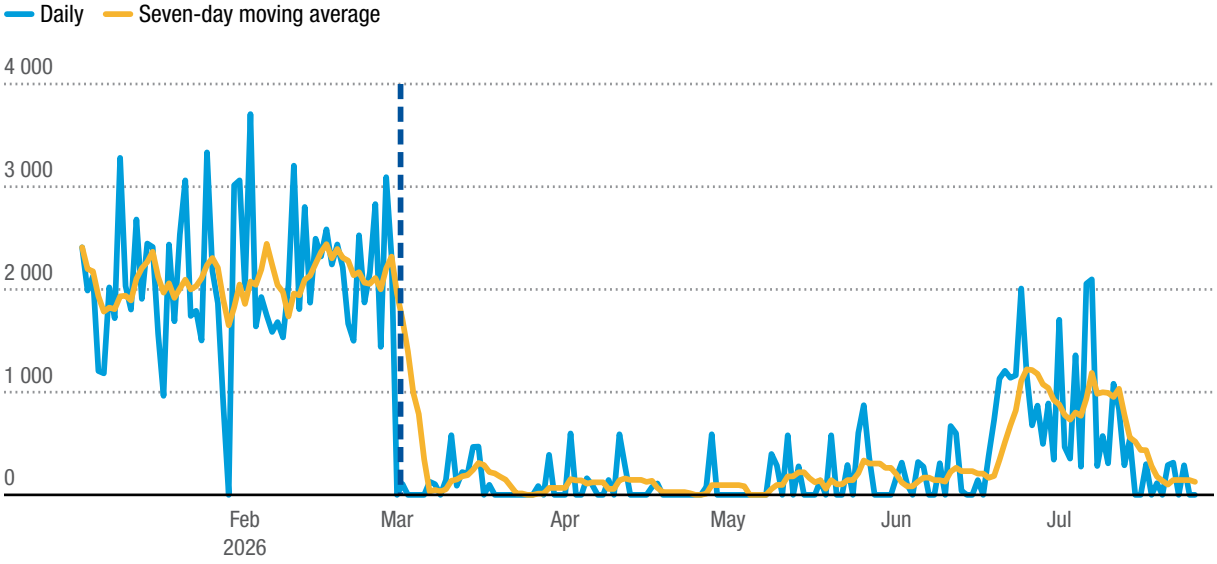
Daily crude tanker movements show both the severity of the Hormuz disruption and the limits of subsequent adjustments. Crude oil outflows from the Persian Gulf fell sharply after 28 February and, despite a partial recovery in June and early July, remained well below pre-disruption levels (figure I.9). At the same time, flows shifted towards alternative transport corridors and export outlets. Average eastbound crude movements from the Red Sea towards the Gulf of Aden increased from about 0.39 million tons per day before 28 February to around 0.64 million tons per day between March and late July (figure I.10). Saudi crude exports through Yanbu reached approximately 3.3 million barrels per day in mid-July, around twice the February average (Clarksons Research, 2026j). Together, these increases offset only a limited share of the decline in Persian Gulf movements, indicating meaningful but incomplete adjustment.

Adjustment extended beyond the Persian Gulf region. United States crude exports reached a record 6.4 million barrels per day in April 2026 amid a coordinated International Energy Agency (IEA) release of strategic petroleum reserves (Clarksons Research, 2026f, April and May). Together with increased exports through Yanbu, this shows how alternative suppliers and outlets responded, although they did not fully replace constrained Persian Gulf flows.



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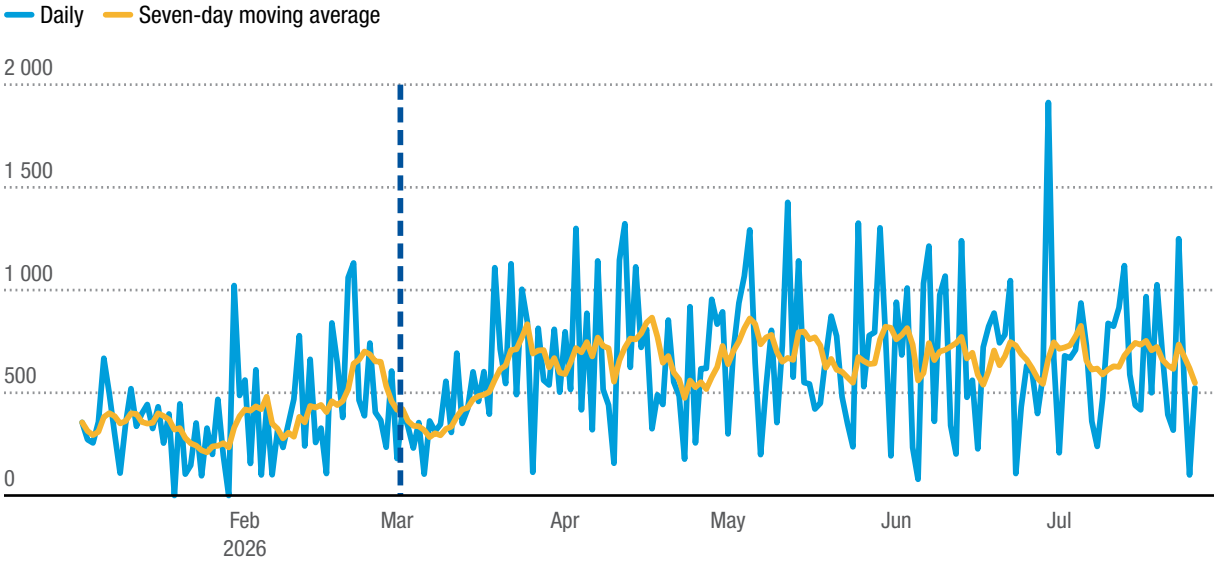
Figure I.9
Crude oil tanker movements, 2 January to 26 July 2026: Persian Gulf outflows fell following the Strait of Hormuz disruption
(Thousands of tons per day)



Source: UNCTAD, based on Marine Benchmark estimates of daily crude quantities calculated from Automatic Identification System drafts associated with tanker movements among sea areas.

Note: Covers crude oil tankers above 95,000 deadweight tons, including Aframax, Suezmax and very large crude carriers.

Figure I.10
Crude oil tanker movements, 2 January to 26 July 2026: Eastbound movements out of the Red Sea increased following the Strait of Hormuz disruption
(Thousands of tons per day)



Source: UNCTAD, based on Marine Benchmark estimates of daily crude quantities calculated from Automatic Identification System drafts associated with tanker movements among sea areas.

Note: Covers crude oil tankers of 95,000 deadweight tons and above, including Aframax, Suezmax and very large crude carriers.

In 2026 as a whole, ton-mile demand is expected to grow faster than maritime trade volumes for all major energy cargoes, reflecting longer routes and changing sourcing patterns. Crude oil and oil product volumes are projected to decline by 5.4 per cent and 5.9 per cent, respectively, while ton-mile demand falls by a smaller 4.6 per cent and 2.9 per cent, respectively. LPG could show a sharper divergence, where volumes contract by 5.2 per cent while ton-miles increase by 5.1 per cent. LNG remains comparatively resilient; volume growth of 1.4 per cent could generate ton-mile growth of 7.5 per cent. Coal volumes could decline by 1 per cent while ton-miles increase by 0.9 per cent.

These differences reflect changing sourcing patterns and longer routes. Reduced Persian Gulf exports were partly offset by stronger Atlantic supply from Nigeria and the United States, and by longer Atlantic–Asia voyages, especially for LNG. The share of United States LNG exports destined for Asia rose from 10 per cent before the conflict to over 40 per cent by May 2026 (Clarksons Research, 2026a, July and 2026e). Longer voyages support demand for shipping capacity but also increase delivery times, transport costs and exposure to disruption for cargo owners and importing economies.

Resilience remained partial, as alternative routes and suppliers brought longer voyages and higher costs

These developments demonstrate observed resilience through the partial maintenance and redirection of energy flows. Resilience remained incomplete, however, because alternative routes and suppliers replaced only part of constrained Persian Gulf trade and involved longer voyages and higher adjustment costs.

Beyond 2026: Recovering fossil fuel trade and a persistent low-carbon transition gap

The outlook for 2027 points to a recovery in several energy trades, although uncertainty remains high. Crude oil and oil product volumes are projected to rebound by 5.3 per cent and 6 per cent, respectively, in 2027. LNG and LPG could expand by 13.2 per cent and 16.4 per cent, respectively. Gas growth will be supported by new export capacity in Qatar and the United States, including Qatar's North Field expansion (Clarksons Research, 2025 and 2026g).

Coal is expected to be the only major energy cargo to decline in both 2026 and 2027, with volumes projected to fall by 1 per cent in 2026 and 1.1 per cent in 2027. This contraction reflects ongoing energy transition pressures and lower import demand in China and India due to increased domestic production (Clarksons Research, 2025 and 2026c, February). The contrast between the expected rebound of oil and the continued expansion of gas trades and the structural decline of coal trade illustrates the ongoing importance of oil and gas to global energy supply and maritime trade.

Long-term IEA scenarios underline the uncertainty surrounding future oil demand. Under the Stated Policies Scenario[6], global oil demand peaks at around 102 million barrels per day by 2030 and declines gradually to 96.9 million barrels per day by 2050. Under the Current Policies Scenario, demand instead rises to about 113 million barrels per day by 2050 (IEA, 2025). Both trajectories remain far above levels consistent with a net-zero greenhouse gas emissions pathway, highlighting the gap between current policy settings and the decline in oil-related seaborne trade required for the energy transition (IEA, 2025).

In the near term, energy security needs are supporting the expansion of gas-related seaborne trade. LNG and LPG are sometimes viewed as transition fuels because, in certain applications, they can substitute for more carbon-intensive coal and oil. Between 2018 and 2025, LNG trade rose by about 37 per cent, from 318 million to 435 million tons; LPG trade increased by about 42 per cent, from 101 million to 143 million tons (Clarksons Research, 2026a, July). At the same time, specialized

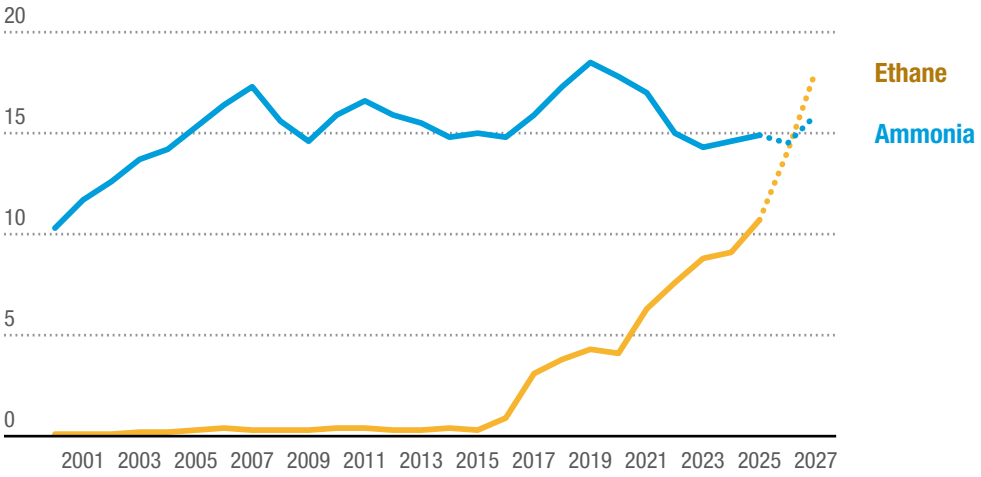
[6] The IEA Current Policies Scenario considers policies and regulations already in place and adopts a cautious view of how quickly new energy technologies are deployed and integrated into the energy system.

fossil fuel-based feedstock trades are expanding. Seaborne ethane trade nearly tripled from 2018 to 2025, rising from 3.8 million to 10.7 million tons. It is projected to reach 18.1 million tons by 2027 (figure I.11).

This growth reflects an intermediate stage in the energy transition rather than a full shift towards a zero-carbon energy trade. Crucially, seaborne trade in low- or zero-emissions fuels remains insufficient to bridge the IEA's projected demand gap. Although seaborne ammonia trade amounted to 14.9 million tons in 2025 (figure I.11), the vast majority was conventional, fossil-based ammonia rather than low-carbon supplies.

Trade in low-carbon ammonia, hydrogen and other renewable fuels remains limited and is expected to expand more meaningfully only after 2030 (Clarksons Research, 2025). Production of bio-LNG and e-LNG is currently limited, with technological hurdles slowing the ramp-up of large-scale renewable fuel shipping (BRS Group, 2026). Early seaborne volumes of bio- and e-fuels are expected to be largely regional or intracontinental, with supply located relatively close to demand (Lloyd's Register Maritime Decarbonisation Hub, 2026; IEA Bioenergy, 2025).

Figure I.11
Seaborne trade of ammonia and ethane, 2000–2027
(Millions of tons)



Source: UNCTAD calculations, based on Clarksons Research (2026k).
Note: Figures for 2026 and 2027 are forecasts.

Energy seaborne trade faces a dual challenge: preserving secure and diversified energy flows while accelerating scalable low-carbon alternatives. In the near term, governments and industry need to diversify suppliers and routes where feasible, strengthen contingency planning and address disruption-related costs. For smaller and more vulnerable economies, limited land, resources and market size can severely constrain national diversification options. Regional procurement, shared storage facilities and coordinated contingency arrangements may offer opportunities to strengthen energy security and reduce exposure to disruptions in ways that national diversification alone cannot. At the same time, ports, transport infrastructure and regulatory frameworks must prepare for emerging low-carbon fuels through compatible standards, safety requirements, investment planning and regional corridor development. This is particularly important for developing economies facing high dependence on energy imports and limited capacity to finance parallel fossil fuel and low-carbon infrastructure.

C. Selected seaborne agricultural commodity flows and food security exposure

1. Maritime routes shape exposure to supplier and corridor disruption in selected agricultural commodity trade

This section examines how heavy reliance on maritime transport for selected agricultural commodity imports can expose import dependent economies to disruptions in sourcing, routing, delivery timing and costs. The analysis focuses on wheat/meslin, maize and soybeans, given their maritime transport volumes, supplier concentration, and relevance to food and feed systems. These commodities do not represent food trade as a whole: rice, processed foods and many higher-value food products are outside the scope of this analysis and may move through different logistics channels, including containerized trade. The section therefore does not assess food security outcomes directly. Rather, it identifies where maritime trade patterns and underlying shipping routes and maritime chokepoints may create exposure for import dependent economies.

Food security depends on production, stocks and prices as well as on reliable trade and logistics links between surplus and deficit markets. This is especially important for import dependent countries, where procurement channels, transport services, storage and delivery timing affect access to essential supplies (WFP, 2025). Since 2020, agrifood markets have faced recurrent shocks, including the COVID-19 pandemic, the war in Ukraine, weather events, energy market volatility and input cost pressures. Estimates of the global food import bill suggested a record high in 2025, reflecting higher prices for certain food products. Freight, fuel, insurance, exchange rate and logistics costs represented additional pressures on food import costs (FAO, 2026b and 2026c; AMIS, 2026, March).

Box I.3 illustrates the different channels through which maritime chokepoint disruptions can affect selected commodity flows and food systems. Maritime disruption matters for food security because it influences food supply availability, access and stability. It affects whether food and feed commodities are physically available; whether importers can afford them once freight, fuel, insurance and exchange rate costs are considered; and whether deliveries arrive predictably. Effects on food utilization are more indirect and depend on wider nutrition, health and household conditions. Maritime data can therefore identify trade flow exposure but not food insecurity itself.

Box I.3
Maritime chokepoints transmit food system risks through different channels

Overlapping disruptions in 2025 and early 2026 affected maritime corridors relevant to selected commodities. Not all chokepoints matter in the same way, however. Some corridors carry physical flows of wheat, maize or soybeans. Others affect route length, transit times and logistics costs. A third group matters mainly through its influence on energy and fertilizer markets that sway food production costs, albeit with a lag.

Direct staple flow corridor: The Black Sea/Turkish Straits corridor is a major outlet for wheat and coarse grain exports, linking suppliers in the Russian Federation and Ukraine with import dependent markets in the Middle East, North Africa and parts of Asia. The scale of this corridor was demonstrated during the Black Sea Grain Initiative, under which 32.9 million tons of grains and other foodstuffs were exported from Ukrainian ports from July 2022 to July 2023; maize and wheat accounted for around 78 per cent of this total. Disruption in this corridor has direct relevance for selected commodity flows, especially for price-sensitive wheat and maize importers.

Transit and rerouting corridor: The Red Sea/Suez Canal corridor connects Europe and the Black Sea with Asia, East Africa and the Indian Ocean. It is relevant to selected commodities mainly because disruption can redirect cargoes onto longer routes and affect delivery reliability. In 2023, more than 14 per cent of global seaborne grains and oilseeds trade passed through the Suez Canal. During the Red Sea disruption, wheat shipments via Suez fell sharply in early January 2024, while a much larger share of wheat shipments from the Russian Federation, Ukraine and European Union to Asia and Eastern Africa used alternative routes compared to normal conditions. From December 2023 to January 2024, 4.3 million tons of grains and oilseeds were diverted to the Cape of Good Hope. Such rerouting does not necessarily stop trade, but it can increase voyage distances, fuel use, insurance costs and delivery times, reducing predictability for importers.

Input cost corridor: The Persian Gulf/Strait of Hormuz corridor is less a direct grain corridor than a food–energy–fertilizer chokepoint. The Strait carries around a quarter of global seaborne oil trade as well as significant volumes of LNG and fertilizers. Around a third of global seaborne fertilizer trade, about 16 million tons, passes through the Strait; constraints raise concerns over fertilizer access and input costs. For selected commodities, the main risk is indirect: disruption can raise fuel, freight, insurance and fertilizer costs, with possible effects on input affordability, planting decisions and future production conditions.

These corridors show why food system risks cannot be assessed only by looking at tons traded. For selected commodities, exposure depends on whether imports rely on a limited set of suppliers, whether those suppliers use vulnerable maritime routes, whether alternative routes are available, and whether disruption affects essential inputs such as fertilizers and energy. Maritime and trade flow indicators can help distinguish between direct commodity flow disruption, rerouting and delivery risk disruption, and input cost disruption.

Source: FAO (2023); UNCTAD (2026a and 2026e); United Nations (2023); World Bank (2024); WTO DataLab; International Grains Council (2026).

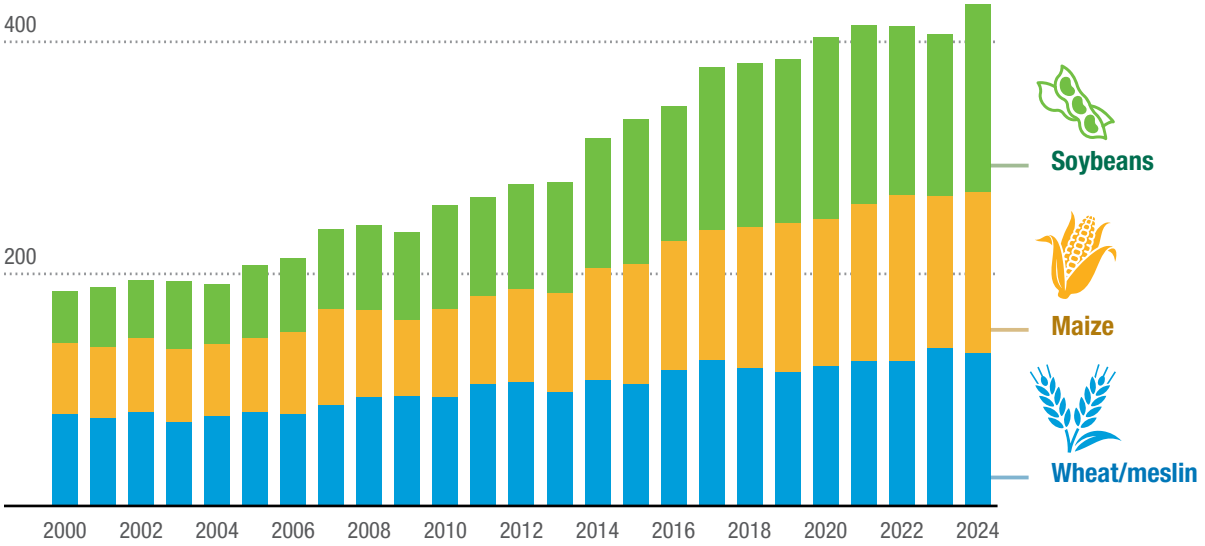
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The following analysis distinguishes three aspects of potential disruption. The first is seaborne trade flow exposure, which captures reliance on specific suppliers, maritime routes, chokepoints or gateways. The second involves market disruption through changes in costs, delivery times, sourcing patterns or the availability of cargoes and inputs. Finally, the third comprises food security outcomes that depend on additional factors, including domestic production, stocks, purchasing power, exchange rates, social protection, humanitarian support and the ability to switch suppliers or routes.

2. Seaborne trade in selected commodities has expanded, but supply and corridors remain concentrated

Analysis in this subsection draws on UNCTAD Seaborne Trade data for 2000–2024 to examine changes in trade volumes, supplier concentration, and bilateral and regional maritime trade flows for wheat/meslin, maize and soybeans. Seaborne trade in selected commodities reached 432.3 million tons in 2024, an increase of 133.6 per cent since 2000 (figure I.12). In 2024, 73.3 per cent of total trade in these commodities moved by sea. Maritime reliance was highest for soybeans at 91.3 per cent, followed by maize at 68.1 per cent and wheat/meslin at 63 per cent.

Figure I.12
Seaborne trade in wheat/meslin, maize and soybeans, 2000–2024
(Millions of tons)



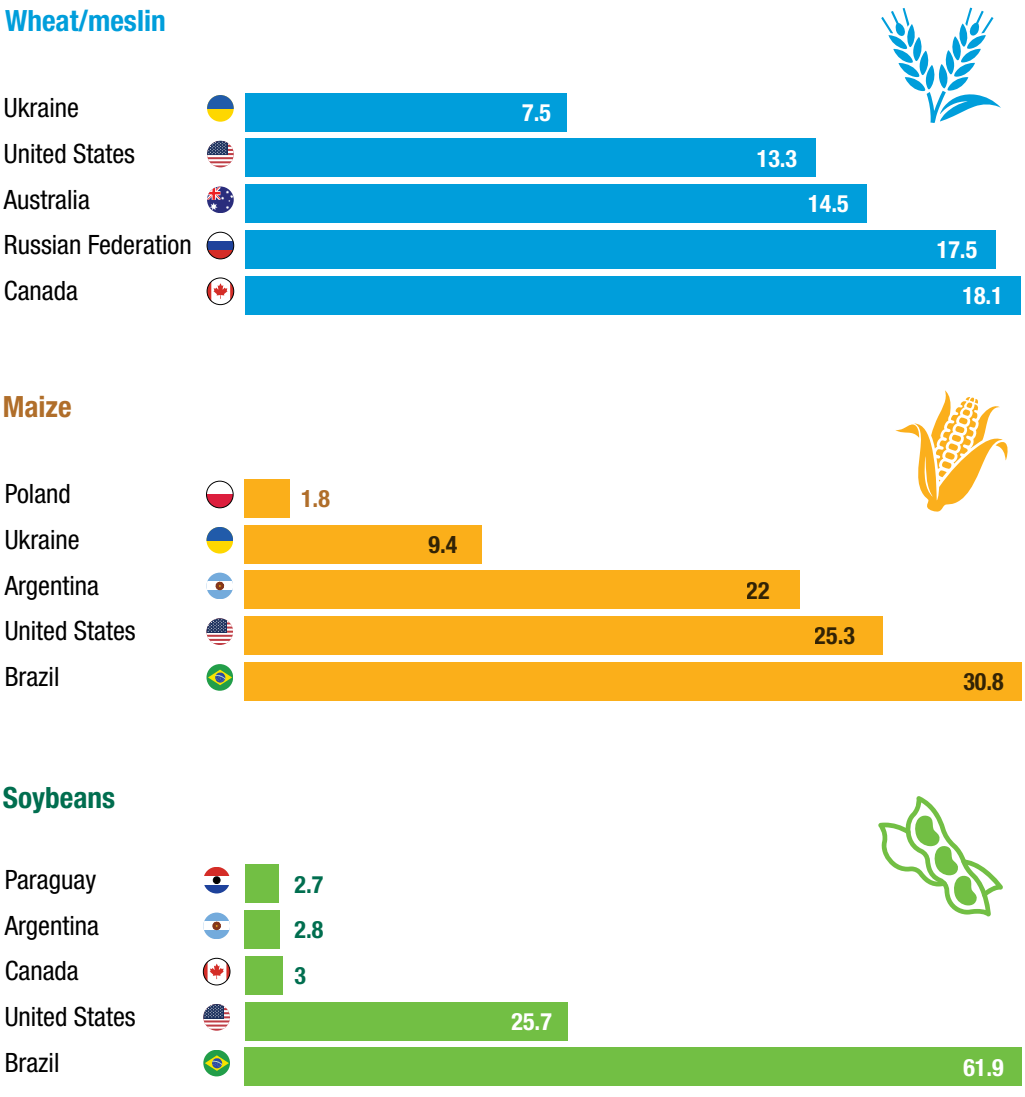
Source: UNCTAD calculations, based on UNCTAD Seaborne Trade data.

The composition of these flows has shifted from wheat-led to soybean-led. In 2000, wheat/meslin accounted for 43 per cent of selected seaborne volumes, followed by maize at 33.1 per cent and soybeans at 23.9 per cent. By 2024, soybeans had become the largest group, reaching 37.3 per cent of selected seaborne tons. Maize accounted for 32.3 per cent and wheat/meslin for 30.4 per cent. This change reflects the much faster expansion of seaborne soybean trade, which increased

by 265.4 per cent between 2000 and 2024, compared to 127.6 per cent for maize and 65.2 per cent for wheat/meslin.

Supply remains concentrated, but its geography has changed. In 2000, selected maritime flows were strongly centred on the United States, which dominated seaborne exports of both soybeans and maize. By 2024, Brazil had become a much larger source, especially for soybeans and maize, reflecting both the rapid expansion of the soybean trade and the growing role of Latin America in supplying long-haul demand from Asia. In wheat/meslin, the Russian Federation and Ukraine emerged as more important maritime exporters, alongside Canada, Australia, and the United States (figure I.13). Such shifts matter, because exposure to supply risks depends not only on the concentration of supply but also on which commodities dominate, where major suppliers are located and which maritime corridors connect exporters to markets dependent on imports.

Figure I.13
Main exporters of selected commodities, 2024
(Loaded maritime volumes, millions of tons)



Source: UNCTAD calculations, based on UNCTAD Seaborne Trade data.

Demand is more widely distributed than supply, except in soybeans. In 2024, Indonesia was the largest importer of wheat/meslin, Japan the largest importer of maize and China the largest importer of soybeans. China alone accounted for 64.8 per cent of seaborne soybean imports and 28.4 per cent of all selected commodity imports. Developing economies received 75.5 per cent of selected seaborne imports, compared to 4.1 per cent among the least developed countries and 1.2 per cent among small island developing States. This points to a system in which a small number of large exporters supplies demand based largely in developing economies.

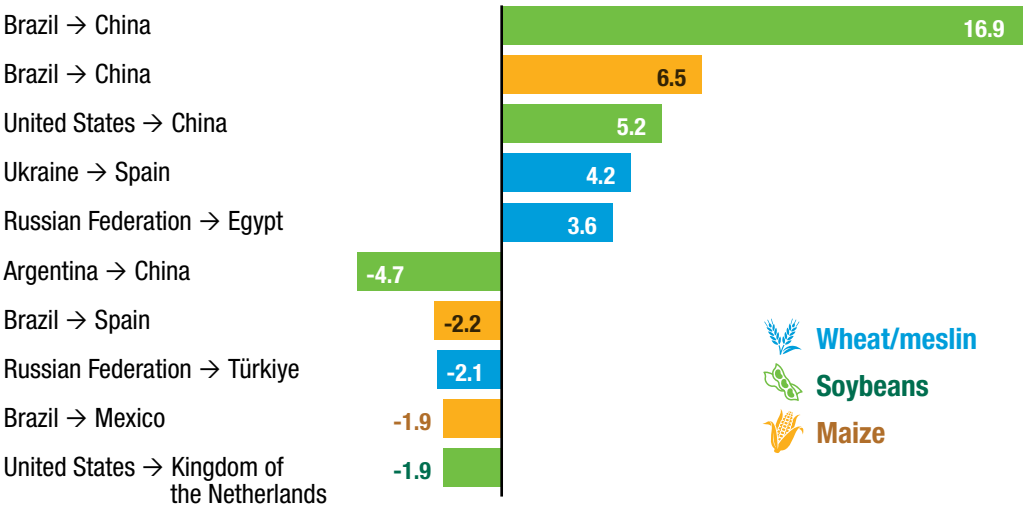
Bilaterally, concentration differs sharply by commodity. The top 10 soybean flows accounted for 74 per cent of seaborne soybean trade in 2024, up from 59.3 per cent in 2000. By contrast, maize and wheat/meslin became more dispersed: the top 10 shares in total fell from 62.8 to 40.5 per cent for maize and from 34.8 to 28.6 per cent for wheat/meslin. The soybean corridor from Brazil to China illustrates the scale of soybean concentration. In 2024, it reached 74.5 million tons or 46.2 per cent of all maritime soybean trade, followed by soybean flows from the United States to China at 22.1 million tons. The largest maize and wheat/meslin corridors were smaller and more varied, including the United States to Japan and Argentina to Viet Nam for maize, and the Russian Federation to Egypt and Türkiye for wheat/meslin.

Regional maritime corridors reinforce this geography. The Americas–Asia corridor became the dominant axis of seaborne trade in selected commodities by volume, rising from a 39.4 per cent share in 2000 to 51.7 per cent in 2024 (UNCTAD Seaborne Trade data). Flows from Europe to Asia and Europe to Africa also expanded. The growing concentration of trade along certain long-distance routes may increase exposure to maritime disruptions. However, these regional figures do not show the extent to which individual importing countries rely on a single supplier for a particular commodity. Changes since 2019 point to a reconfiguration rather than a simple expansion or contraction of demand. The largest absolute gains were recorded in flows from Brazil to China, the United States to China, Ukraine to Spain, the Russian Federation to Egypt and Australia to China (figure I.14). Several declines coincided with gains by alternative suppliers serving the same destination, suggesting origin substitution on some routes, although the data do not establish causality from any specific disruption. This adjustment does not necessarily mean greater resilience: importers may still depend on a limited number of suppliers or longer maritime routes. The clearest long-term structural shift is in soybeans: Brazil's share of maritime soybean exports increased from 27.3 per cent in 2000 to 61.9 per cent in 2024, while the United States' share fell from 54.8 to 25.7 per cent (UNCTAD Seaborne Trade data).



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Figure I.14
Largest changes in bilateral maritime trade flows in selected commodities, 2019–2024
(Millions of tons)



Source: UNCTAD calculations, based on UNCTAD Seaborne Trade data.

Note: Bars show absolute changes in maritime tons between 2019 and 2024. Green refers to soybeans, orange to maize and blue to wheat/meslin.

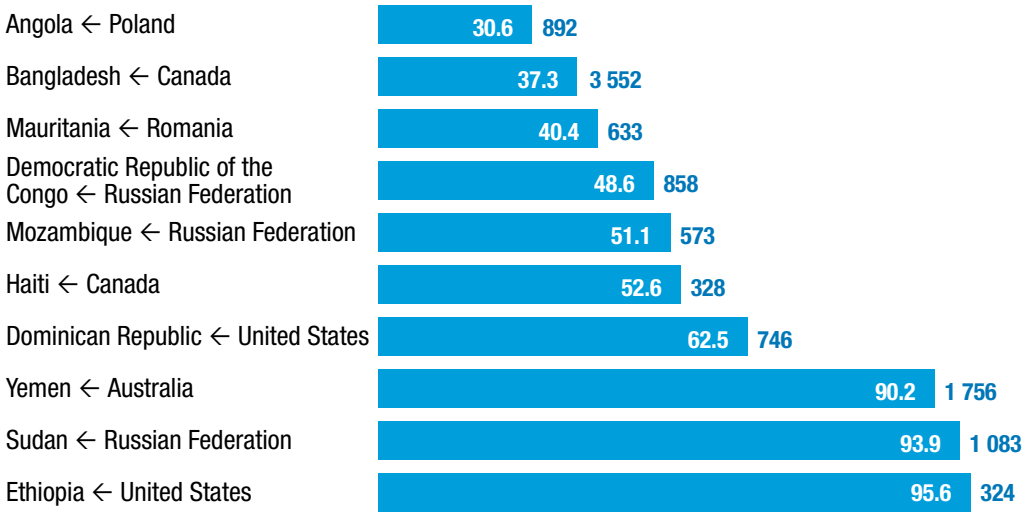
3. Even small flows can mean high single-supplier exposure

The seaborne exposure of the least developed countries and small island developing States differs from that of larger importers. While their combined share of selected seaborne tons is small, individual commodity flows can be highly concentrated. In 2024, the least developed countries and small island developing States received 17.7 million tons and 5 million tons of selected commodities, respectively, together accounting for 5.3 per cent of the seaborne total.

The commodity mix differs between the two groups of countries. For the least developed countries, seaborne wheat/meslin imports dominated, accounting for 12.5 million tons or 70.3 per cent of the selected imports basket. For small island developing States, exposure was more evenly split between wheat/meslin and maize. The former accounted for 51 per cent of selected seaborne imports and the latter for 47.5 per cent; soybeans were marginal. This distinction is relevant because supplier dependence varies by commodity. Wheat/meslin concentration is the more relevant exposure for many least developed countries, while both wheat/meslin and maize matter for small island developing States.

Several least developed countries and small island developing States depend heavily on a single supplier for specific staple-related flows. In seaborne wheat/meslin imports, top supplier shares were particularly high in Ethiopia, Sudan and Yemen. Importers such as the Dominican Republic and Haiti also sourced substantial shares from one origin (figure I.15). In seaborne maize imports, selected small island developing States showed high top-supplier dependence, including Saint Vincent and the Grenadines, Barbados, Trinidad and Tobago and Jamaica (figure I.16).

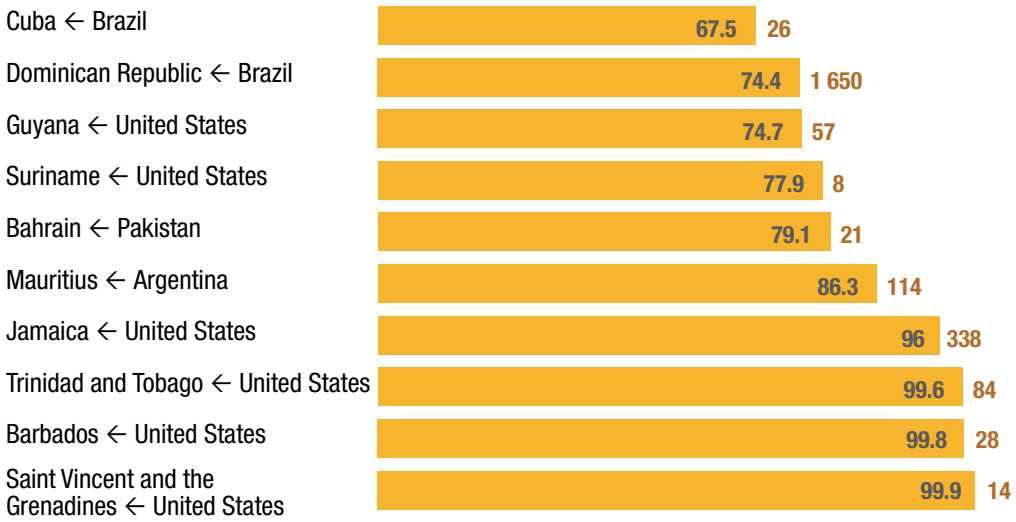
Figure I.15
Top supplier share of seaborne wheat/meslin imports, selected small island developing States and least developed countries, 2024
(Percentage share and thousands of tons)



Source: UNCTAD calculations, based on UNCTAD Seaborne Trade data.

Note: Bars show the share of seaborne imports supplied by the top origin in 2024. Labels show the top supplier's share and the importer's total seaborne import volume for that commodity.

Figure I.16
Top supplier share of seaborne maize imports, selected small island developing States, 2024
(Percentage share and thousands of tons)



Source: UNCTAD calculations, based on UNCTAD Seaborne Trade data.

Note: Bars show the share of seaborne imports supplied by the top origin in 2024. Labels show the top supplier's share and the importer's total seaborne import volume for that commodity.

Figures I.15 and I.16 indicate seaborne sourcing exposure, not food insecurity itself. High supplier shares partly reflect the small scale of many import markets in the least developed countries and small island developing States, and the limited number of regular maritime connections available to them. But this does not make the exposure irrelevant. Where most wheat/meslin or maize imports come from one origin, disruption to that supplier, route or gateway can matter for the importing economy, even if the flow is small in global terms. Whether this becomes a food security problem depends on wider conditions, including domestic production, public and private stocks, purchasing power, exchange rates, the extent of social protection, and the ability of public and private actors to switch suppliers or routes (FAO, 2026c).

From a structural resilience perspective, the relevant issue is how quickly and affordably importers can adjust when a supplier, corridor or gateway is disrupted. For the least developed countries and small island developing States, this does not necessarily imply broad supplier diversification, which may be commercially difficult where import volumes are small and regular maritime connections are limited. It may mean reducing the time and cost of adjustment by identifying feasible alternative origins and routes in advance, monitoring corridor and freight cost exposure alongside supplier concentration, and keeping import procedures flexible enough to accommodate redirected cargoes (FAO, 2026a and 2026c; AMIS, 2026, February).

This distinction also matters in interpreting distance. Longer routes can support shipping demand measured in ton-miles. But for food importers, longer routes may increase fuel use, insurance expenses and delivery times, raising costs and creating uncertainty in securing essential supplies (UNCTAD, 2024 and 2026b). Combining food market intelligence with maritime flow indicators can help identify whether a shock is likely to affect direct commodity flows, delivery reliability, import costs or upstream inputs such as fuel and fertilizers (AMIS, 2026 April and May; FAO, 2026c; UNCTAD, 2026b). For import dependent and vulnerable economies, linking these indicators with food security early warning systems can support earlier preparedness, before a maritime disruption becomes an acute food security concern (FAO and WFP, 2026).

Where commercially and institutionally viable, regional procurement, targeted emergency stocks and storage arrangements may help vulnerable importers manage temporary disruptions. Such measures should remain narrowly defined and proportionate to clearly identified risks (FAO, 2026c; World Bank et al., 2025). The objective is not to eliminate dependence, promote self-sufficiency or encourage broad stockpiling but to preserve access to essential supplies when seaborne trade conditions deteriorate.

Concentrated wheat and maize imports can expose economies to significant supply disruptions

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2026 Review of maritime transport

Chapter II

World shipping fleet and services

Throughout 2025 and into the first half of 2026, global shipping continued to navigate uncertainty and volatility. Geopolitical tensions intensified and simultaneous disruptions affecting shipping routes and multiple chokepoints became a key feature. In addition to the ongoing disruption in the Red Sea–Suez Canal and the Black Sea, as well as drought risks affecting ship transit through the Panama Canal, maritime traffic through the Strait of Hormuz, a critical channel for the global supply of several strategic commodities, most notably oil and gas, has nearly halted since February 2026. At the same time, shipping still needs clarity on global decarbonization rules and future fuel choices. Shipowners continue to invest in energy-efficient and alternative fuel-capable fleets, albeit at an uneven pace across ship segments.

Against this backdrop, global fleet capacity expanded by 3.5 per cent in 2025, on par with the growth rate in 2024. This was below the average during 2005–2025 but faster than demand. The risk of overcapacity, especially in container shipping, may resurface, considering the current size of the orderbook, expected deliveries, limited ship recycling, and, eventually, the normalization of operating conditions in disrupted chokepoints and corridors. The precise timing for normalization, however, remains unclear.

Section A of this chapter sets out the latest developments disrupting shipping operations and heightening risks and uncertainty. Section B highlights key long-term trends shaping the global fleet.

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Key takeaways

- Global shipping is changing, with geopolitical instability becoming a key driver. Simultaneous disruptions affecting shipping routes and multiple chokepoints triggered by geopolitical and climatic factors increasingly define the operating landscape. These are stress-testing global shipping and its ability to adapt and deliver global trade effectively.

- Since February 2026, the crisis in the Strait of Hormuz has underscored the imperative to diversify trade routes, strengthen infrastructure resilience and reduce dependence on a small number of strategic maritime corridors. Operational flexibility and the ability to reroute ships, adjust services and react quickly are increasingly important. At the same time, simply responding to disruptive events is not enough. Proactive action that embeds resilience by design is essential, underpinned by enhanced industry and government collaboration and coordination in crises.

- The outlook for global shipping is shaped by ongoing uncertainty around the conflict in the Middle East and the situation in the Strait of Hormuz, the Red Sea corridor and rerouting pathways, and the trade policy landscape. The future will also depend on whether the risk of shipping fleet overcapacity materializes, especially in container shipping amid growing deliveries, limited ship recycling and the potential return of the Red Sea route. The precise timing for such normalization, however, remains unclear. Several other factors are also in play, including the pace of the energy transition and uptake of alternative fuels, climate risks and impacts, supply chain de-risking and regulatory uncertainty, especially with respect to decarbonization, digitalization and the associated growth in cybersecurity threats. Maritime cyber incidents reportedly doubled in 2025 compared to 2024 (CYTUR, 2026).

- Against this backdrop, maintaining a competitive and sustainable maritime transport sector, where shipping can balance immediate operational challenges with long-term strategic goals, requires a portfolio of measures and a multistakeholder approach. The latter should involve governments, shipowners, operators, ports, logistics providers, financial institutions, investors and relevant international organizations.

- Priority actions in response to the challenges and risks identified include the following:

- **Promoting flexible and diversified shipping networks**

  Industry stakeholders could further leverage route diversification and fleet deployment strategies to enable flexibility and adaptation to rapidly changing and complex operating conditions. Recent ordering patterns in container shipping, with a shift towards smaller vessel sizes, illustrate how fleet composition can support deployment flexibility. Industry stakeholders may also enhance partnerships and collaboration across modes of transport and logistics to enable effective utilization of alternative routes, harness complementarity, promote agility and build resilience.

- **Prioritizing proactive resilience-building**

  The shipping industry, in collaboration with other stakeholders, should adopt resilience-by-design approaches that go beyond immediate emergency responses. These may entail the early mainstreaming of risk management principles in relevant plans and operations, and investment in preparedness, contingency planning, alternative routing strategies and real-time monitoring systems. At the same time, strengthening cooperation in maritime security, currently a key concern amid the ongoing conflict in the Middle East, is crucial, along with efforts to uphold the principle of freedom of navigation.

- **Advancing decarbonization targets by accelerating fleet renewal and promoting predictable rules, fuel pathways and financing**

  Relevant stakeholders, including from industry, government, international organizations, the private sector, development partners and financial institutions, should support ongoing decarbonization and energy transition efforts through a clear, predictable regulatory framework, accompanied by incentives, policy guidance, workforce upskilling, and innovative and diversified financing mechanisms.

  Advancing decarbonization hinges on replacing and modernizing the global fleet while prioritizing energy-efficient and low-carbon ships and the use of alternative fuels, including through the development of bunkering infrastructure and green shipping technologies.

  Investment decisions should be aligned with long-term regulatory, environmental and market trends. Financing should prioritize ships and technologies that can meet future emissions requirements and operate on multiple fuel pathways.

Accelerating digitalization in maritime transport and logistics while addressing cybersecurity risks

Scaling up digital technologies and solutions should take place alongside strengthening cybersecurity frameworks and building digital resilience.

Targeted support should help developing countries to close digital gaps and improve their ability to share in digitalization efficiency gains.

Strengthening agility to navigate disruptions and manage overcapacity risks

This requires improving flexibility at the firm level and prioritizing sustainable investment planning, flexible business models, and responsible ship ordering and recycling strategies.

Expanding maritime industrial capacity to reduce market concentration in shipbuilding and promote sustainable ship recycling

Shipyards, equipment manufacturers, repair facilities and recycling industries should expand capacity for shipbuilding and component supply chains to build the ships of the future. Promoting coordination and collaboration across relevant stages of maritime business (e.g., ship design, financing and construction, operations, registration, crewing, retrofitting and recycling) and among key stakeholders would help to address persistent and emerging challenges.

At the same time, ownership and flagging complexity underscores the need for greater transparency, compliance and governance, while prioritizing seafarers' safety, training and retention, and safer and environmentally sound ship recycling. Developing countries should be supported accordingly, and assisted to explore and potentially tap relevant opportunities to build capabilities in retrofitting, repair and ship conversion, for example, in order to capture value from the next fleet renewal cycle.

Protecting vital shipping lanes

Relevant stakeholders should strengthen international collaboration and support efforts, including the call by United Nations Secretary-General António Guterres to respect international law and navigational freedoms and for the greater protection of commercial shipping and civilian maritime infrastructure as conflicts continue to disrupt key arteries of global trade and the movement of essential commodities (United Nations, 2026). The International Maritime Organization (IMO) also called for preserving the right of transit through straits used for international navigation so that ships and related services are not threatened, impeded, denied, hampered, impaired or suspended.

A. International shipping amid shipping corridor and chokepoint disruptions, trade policy shifts and structural change

1. Simultaneous disruptions are affecting shipping routes and multiple chokepoints through the third quarter of 2026: The Strait of Hormuz, Suez Canal, Panama Canal and Black Sea corridor are under pressure

Simultaneous strain on strategic maritime passages diminishes viable alternatives and amplifies challenges for global shipping and trade

While traditional shipping cycles remain important, geopolitical and structural factors increasingly define market dynamics. Shipping is currently facing a complex, highly volatile operating environment shaped by geopolitical instability, trade policy shifts, supply chain restructuring, technological advances and related cybersecurity risks, as well as climate pressures and ongoing decarbonization efforts.

A distinct feature in recent years has been more frequent and overlapping maritime chokepoint and shipping corridor disruptions. These are upending operations, driving up costs, restricting capacity and undermining reliability. By mid-September 2026, the Strait of Hormuz remained significantly constrained; the Red Sea corridor continued to be exposed to conflict-driven disruption; the Cape of Good Hope route entailed operational challenges, delays, and costs; security in the Black Sea had further deteriorated; and the Panama Canal faced climate- and weather-induced limitations. Simultaneous strain on all these strategic maritime passages diminishes viable alternatives and amplifies challenges for global shipping and trade.

A key issue triggered by the Strait of Hormuz crisis is the need to safeguard seafarers' safety, protect vital shipping routes, and preserve navigational rights and freedoms in accordance with international law (IMO, 2026a).

A headline development in 2026 is the geopolitical instability in the Middle East. On 28 February, the conflict in the region escalated, undermining shipping operations in the Strait of Hormuz and beyond. The conflict has affected ships, cargo and port infrastructure while raising costs and forcing ships to divert routes (UNCTAD, 2026a; IMO, 2026b; OECD, 2026; Qatar News Agency, 2026; Manners-Bell, 2026a; The London P&I Club, 2026). More broadly, the disruption has increased living costs and pressured many developing countries already struggling with high debt service burdens, limited fiscal space and constrained access to finance (UNCTAD, 2026a and 2026b).

About 20 per cent of the global oil supply (i.e., the share of global oil production passing through the Strait of Hormuz) and significant shares of the global energy trade flowed through the Strait of Hormuz before the conflict. An estimated 37 per cent of global maritime crude oil trade crosses the Strait, along with 19 per cent of refined petroleum products, 28 per cent of LPG and 19 per cent of LNG (Gordon, 2026a). Normally, around 120 ships cross the Strait each day (Clarksons Research, 2026a). By early March 2026, this traffic declined by around 95 per cent in gross tonnage terms. From March to mid-September, transits stabilized at around 87 per cent below the 2024–2025 average (figure II.1).

By the first week of July, reflecting the prospect of an agreement to end the conflict, daily transits had improved to 62 per cent below the 2024–2025 average, before regressing again in later July through September amid continued security threats affecting ships (ibid.).

In early March 2026, around 3,200 ships, including locally operating ships (e.g., offshore boats and tugs), representing 4 per cent of global gross tonnage were estimated to be inside the Persian Gulf area (Gordon, 2026b). They included 112 crude tankers, 195 product tankers, 241 bulkers, 114 containerships and 21 very large gas carriers (ibid.). With assets trapped and operations disrupted, operational inefficiencies increased, and the effective ship supply tightened (Gordon, 2026c). By early May, crude tankers and gas carriers were reported to be trapped in the Persian Gulf or waiting outside and near Indian ports. Congestion increased at ports that handled additional cargo volumes due to the disruption. Over 20 very large crude carriers were waiting to load outside the port of Yanbu (Clarksons Research, 2026b). Meanwhile, oil prices surged to over $100 per barrel, causing fuel costs to increase (IEA, 2026) along with freight rates (chapter III).

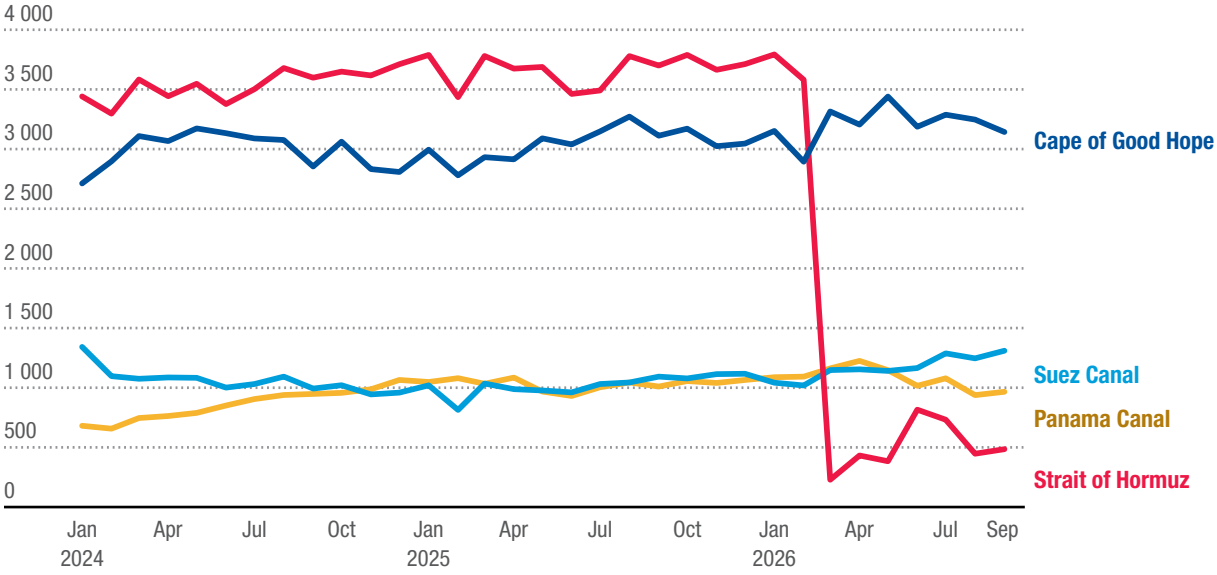
IMO reported in early March that over 20,000 seafarers were stranded on ships in the Persian Gulf (Ship Management International, 2026a; IMO, 2026c). This exacerbated existing challenges, including the shortage of qualified labour (Pasquali, 2026), and spotlighted the need to prioritize seafarers' safety. By early July, nearly 6,000 seafarers were reportedly stranded on ships in the area (IMO, 2026d). Industry bodies concluded that traditional bridge procedures (i.e., watchkeeping routines used to safely navigate and operate a ship from the bridge) were no longer sufficient to manage the combination of military threats, cyberthreats, congestion and operational uncertainties (International Chamber of Shipping et al., 2026). In May 2026, joint industry guidance on safe vessel transit emphasized enhanced vigilance, contingency planning, crew preparedness, protection against cyber and physical threats, and clear reporting procedures for suspicious activity or attacks (ibid.).

The Strait of Hormuz disruption is unfolding alongside continued rerouting around the Cape of Good Hope as the Red Sea–Suez corridor remains under pressure. Expectations in late 2025 of a gradual normalization of shipping conditions (Reuters, 2025; Maersk, 2025) have moderated against flaring tensions. By mid-September 2026, ship traffic through the Suez Canal remained below 2023 levels as carriers remained cautious and continued to favour the Cape route. Carriers are likely to reassess risks as the latest attacks on ships in the area have caused more casualties among seafarers and intensified security concerns. Ship traffic through the Bab el-Mandeb Strait has already declined. By gross tonnage, over the first week of August, traffic fell by 43 per cent compared to levels in the second quarter; it was down 72 per cent compared to 2023. Loadings at Yanbu are reportedly continuing, with oil flowing via the Suez Canal, where very large crude carrier transits increased (Clarksons Research, 2026c).

As of September 2026, notwithstanding security risks, liner shipping appears to be gradually returning to the Red Sea–Suez Canal route (Knowler, 2026a; Safety4Sea, 2026a; Shen and Diakun, 2026), driven by major ocean carriers aiming to reduce costs and transit times. When averaged across both directions for the entire month of September, the total normalization of Red Sea routing stood at 27 per cent (Murphy, 2026). A large-scale return to the Red Sea–Suez Canal route would free up ship capacity tied up in longer voyages, potentially triggering a market downturn. Shippers consider returning to the Red Sea corridor to be risky, given the potential for security conditions to deteriorate amid ongoing regional instability and security threats affecting ships (Savvides, 2026a; Knowler, 2026b).

Renewed security threats are prolonging shipping disruptions and reinforcing rerouting around the Cape of Good Hope

Figure II.1
Monthly ship transits and arrivals for the Suez Canal, Panama Canal, Strait of Hormuz and Cape of Good Hope
(Number)



Source: UNCTAD calculations, based on data from Clarksons Research, 2026a.

Insurance, notably war risk insurance, was affected as security conditions in the Middle East deteriorated. Hull and cargo coverage continued, albeit at a higher cost. As of 15 June 2026, Allianz calculated that around 1,150 cargo ships (over 100 gross tons, representing a combined ship and cargo value of about $125 billion) were operating within Persian Gulf waters (Allianz, 2026).[1] War risk premiums reportedly rose from about 0.2 to 1 per cent of hull value within days, increasing the cost of insuring a $100 million tanker from roughly $200,000 to $1 million per voyage. Some ships faced premium hikes of 5 per cent or higher (Sengupta, 2026). Although insurance coverage remained available, a declining willingness to underwrite emerged alongside premium hikes (Keller, 2026; Sengupta, 2026).

One immediate response to the disruption in the Strait of Hormuz was to turn to alternative routes. Pipeline routes in Iraq, Saudi Arabia and the United Arab Emirates have provided some relief but remain below the scale of operations in the Strait of Homuz (UNCTAD, 2026a; United States, Energy Information Administration, 2025).

Container shipping, despite relatively less direct exposure compared to oil and gas, was also impacted. Together, countries in the Persian Gulf area account for around 5 per cent of global container port throughput (UNCTADStat, 2026), with the Port of Jebel Ali, for example, serving as an important transshipment hub. Carriers suspended or restricted bookings and services, ships were rerouted and congestion grew at substitute ports (Drewry Maritime Research, 2026a and 2026b; Kuehne+Nagel, 2026; Maersk, 2026; Hapag-Lloyd, 2026). Insurance costs, operational challenges and fuel prices all rose. Hapag-Lloyd, for example, estimated the added weekly costs at $40 million to $50 million (Chirls, 2026; Ahlswede, 2026).

[1] These figures are not directly comparable with those reported above, given differences in the reference period and the types of ships covered.

In response to the increased costs, carriers have introduced emergency war risk surcharges, broadly ranging from $1,500 to $2,000 per TEU and $3,000 to 4,000 per 40-foot equivalent unit (FEU) or reefer container. Carriers have also introduced emergency bunker surcharges amid higher bunker prices (Drewry Maritime Research, 2026a and 2026b). Beyond elevated costs, a quick operational reconfiguration was used to mitigate the disruption, including alternative maritime and multimodal routes, expanded trucking operations and a network of substitute ports. By early May 2026, container volumes at Khor Fakkan increased nearly 25 times while truck movements jumped from 100 to 7,000 per day (Coutinho, 2026).

Container services have been relying on alternative routes and transshipment hubs, notably around the Indian subcontinent and in the Red Sea. Container ship capacity routes via hubs in the former increased by 21 per cent from February to June 2026 (Teodoro, 2026), causing congestion and delays, and highlighting pressure from diverted flows (Maritime Gateway, 2026; Ozuygur, 2026; Project44, 2026). The port of Colombo accounts for 56 per cent of scheduled capacity in the subcontinent and continues to dominate transshipment activity. Indian ports, notably Mundra, which saw a 53 per cent rise in scheduled capacity, and Nhava Sheva, with a 47 per cent jump, are increasingly integrated into long-haul routes. Omani ports that bypass the Strait of Hormuz, the ports of Fujairah and Khor Fakkan in the United Arab Emirates, and Red Sea ports such as Jeddah, King Abdullah and Yanbu have also attracted traffic.

Trucking links across Oman and Saudi Arabia have provided further support. Extended multimodal corridors linking Egypt, Saudi Arabia and members of the Gulf Cooperation Council provided options for Asia–Europe trade (Manners-Bell, 2026b). Yet these alternatives are constrained by limited capacity, longer transit time and higher costs, while continued security risks prevent a full return to the Red Sea corridor.

Figure II.2 illustrates how disruptions can affect operations, as shown by very large crude tankers. The figure suggests that these spend less time steaming and more time waiting outside ports, especially since 2020. The use of tankers for oil storage has also been a factor, particularly during the COVID-19 pandemic. The proportion of steaming time declined from an average of more than 65 per cent in 2012 to 57 per cent in 2020. This share further deteriorated in the first half of 2026 to 52 per cent. In tandem, the wait time outside ports increased from around 21 per cent in 2012 to 28 per cent in 2020 and hit 31 per cent in the first half of 2026. Still, steaming time remains above wait time.

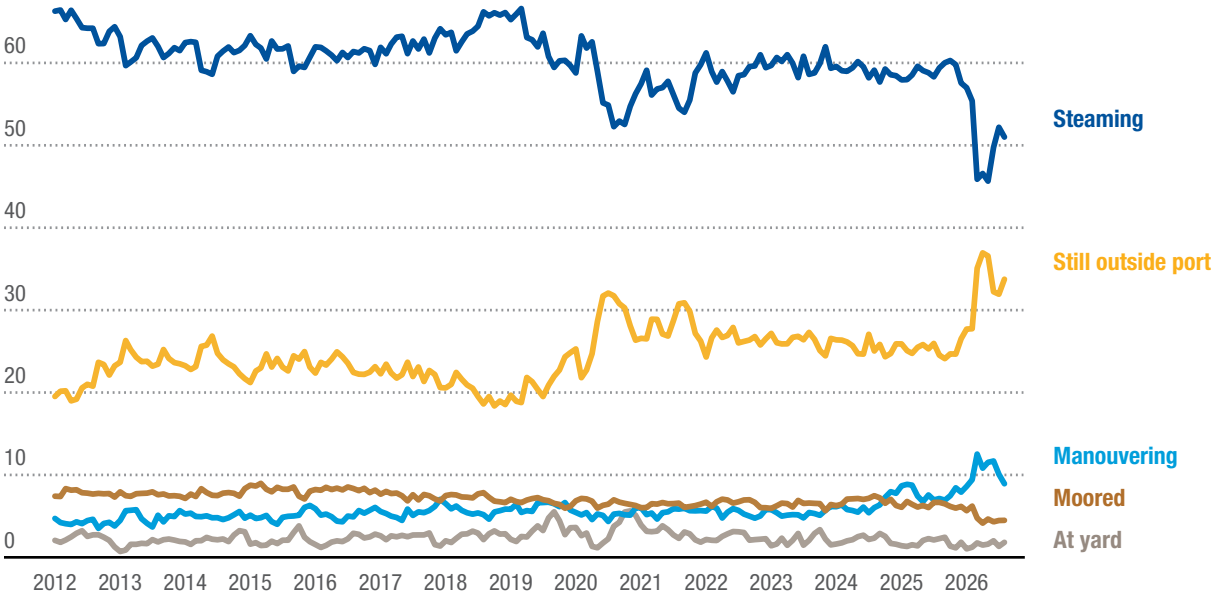
Alternative transport and logistics solutions have helped to keep cargo moving but at a higher cost, with slower and less predictable transit times and infrastructure stretched above capacity. Trucking is costlier than maritime shipping, while rail transport is not yet available, with the Saudi Landbridge railway, linking Jeddah to Riyadh and Dammam, still under development. The connection entails a new railway between Riyadh and Jeddah and an upgrade of the existing Riyadh–Dammam line (Gulf Construction, 2026; Middle East Economic Digest, 2026). Using overland transport can raise additional challenges from cross-border customs, transit complexity, delays, more documentation and border-crossing costs (chapter IV). Furthermore, alternative routes also face security risks. They have been constrained by continued security threats affecting shipping in the Red Sea and the recently damaged East–West oil pipeline in Saudi Arabia (Al Jazeera, 2026a; TradeArabia, 2026). Carriers face a choice between the Suez Canal, which remains below pre-crisis traffic levels; Oman's ports as a potential redistribution hub; or a diversion around the Cape of Good Hope, adding around two weeks to a voyage (Hasan, 2026).

Alternative transport and logistics solutions have helped to keep cargo moving but at a higher cost, with slower and less predictable transit times and infrastructure stretched above capacity

That said, and looking ahead, the Strait of Hormuz crisis is likely to have lasting impacts. Alternative land corridors, transshipment hubs and substitute channels used during the disruption could become persistent features to reduce reliance on a limited number of strategic chokepoints (Manners-Bell, 2026c). Increased use of these alternatives and a return to the Red Sea route would further redraw shipping patterns.

The Strait of Hormuz disruption has intensified efforts by countries in the region to diversify oil export routes. Saudi Arabia (Pipeline & Gas Journal, 2026; S&P Global, 2026; Gulf News, 2026) and the United Arab Emirates (Al Jazeera, 2026b; The Maritime Executive, 2026) are prioritizing the expansion and optimization of their existing corridors to Yanbu and Fujairah. Iraq (Kimball, 2026) and Kuwait (Middle East Monitor, 2026) are exploring or reviving alternative pipeline options. Meanwhile, a potential normalization of shipping routes will release capacity, especially in container shipping. This increases the risk of oversupply, as more ship deliveries are expected, and ship recycling remains subdued. Absorbing the surplus will require firm demand growth, more ship recycling and effective fleet management by individual operators.

Figure II.2
Time spent by very large crude tankers on different activities, monthly average, January 2012 to August 2026
(Percentage)



Source: UNCTAD calculations, based on AIS data from Marine Benchmark, 2026.

Elsewhere, the Panama Canal emerged as an additional pressure point in the first half of 2026. The crisis in the Strait of Hormuz caused a spike in energy exports from the United States transiting the Canal. This pushed up the average ship waiting time from about 30 hours normally to 50 hours in April and May. The average cost for transit slots available via auction increased threefold (Holden, 2026a). Scheduled maintenance and El Niño disruptions could further constrain capacity. With the Panama Canal Authority introducing draft restrictions as a water conservation measure, ships' cargo capacity could decline. Major container lines have reportedly secured transit slots in advance and are introducing Panama Canal-related surcharges (Container News, 2026).

Given El Niño's potential impact and ongoing parallel chokepoint disruptions, even a small cut in the Panama Canal's capacity could further strain global shipping and trade (Szakonyi, 2026). By the third week of September, reported water levels were above the lows of the 2023 drought. Ship transit and draft limit restrictions were less material, compared with transits capped at 32 per day in 2023. Given the strength of 2026 El Niño patterns, however, water levels could drop into 2027, leading to tighter restrictions ahead (Holden, 2026b).

At the same time, risks remain high on the Black Sea, with renewed attacks on ships, ports and infrastructure reported since August 2026. Several carriers have reportedly suspended services. Russian and Ukrainian grain exports have declined (Welsh et al., 2026; BIMCO, 2026; Partridge, 2026), with implications for food security. Alternative export routes for both countries are likely to be challenging and may rely on more surface transport (Clarksons Research, 2026d). Ukraine is turning to rail, the Danube River and road transport as substitutes to Black Sea exports. Drought-related low water levels on the Danube and limited infrastructure, however, mean these routes can handle just half the normal capacity of the Black Sea ports, making them a temporary rather than a long-term solution (Dysa, 2026).

On the upside, disruption-induced rerouting to longer routes has helped to absorb excess ship capacity, notably in container shipping. Rerouting around Africa continues to support distance-adjusted demand (chapter I), while cargo front-loading to mitigate trade tariffs introduced in 2025 has, at times, also supported demand for ship capacity (Miller, 2026a). Additionally, growing alternative energy supplies from the United States, boosted by the Strait of Hormuz crisis (Safety4Sea, 2026b), combined with restrictive economic measures affecting certain cargo and fleets, have boosted tanker ton-mile demand (DNV, 2026a).

Overall, shipping is adapting to the Strait of Hormuz disruption by adopting short-term operational adjustments (e.g., rerouting, paying for higher war-risk insurance costs and applying surcharges). Strategic shifts, such as network diversification, a move to alternative hubs and multimodal transport channels, and the development of more agile and flexible fleets have longer-term dimensions and may continue after the current disruption.

By adapting to new conditions, the industry has shown the importance of resilience, diversification and multimodal contingency planning (Manners-Bell, 2026d). The Strait of Hormuz crisis offers lessons on navigating disruptions and risk, while underlining the critical role of stronger government and industry collaboration, security coordination and real-time risk management. Alternative routes are key to mitigating disruption, but rerouting ships is not enough to fully manage the impact. Few viable alternatives are available, and not all cargo can be easily moved to other routes. The industry's response reveals that a strategy of proactive and managed resilience is essential, built on continuous risk assessment, enhanced security measures, real-time intelligence, geopolitical monitoring, standardized industry guidance, and, most importantly, close coordination and collaboration among shipping industry actors and stakeholders, governments and military forces.

Alternative routes are key to mitigating disruption, but rerouting ships is not enough to fully manage the impact

A strategy of proactive and managed resilience is essential

2. Shifting from crisis management in the Strait of Hormuz and taking a long-term view

In June 2026, the Islamabad Memorandum of Understanding was signed (*Foreign Policy*, 2026). The agreement established a 60-day negotiation period and included provisions to restore maritime activity across the Strait of Hormuz. Immediately after the agreement, traffic started to recover, but the situation reversed in July as the conflict resumed and security risks continued. Even when the conflict ends, a quick full recovery is unlikely. Normalization will be gradual, given the need to address persistent operational risks, clear ship backlogs and reposition ships (Clarksons Research, 2026e and 2026f).

On 23 June, IMO prepared an evacuation plan to restore maritime operations and evacuate stranded seafarers (IMO, 2026e). While the plan has since been paused, the shipping industry welcomed the initiative, emphasizing that the immediate priority was the safe evacuation of around 11,000 seafarers (International Chamber of Shipping, 2026a). They represented the target number of seafarers covered by the initial evacuation plan and still stranded inside the Persian Gulf area. The industry stressed that success depended on strong coordination among IMO, governments and industry, and that the plan should complement existing mechanisms.

The long-term governance of the Strait of Hormuz has moved into sharper focus. By mid-August, the Islamic Republic of Iran and Oman reportedly agreed, in principle, on a framework for a new transit mechanism (Najafizada, 2026; Tasnim News Agency, 2026). This has yet to translate into a final agreement to reopen the Strait. As of this writing (21 September), traffic remained constrained, evacuation efforts were still paused and concerns regarding the safety of seafarers continued to be elevated (IMO, 2026f; Ship Management International 2026b and 2026c).

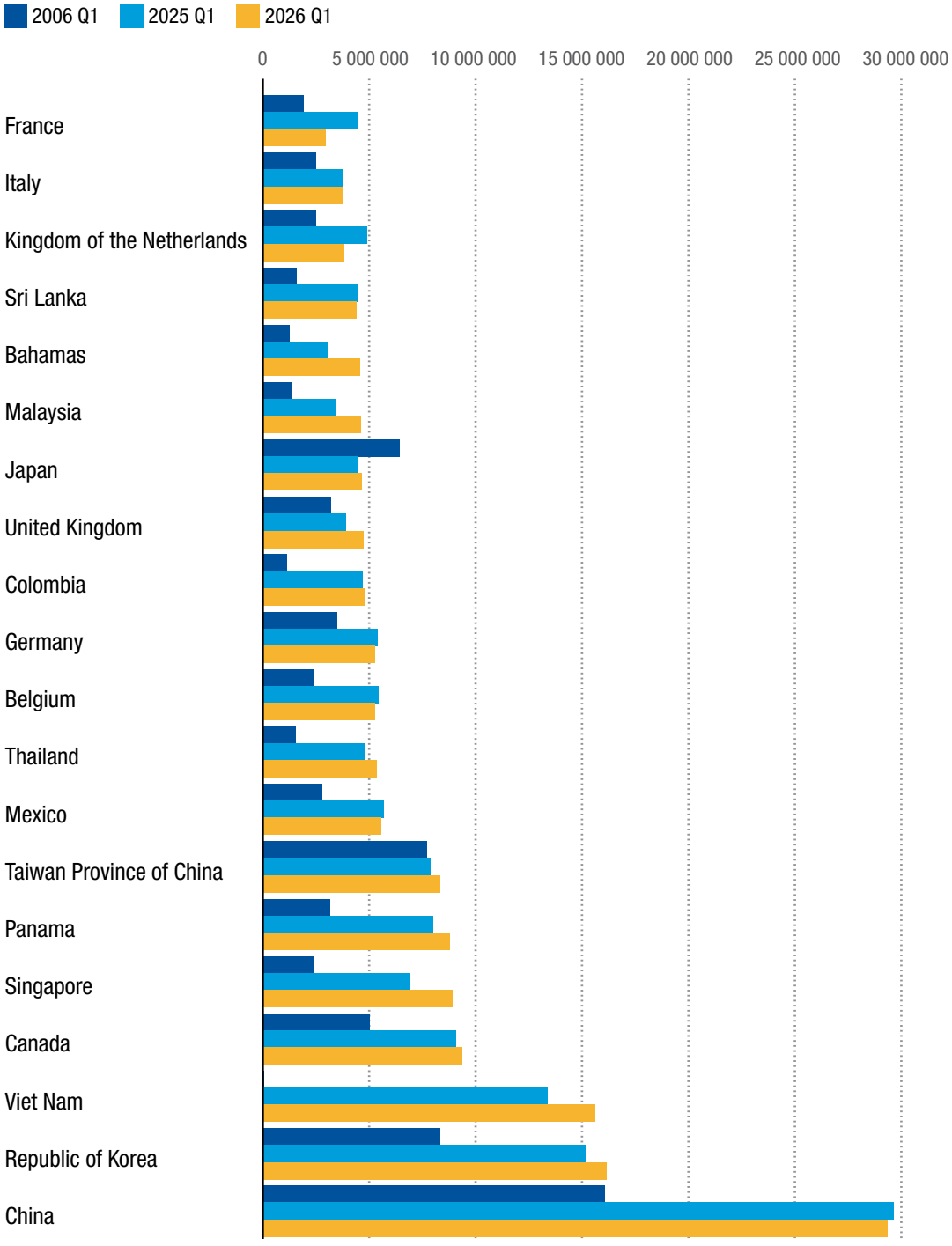
The shipping industry has urged the United Nations and IMO to prevent the introduction of compulsory transit tolls or fees in the Strait of Hormuz, arguing that such charges would infringe on the established principle of freedom of navigation protected under international law. The industry is concerned that charging for passage through the Strait of Hormuz would undermine this core principle of the United Nations Convention on the Law of the Sea and set a precedent for other global shipping chokepoints, increasing costs for global trade and supply chains (World Shipping Council, 2026; Knowler, 2026c).

3. Trade policy uncertainty persists amid continued shifts in tariffs

In April 2025, the United States introduced reciprocal tariffs under the International Emergency Economic Powers Act (United States, Congressional Research Service, 2025; Miller, 2026b). In 2026, the Supreme Court of the United States ruled that the act did not provide the authority to impose tariffs (United States, Supreme Court, 2026). Consequently, the White House announced a temporary 10 per cent ad valorem import duty on imports from all countries under Section 122 of the Trade Act of 1974 (United States, The White House, 2026a). Such tariffs apply uniformly for no more than 150 days, unless extended by Congress. The temporary import surcharge expired on 24 July 2026. On the same date, new Section 301 tariffs took effect, applying to imports from 60 trading partners. Exemptions included oil and gas, among other specified products (United States, Office of the United States Trade Representative, 2026). Overall, the international trade policy framework remains highly unpredictable and rapidly changing, heightening uncertainty for the shipping sector.

Trade policy shifts are reflected in container shipping deployed capacity. Although deployment patterns show China in the lead, capacity growth is increasingly concentrated in South-East Asia and other alternative production and transshipment sites, highlighting ongoing supply chain diversification and shifting global manufacturing patterns (UNCTAD, 2026c, 2026d and 2025a). This trend has accelerated since 2018, and, more recently, with renewed trade policy shifts. Carriers are expanding capacity in emerging Asian trade lanes. During the first quarter of 2026, China remained the largest source of scheduled deployed capacity to the United States (figure II.3), with capacity broadly stable and declining marginally (-1 per cent). Increases were recorded in Malaysia (+34 per cent), the Republic of Korea (+6 per cent), Singapore (+29 per cent), Thailand (+12 per cent) and Viet Nam (+17 per cent).

Figure II.3
Scheduled deployed capacity to the United States of America
(Number of TEU)



Source: UNCTAD calculations, based on data from the MDS Transmodal Containership Databank. June 2026.

The United States is pursuing policies to strengthen domestic maritime capacity (UNCTAD, 2025b; Clarksons Research, 2026g). These measures may have implications for trading patterns and the competitive landscape, and for global trade and shipping. For example, America's Maritime Action Plan was released in February 2026 to boost domestic shipping and reduce reliance on foreign ships through fees, incentives and stronger cargo requirements (United States, The White House, 2026b). Another measure, introduced in 2025 and since suspended for one year, is the port fees initiative. Both the United States Trade Representative Section 301 port fees on China-linked ships as well as China's special port charges on United States-linked ships were temporarily suspended in 2025 (United States, Office of the United States Trade Representative, 2025; China, Ministry of Transport of the People's Republic of China, 2025; Watson Farley and Williams, 2025). Uncertainty continues to shape industry expectations and decisions. The share of Chinese-built vessels in the container fleet of the top 15 liner operators increased slightly from 32.7 per cent in May 2025 to 33.7 per cent in May 2026 (MDS Transmodal, 2026).

4. Liner shipping networks are evolving with geopolitical tensions, trade policy shifts and industry structural changes

The industry seems to be shifting towards a more diversified, flexible network model that combines alliances with independent operations

Containership capacity and deployment patterns are increasingly influenced by geopolitical tensions, changing trade policy frameworks, alliance restructuring and strategic industry decisions. Container shipping is central for transporting manufactured goods and the functioning of global value chains.

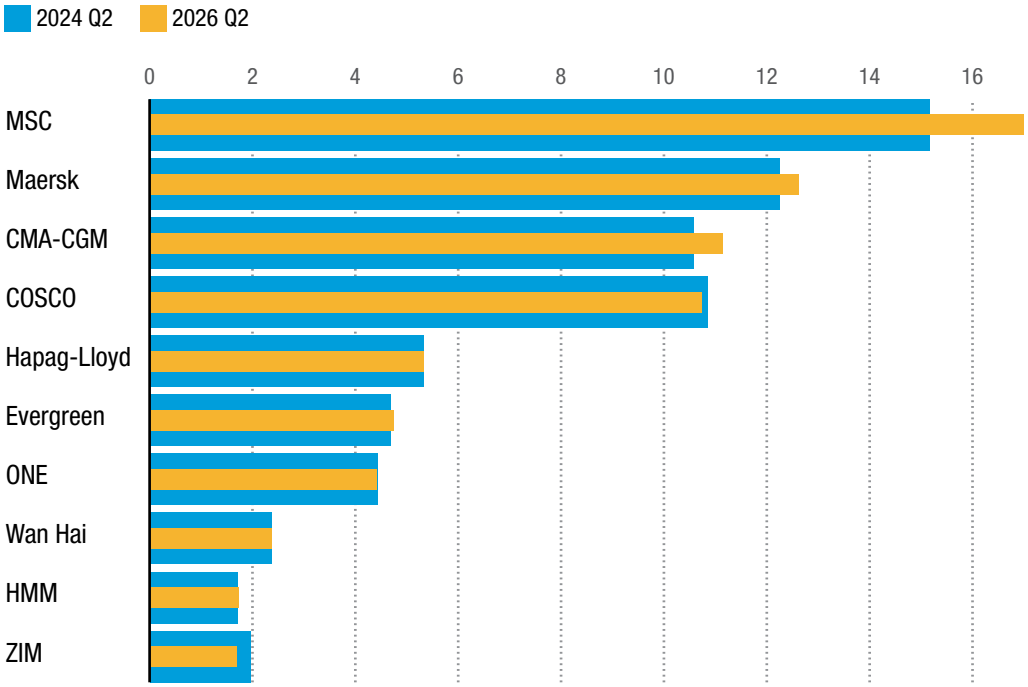
The world container shipping fleet (fully and semi-cellular) numbered 8,408 in June 2026 (up from 8,178 in June 2025), with a capacity of about 34.4 million TEU, up from 32.5 million TEU (MDS Transmodal, 2026).

The top 10 carriers (figure II.4) accounted for 71.8 per cent of scheduled capacity during the second quarter of 2026, up from 70 per cent during the same quarter in 2024. According to MDS Transmodal data, global deployed capacity remains concentrated among a small number of major carriers who are leading capacity deployment while adapting strategies across routes. Scale is a structural feature of capital-intensive liner shipping; the market nonetheless includes average-sized carriers, regional and niche operators, and, alongside alliances, has made some moves towards standalone and hybrid services (Savvides, 2026b). Average-sized carriers (defined operationally as the 18 carriers ranked from thirteenth to thirtieth on Alphaliner's Top 100, as of 1 February 2026) remain important, showing uneven and sometimes volatile growth (Global Maritime Hub, 2026). Smaller regional and niche operators play key roles in feeder shipping (Carlomagno et al., 2025).

As indicated in section A.1, the Strait of Hormuz disruption has affected container ship capacity deployment through changes to shipping routes and the use of neighbouring ports and hubs. The disruption has forced major carriers to withdraw capacity, strengthening the position of remaining operators. Effective capacity for Asia–Middle East trade fell by 79 per cent, while the number of active carriers declined from 27 to 18. Smaller and regional carriers acquired market share, although gains remain limited. In the Europe–Middle East route, capacity declined by 61 per cent (Drewry Maritime Research, 2026b).

Capacity deployment patterns are also being defined by newly restructured liner shipping alliances and varying strategies by liner operators to increase market share, diversify markets and enhance sustainability and resilience. Data from MDS Transmodal show that while alliances remain a major element of global container shipping, there is also some move towards standalone and hybrid service strategies (Savvides, 2026b). The industry seems to be shifting towards a more diversified, flexible network model that combines alliances with independent operations.

Figure II.4
Shares of global scheduled liner shipping capacity of leading fleet operators
(Percentage of TEU)

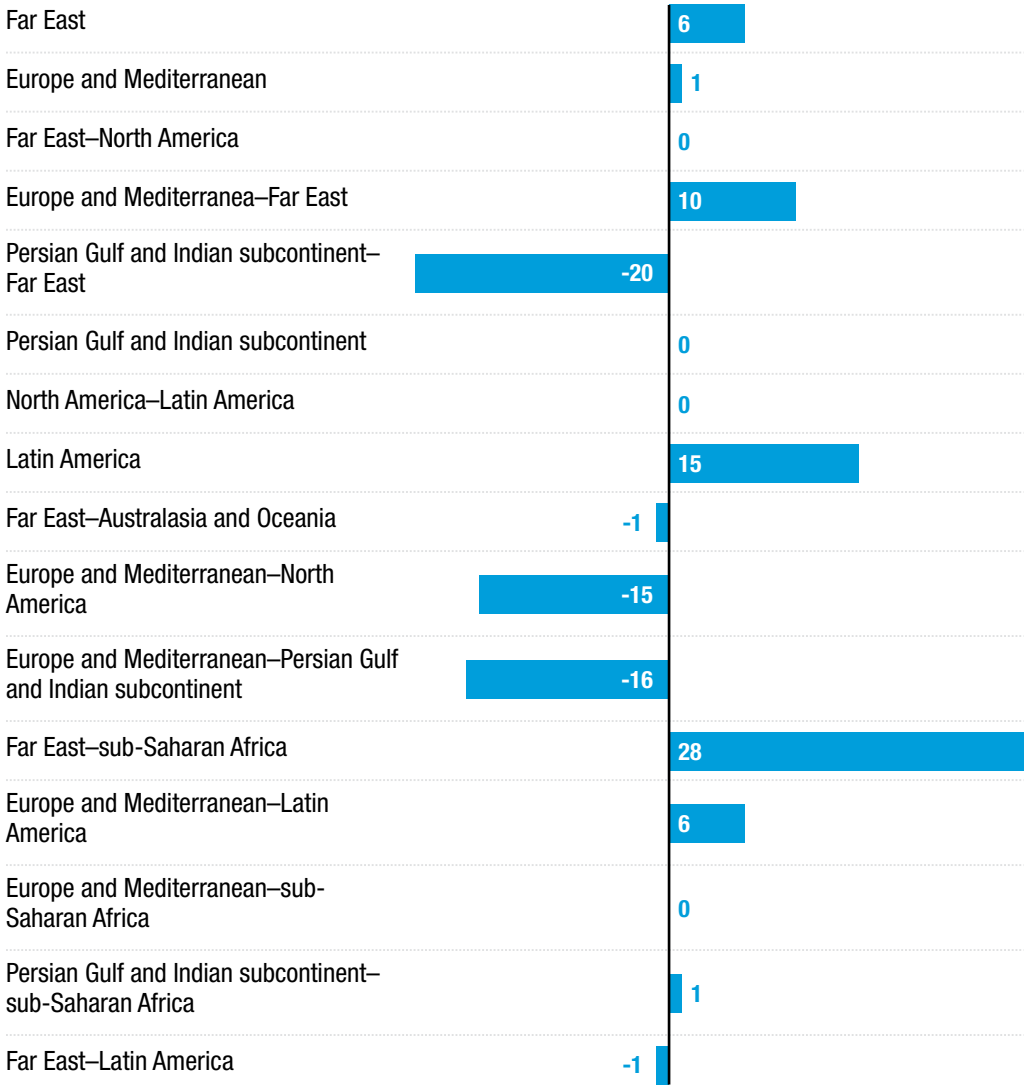


Source: UNCTAD calculations, based on data from the MDS Transmodal Containership Databank, June 2026.



Disruptions seem to have caused a redistribution rather than a reduction in global capacity deployed. Carriers have moved capacity towards routes with firmer demand growth or requiring more ships, given rerouting. Beyond chokepoint disruptions, supply chain diversification and growing South–South trade (chapter I) are also influencing fleet capacity deployment patterns. Across corridors, the traditional East–West routes continue to lead in terms of scale and volume, although the fastest growth is in Asia-linked corridors serving Africa, Latin America and the Middle East region (figure II.5). The Far East–sub-Saharan Africa trade lane has experienced firm growth (+28 per cent) while capacity in the area connected to the Strait of Hormuz and Indian subcontinent-related routes has declined.

Figure II.5
Change in annualized scheduled capacity by maritime trade corridor, Q2 2022 to Q2 2026
(Percentage change)



Source: UNCTAD calculations, based on data from the MDS Transmodal Containership Databank, June 2026.

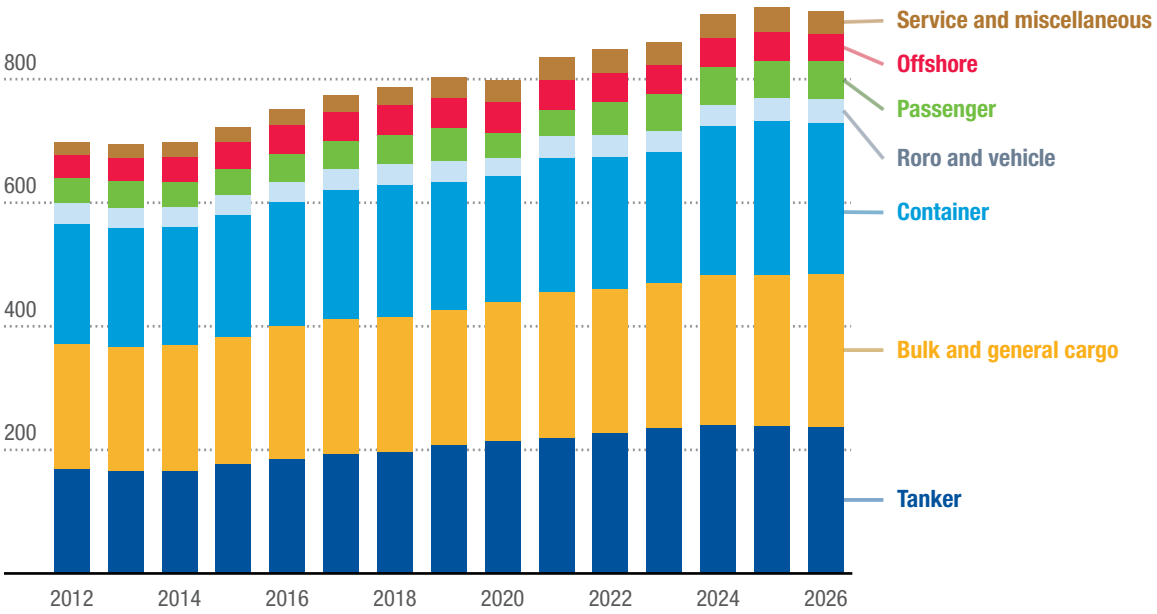
5. The push towards decarbonization continues, despite regulatory uncertainty

On a tank-to-wake basis, global maritime carbon emissions increased from 905.7 million tons of carbon dioxide in 2024 to 917.8 million in 2025 (+1.3 per cent) (figure II.6). This rate is aligned with the 1.7 per cent growth rate calculated by Clarksons Research (2026a), with total emissions estimated at around 894 million tons in 2025.[2]

In 2026, total emissions are estimated at around 911 million tons, below the 2025 level but above the average over the 2012–2025 period. The carbon intensity of the global fleet, however, measured by emissions relative to transport work, has been improving. From 2012 to 2025, average carbon emissions per ton-mile of the container shipping fleet and of the bulk and general cargo fleets combined improved by 22.6 per cent and 25.5 per cent, respectively (figure II.7). Carbon dioxide intensity in the tanker segment fell by around 6 per cent over the same period.

Aligned with these findings, IMO reporting on annual carbon intensity and fleet efficiency concluded that the carbon intensity of the global shipping fleet continued to improve in 2025. Average fleet supply-based carbon intensity declined by 12.5 per cent under the annual efficiency ratio and 14.5 per cent under the capacity gross distance indicator, compared to 2019 levels. Average supply-based carbon intensity in 2025 was 33.1 per cent lower than the 2008 baseline, indicating improved operational efficiency. Although such improvements accelerated between 2024 and 2025, performance varied across ship types and vessel sizes (IMO, 2026g).

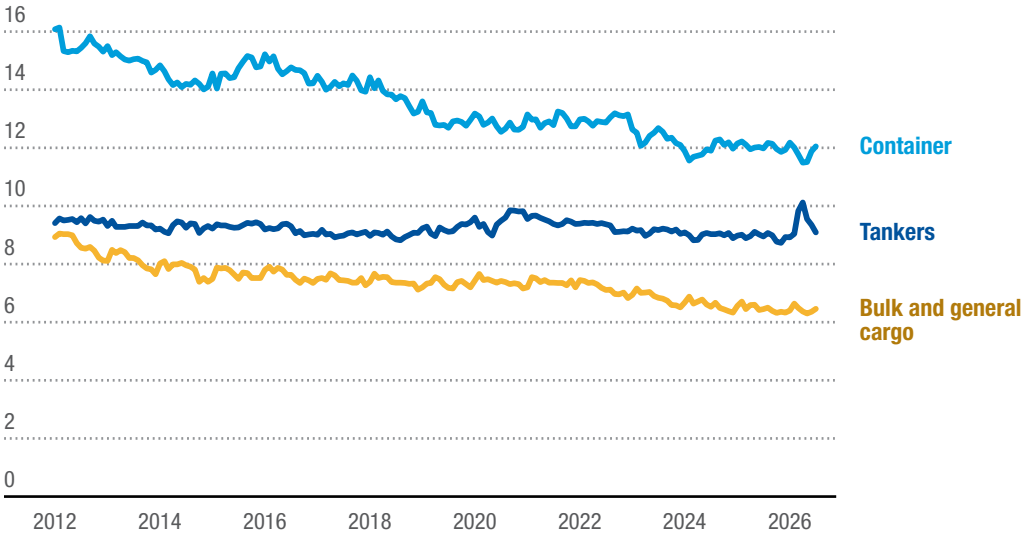
Figure II.6
Carbon dioxide emissions by ship type, 2012 to 2026
(Millions of tons)



Source: UNCTAD calculations, based on Automatic Identification System data from Marine Benchmark, 2026.

[2] These emissions data are not directly comparable with IMO reported data (Data Collection System), which are only available up to 2024. Carbon dioxide emissions calculated on a tank-to-wake basis using IMO reported data are lower, given the scope of coverage. The data relate only to cargo and passenger ships of 5,000+ gross tons. Emissions data are only available for ships that submit fuel consumption data to IMO.

Figure II.7
Monthly carbon dioxide emissions per ton-mile, January 2012 to July 2026
(Grams per ton of cargo over one nautical mile)



Source: UNCTAD calculations, based on Automatic Identification System data from Marine Benchmark, 2026.

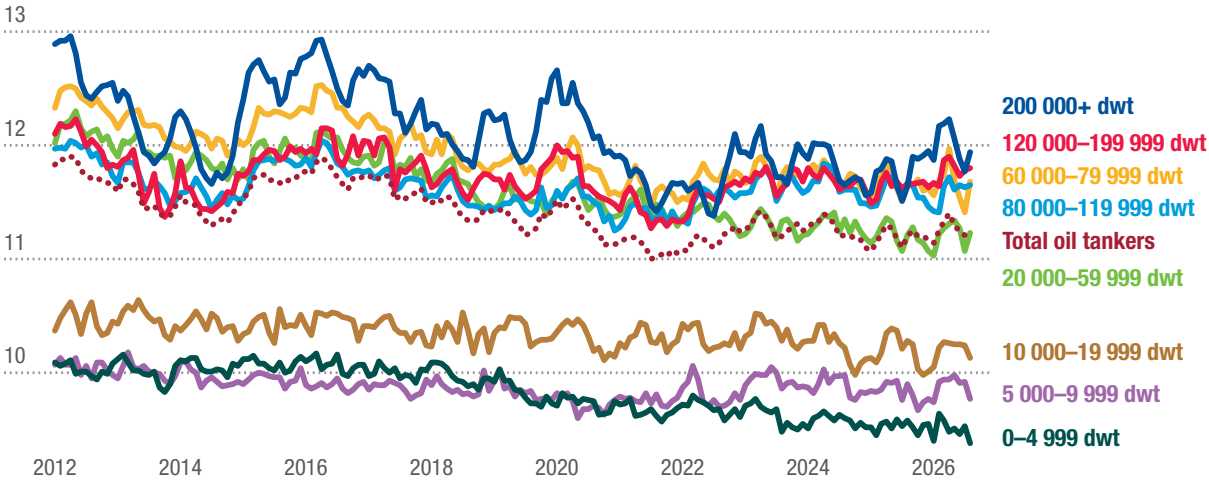
Most ship types seem to be operating at lower speeds, generating lower emissions. This likely partly reflects regulatory requirements for fuel efficiency and carbon emissions reduction. Since 2020, average speed, compared to 2012, declined across container shipping (8.3 per cent), bulk carriers (6.0 per cent), oil tankers (4.7 per cent), chemical tankers (4.4 per cent) and gas carriers (1.5 per cent).

Figure II.8 shows selected examples of speed trends observed across ship types and sizes, including crude oil and refined petroleum product tankers, bulk carriers and containerships. Speed increased briefly due to the Red Sea disruption but mainly for some containerships. The Strait of Hormuz crisis does not appear to have increased sailing speed, indicating a potentially sustained shift towards slower, more energy-efficient shipping operations.

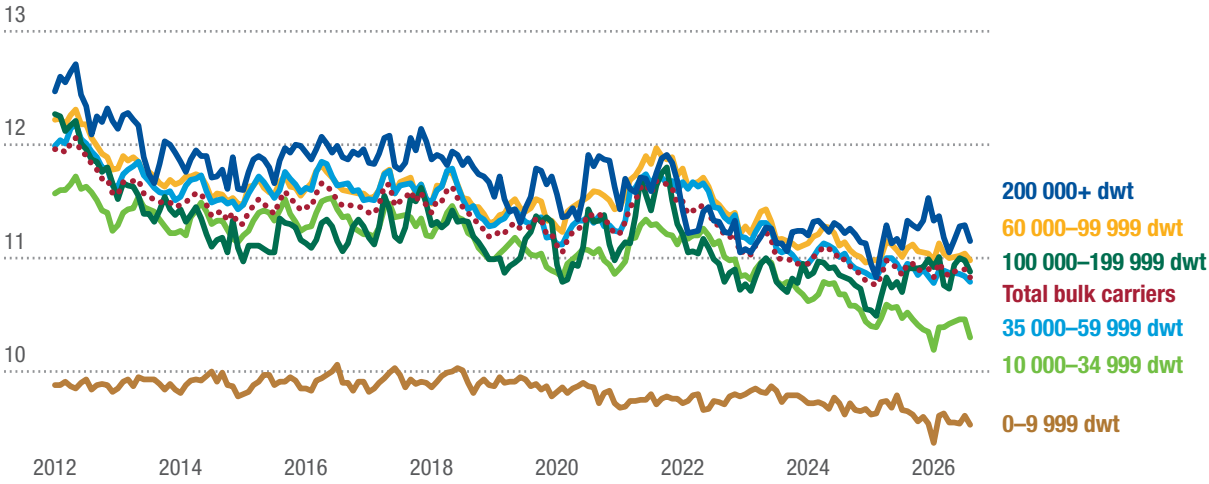

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Figure II.8
Monthly average speed when steaming above 6 knots, January 2012 to August 2026
(Knots)

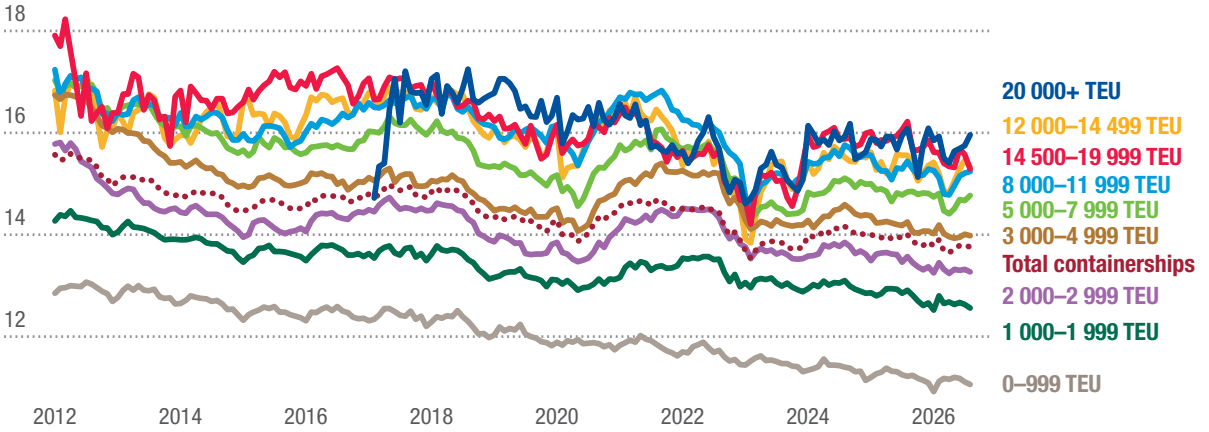
A. Crude oil and petroleum product tankers



B. Bulk carriers



C. Containerships



Source: UNCTAD calculations, based on Automatic Identification System data from Marine Benchmark, 2026.

While discussions on adopting a draft net-zero emissions framework were adjourned until late 2026 (IMO, 2025), and global consensus on regulating shipping emissions in line with the 2023 IMO Strategy (IMO, 2023) remains uncertain, progress continues on some key technical issues. At the eighty-fourth session of the Marine Environment Protection Committee, IMO member States advanced the review of the Carbon Intensity Indicator, progressed on the regulatory framework for onboard carbon capture and storage, and continued developing safety and environmental requirements for alternative fuels (Clarksons Research, 2026h; IMO, 2026h). The committee also agreed on the need to intensify intersessional work to bridge remaining gaps and build a broader consensus ahead of its eighty-fifth session.

Regional regulation continues to evolve. In 2024, shipping was integrated into the European Union Emissions Trading System (European Commission, 2025a). In 2025, rising carbon costs and more stringent compliance requirements, combined with the FuelEU Maritime rules (European Parliament and Council of the European Union, 2023) increased financial and regulatory pressure on shipping (BRS Group, 2026). Emissions Trading System costs can reach hundreds of thousands of dollars per voyage (Fairway ETA, 2026), while FuelEU imposes additional penalties of around €2,400 per ton of very low sulfur-equivalent for non-compliant fuels (European Parliament and Council of the European Union, 2023; DNV, 2024). Exposure to the penalty depends on both the greenhouse gas emissions factors of fuels used and the FuelEU reduction target applicable in the reporting year (BetterSea, 2024). The two systems create two carbon cost structures that raise operating costs and incentivize fuel switching, fleet renewal and efficiency optimizations (European Parliament and Council of the European Union, 2023; European Commission, 2025b). This could also change how vessels are deployed, with more efficient fuel ships assigned to European routes.

The shipping industry is moving forward with decarbonization despite persistent regulatory and technological uncertainty around the fuels of the future

In the United Kingdom, domestic shipping and emissions at berth will be integrated into the national emissions trading system from July 2026 (DNV, 2026b). The Republic of Korea is strengthening its emissions trading system; in Africa, Gabon and Liberia, for example, are reported to have introduced shipping carbon levies; Brazil is developing a broad emissions trading system, including shipping; and Türkiye is preparing a national system while charging ships based on European Union carbon prices. China and the United States have not yet implemented comprehensive national carbon pricing for international shipping (BRS Group, 2026). The absence of a global framework is leading to an increasingly fragmented regulatory framework for shipping decarbonization.

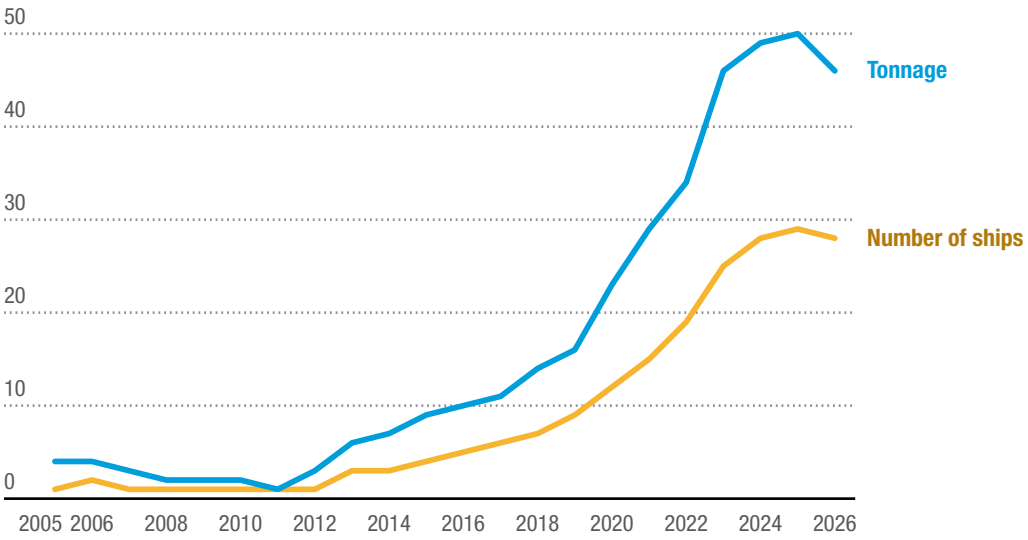
The shipping industry is moving forward with decarbonization despite persistent regulatory and technological uncertainty around the fuels of the future (Tunagur and Lerh, 2026). Innovation and continued investment in alternative fuels are driving the transition (BRS Group, 2026). LNG, methanol, and ammonia are being used at different scales, given variations in readiness for commercial deployment. LNG dual-fuelled ships are gaining momentum, while the first ocean-going ammonia-capable dual-fuel ship was delivered in June 2026 (Lloyd's Register, 2026a). Methanol engine retrofits are underway, and ethanol-capable engines are emerging (Lloyd's Register, 2026b). Nuclear propulsion is also attracting interest (DNV, 2026c). A recent industry report positions carbon capture and storage as a viable near-term, economically attractive solution for reducing shipping emissions. It identifies LNG and biofuels as the most viable fuel options over the medium term, followed by heavy fuel oil combined with technologies abating emissions (International Chamber of Shipping, 2026b).

The number of alternative fuel-capable ships increased from 1,832 in 2024 to 2,790 in 2026, growth of more than 50 per cent. In terms of tonnage, the share rose from 6.5 per cent in 2024 to 9.4 per cent in 2026.

The orderbook is greening, with the tonnage of alternative fuel-capable ships increasing over time and averaging around 50 per cent of the total orderbook in 2024 and 2025 (figure II.9). This share declined slightly in 2026 to around 46 per cent, reflecting uncertainty over the long-term viability of competing fuel pathways (Clarksons Research, 2026i), a continued lack of clarity around the global regulatory framework and the strong ordering of conventional tankers. By value, investment in alternative fuel-capable ships amounted to 45 per cent of the total value of new contracts in 2025 (Clarksons Research, 2026j). In parallel, energy-saving technologies were fitted on over 48 per cent of fleet tonnage by mid-2026. More than 31 per cent is equipped with sulfur dioxide scrubbers. The share of ships with electronically controlled fuel injection is 38 per cent, up from 21 per cent at the start of 2020 (Clarksons Research, 2026k). Energy efficiency has the potential to reduce the shipping sector's energy use by up to 16 per cent by 2030 (DNV, 2026d).

Accelerating the transition to low-carbon technologies and fuels is crucial to closing the gap between climate ambition and reality. By gross tonnage, alternative fuel-capable ships (excluding LNG carriers) increased from 0.4 per cent of the operating fleet in 2020 to 5.2 per cent by August 2026. LNG is the leading alternative fuel, although methanol uptake is growing; capabilities vary across ship segments (DNV, 2026d). By early September 2026, 10.3 per cent of the global active fleet by gross tonnage (including LNG carriers) was using alternative fuels. When LNG carriers are excluded, the share drops to 5.4 per cent. During the same period, 40.1 per cent of tonnage on order, including LNG carriers, was alternative fuel capable (34.3 per cent when LNG carriers are excluded) (DNV, 2026e; UNCTAD, 2023).

Figure II.9
Alternative fuel uptake among ships on order, by tonnage and ship count, 2005–2026
(Percentage share)



Source: UNCTAD calculations, based on data from Clarksons Research, 2026a.

B. Global shipping fleet: Structure and trends

1. The global fleet continues to grow as its composition aligns with shifts in trade, technology and fuel choices

In 2026, the global fleet supply expanded faster than trade across all shipping segments, with newbuild deliveries driving capacity expansion

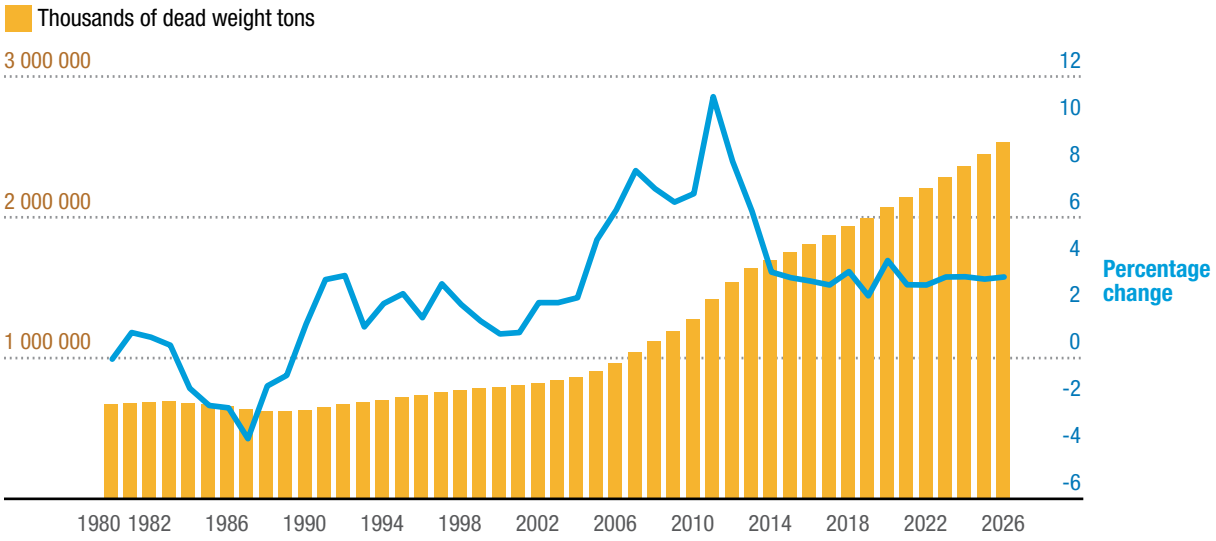
Global shipping fleet capacity, measured in dead weight tons (dwt), has increased by around 40 per over the past decade and nearly quadrupled since 1980. In 1980, the world fleet amounted to 672.2 million dwt, nearly equivalent to the world ship orderbook in 2009. Measured in compensated gross tonnage (CGT), which better captures shipbuilding productivity and industrial capacity as well as the complexity and labour involved in shipbuilding, the global shipping fleet expanded by 34 per cent over the past decade, reaching around 1.1 billion CGT at the start of 2026 (Clarksons Research, 2026a).

The carrying capacity of the world's shipping fleet has grown rapidly, averaging over 7 per cent per year from 2005 to 2010 amid the commodity boom, before achieving moderate average annual growth of 3.4 per cent over the past decade. As of 1 January 2026, global fleet capacity had increased by 3.5 per cent to 2.53 billion dwt and 115,655 ships (figure II.10 and table II.1). As of 1 January 2026, the global fleet value was estimated at $1.74 trillion (Clarksons Research, 2026j).

In 2026, the global fleet supply expanded faster than trade across all shipping segments (figure II.11a), with newbuild deliveries driving capacity expansion. Strong earnings have constrained ship demolition and extended the economic life of older ships. Although LNG carrier demolition reached a record high in 2025 as steam turbine ships were phased out, the general trend of limited ship recycling remains across all other segments. Figure II.11b shows how rerouting increased ton-mile demand, causing it to grow faster than fleet capacity in 2023 and 2024, even as trade volume growth lagged. Inflated demand can be expected to moderate as rerouting diminishes or ends.

The global fleet is expanding and restructuring to align with changing trade patterns, technology advances and the energy transition. Traditional fleet segments (tankers, bulk carriers and containerships) account for 84.6 per cent of total capacity, with the share of newer and specialized fleets growing incrementally (table II.10). Bulk carriers account for about 42.2 per cent of total capacity, followed by oil tankers at 27.0 per cent and containerships at 15.4 per cent. Liquefied gas carriers, including LNG and LPG carriers, have recorded the fastest expansion, with a year-on-year growth rate of 7.9 per cent, followed by containerships at 6.7 per cent. The expansion of bulk carriers and tankers was relatively moderate, at roughly 3.0 per cent and 2 per cent, respectively.

Figure II.10
Global fleet capacity expanded in 2025, supported by demand growth as well as fleet renewal and greening



Source: UNCTAD calculations, based on data from Clarksons Research. See also merchant fleet data at https://unctadstat.unctad.org/datacentre/.

Note: Data are as of 1 January each year. Annual growth rates are calculated as the percentage change between 1 January of the reference year and 1 January of the subsequent year.

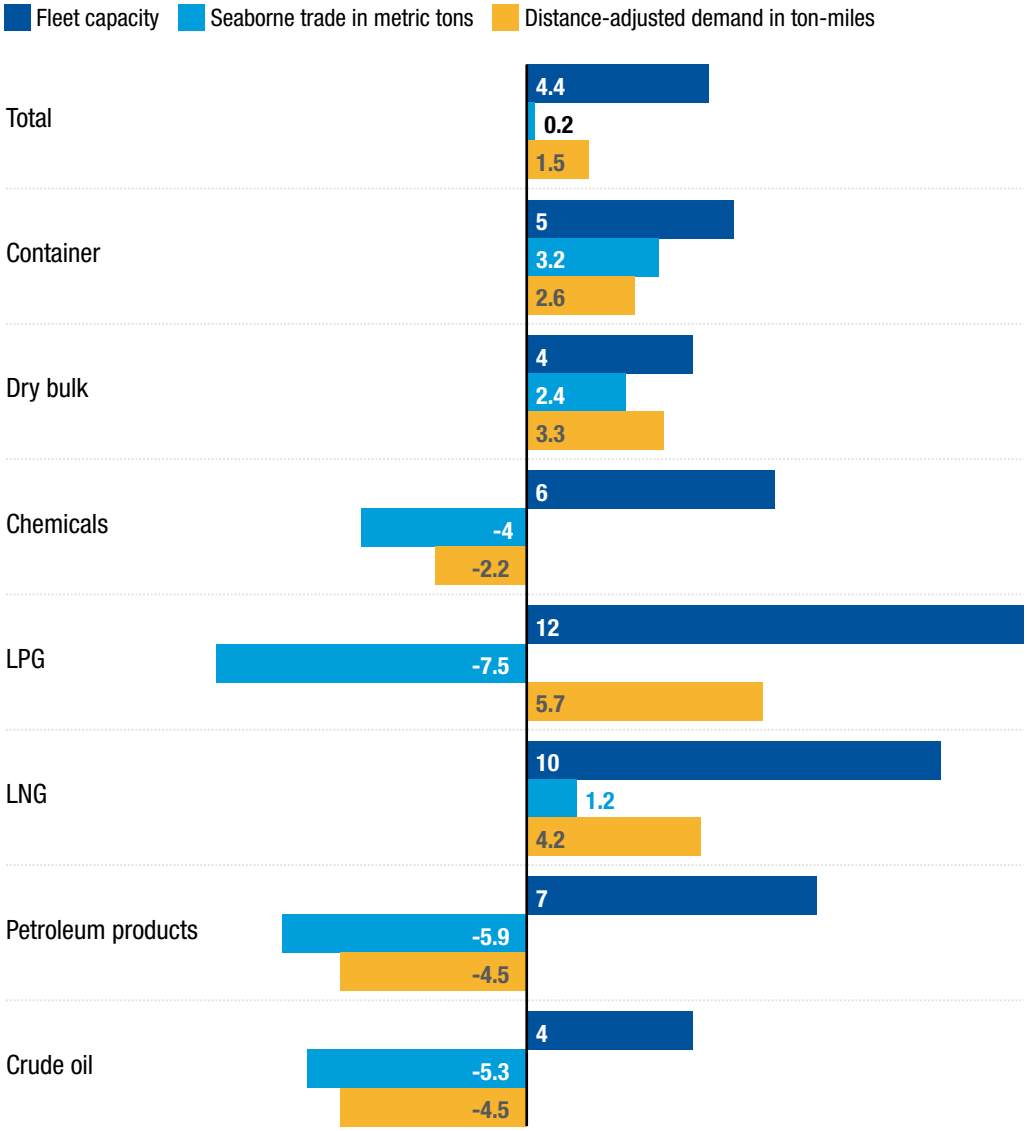
Table II.1
Trends in world fleet capacity by ship type, 1 January 2026

Fleet composition by vessel type	Indicator	2025	2026	Percentage change
Bulk carriers	Thousands of dead weight tons	1 036 614	1 067 306	3.0
	Percentage share	42.4	42.2	
Oil tankers	Thousands of dead weight tons	669 999	683 404	2.0
	Percentage share	27.4	27.0	
Container ships	Thousands of dead weight tons	364 116	388 531	6.7
	Percentage share	14.9	15.4	
Other types of ships	Thousands of dead weight tons	283 428	297 741	5.1
	Percentage share	11.6	11.8	
Offshore supply	Thousands of dead weight tons	91 835	94 134	2.5
	Percentage share	3.8	3.7	
Liquefied gas carriers	Thousands of dead weight tons	100 719	108 628	7.9
	Percentage share	4.1	4.3	
Chemical tankers	Thousands of dead weight tons	54 410	56 284	3.4
	Percentage share	2.2	2.2	
Other/n.a.	Thousands of dead weight tons	27 487	29 495	7.3
	Percentage share	1.1	1.2	
Ferries and passenger ships	Thousands of dead weight tons	8 976	9 200	2.5
	Percentage share	0.4	0.4	
General cargo	Thousands of dead weight tons	89 413	91 807	2.7
	Percentage share	3.7	3.6	
World total	Thousands of dead weight tons	**2 443 570**	**2 528 788**	3.5

Source: UNCTAD calculations, based on data from Clarksons Research. See also merchant fleet data at https://unctadstat.unctad.org/datacentre/.

Note: The table refers to propelled seagoing merchant ships of 100 gross tons and above. Figures for dead weight tons for some individual ships were estimated.

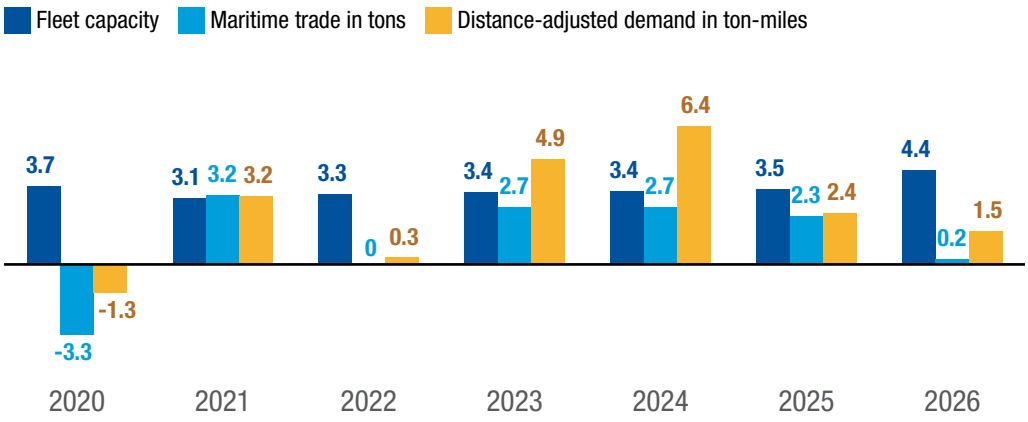
Figure II.11
A. Growth rates in the supply and demand for ship capacity, by ship and cargo type, 2025–2026
(Annual percentage change)



Source: UNCTAD calculations, based on data from Clarksons Research, 2026l and 2025a.
Note: Data for 2026 are a forecast of year-on-year growth rates.

B. Growth rates in the supply and demand for ship capacity, all ships and total cargo, 2020–2026

(Annual percentage change)



Source: UNCTAD calculations, based on data from Clarksons Research, 2026l and 2025a.

Note: Data for 2026 are a forecast of year-on-year growth rates.

2. Newbuild trends and the geography of the shipbuilding industry are evolving

Total deliveries reached 77.3 million gross tons in 2025 (table II.2), an increase of 7.7 per cent over the previous year. Containerships represented 28.1 per cent of total output, followed closely by bulkers (26.5 per cent), gas carriers (13.9 per cent) and oil tankers (13.3 per cent). Shipyard output is expanding, reflecting a significant delivery schedule and growing shipbuilding capacity, primarily in China but also in some other countries emerging in the shipbuilding business. Output is forecast to rise 14 per cent in 2026 and to increase further in 2027 (Clarksons Research, 2026m).

Table II.2
Deliveries of newbuilt ships by ship type and building country, 2025

(Gross tons)

Ship type	China	Republic of Korea	Japan	Viet Nam	Europe	Rest of the world	Total	Percentage share
Bulk carriers	13 445 220	NA	6 268 101	122 260	637 889	7 683	20 481 153	26.5
Containerships	11 117 083	9 218 353	1 349 104	NA	NA	NA	21 684 540	28.1
Oil tankers	5 832 160	2 796 216	847 609	684 597	40 221	57 507	10 258 310	13.3
Gas carriers	2 465 032	7 917 935	260 350	NA	NA	132 175	10 775 492	13.9
General cargo	1 613 631	155 356	250 386	28 572	153 627	154 075	2 355 647	3.1
Chemical tankers	1 033 823	33 948	239 752	8 593	32 405	3 601	1 352 122	1.8
Ferries and passenger ships	230 540	22 438	44 771	536	61 449	1 814 135	2 173 869	2.8
Offshore	874 937	757 023	2 404	47 200	269 152	107 290	2 058 006	2.7
Other	4 982 629	230 636	853 980	282	21 446	55 835	6 144 808	8.0
Total	**41 595 055**	**21 131 905**	**10 116 457**	**892 040**	**1 216 189**	**2 332 301**	**77 283 947**	**100.0**
Percentage share	**53.8**	**27.3**	**13.1**	**1.2**	**1.6**	**3**	**100**	

Source: UNCTAD calculations, based on data from Clarksons Research. See also the shipbuilding data at https://unctadstat.unctad.org/datacentre/.

In 2025, European owners led investment in newbuilds (39.8 per cent of the total), followed by Asian owners (37.3 per cent), with notable contributions from Chinese and Greek owners (Clarksons Research, 2026n). Healthy industry cash flows have also encouraged investments (Clarksons Research, 2026l). The scale and composition of orders point to accelerating fleet growth and emerging concerns about future overcapacity, especially in container shipping and, to some extent, the LNG segment. Tankers are also now in focus after very strong newbuilding investment in the first half of 2026.

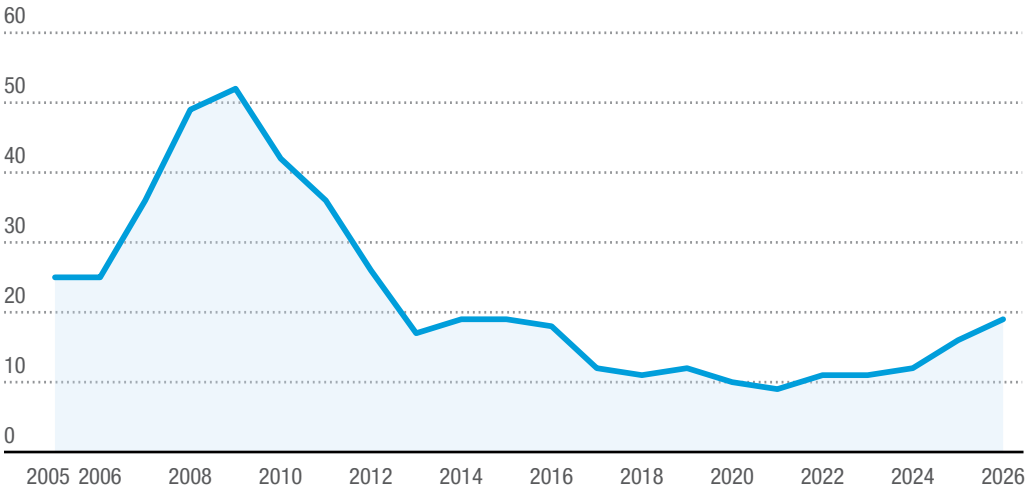
Previous hesitation by shipowners seems to have reduced, with ship ordering driven by higher cash flow into shipping and the need to renew ageing, less-efficient fleets

Newbuild deliveries reflect a rise in ship ordering from 2022 onward. The orderbook-to-fleet ratio peaked at over 50 per cent in 2009 before declining for over a decade and reaching a low of 9 per cent in 2021. Since then, ordering activity has recovered, with the ratio rising to 19 per cent in 2026 (figure II.12). Increased activity indicates a new shipbuilding cycle, although compared to pre-2010, levels of newbuild ordering relative to the existing fleet remain low. In absolute terms, the volume of new orders is elevated. Previous hesitation by shipowners seems to have reduced, with ship ordering driven by higher cash flow into shipping and the need to renew ageing, less-efficient fleets.

By ship segment, the orderbook-to-fleet ratio underscores shipowners' interest in containerships and gas carriers (figure II.13). The bulk carriers orderbook remains comparatively conservative. High newbuild investment in tankers during the first half of 2026 suggests that the tanker orderbook is less conservative. The containership orderbook reached low levels in 2020 and 2021 (11 per cent of the active fleet) before increasing sharply to 36 per cent of the active fleet in 2026. In 2025, total contracting for containerships increased by more than half. With new deliveries expected in the coming years and ship recycling activity being subdued, overcapacity remains a risk for container shipping (Drewry Maritime Research, 2026a and 2026b), if and when rerouting subsides.

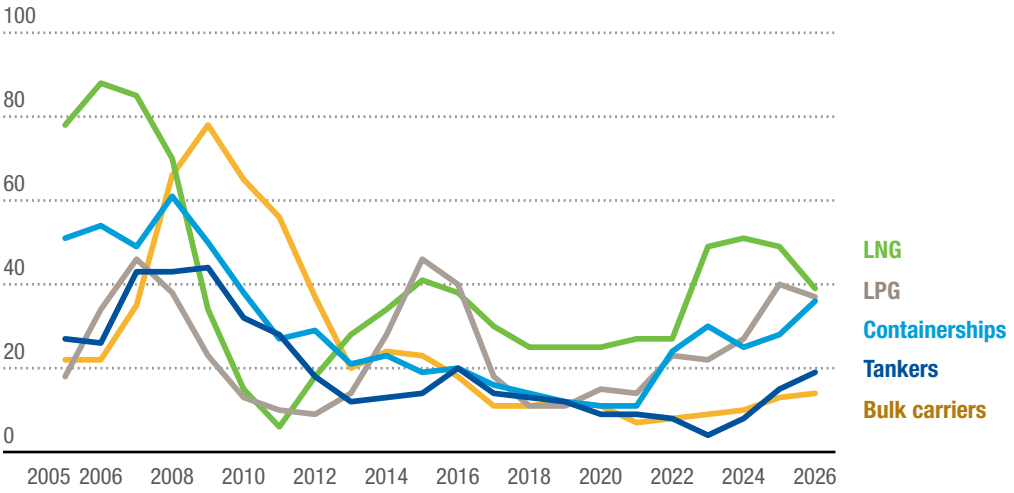
The LNG carrier orderbook has grown over time, averaging 40 per cent of the active fleet over the 2005–2026 period. In the first half of 2026, the LNG orderbook-to-fleet ratio moderated from around 50 per cent in 2024 and 2025 to 39 per cent. LPG carriers maintained particularly high ratios at 39 per cent and 37 per cent in 2024 and 2025, respectively. The ratios for bulk carriers (14 per cent) and tankers (19 per cent) in 2026 remain below the high levels experienced before the 2008 financial crisis.

Figure II.12
Global ship capacity ordered, 2005–2026
(Percentage of active fleet gross tonnage)



Source: UNCTAD calculations, based on data provided by Clarksons Research, 2026a.

Figure II.13
Orderbook-to-fleet ratio by ship type, 2005–2026
(Percentage of global active fleet gross tonnage)



Source: UNCTAD calculations, based on data provided by Clarksons Research, 2026.

Although much of the container ship capacity ordered in 2025 was above 8,000 TEU, containership orders are increasingly focused on feeders and smaller ships, with the average size falling from 11,000 to 8,000 TEU. This largely reflects renewal needs, environmental regulation, shifting trade patterns and regionalized flows. Since mid-2025, container carriers have been rebalancing their fleet strategies (Savvides, 2026c), seeking flexibility and renewal and preparing for a market where adaptability is as important as scale. Carriers are opting for ownership over chartering to improve cost certainty and operational control (Willmington, 2026). Disruptions, including around the Strait of Hormuz, underscore the need for flexibility through ships that can be rapidly redeployed.

Shipbuilding in the first half of 2026 saw record tanker ordering, high prices and expanding capacity, despite emerging risks from geopolitical tensions and uncertainty in the green transition. By May 2026, the orderbook, measured in gross tonnage, had increased 10 per cent over 2025. Newbuilding activity has been especially strong for tankers, LPG carriers and containerships. Ordering activity is expected to remain strong in 2026, led by China, Greece and Japan (Clarksons Research, 2026o), partly due to the need to adapt to slower speeds and longer shipping routes (BRS Group, 2026).

Shipbuilding is geographically concentrated and heavily reliant on three countries. Activity in East Asia is led by China, which accounted for 53.4 per cent of global gross tonnage delivered in 2025. The Republic of Korea followed with a share of 27.1 per cent; Japan accounted for 13.0 per cent. Together, the three produce 93.5 per cent of total global output. China leads in almost all segments, while the Republic of Korea focuses on containerships and gas carriers. Japan maintains a presence across several segments, especially bulk shipping. Europe plays a marginal role (around 1.6 per cent share), mainly in niche segments, such as passenger and specialized ships. Asia is leading in terms of scale and output, while Europe competes in specialized segments.

Efforts to enlarge the geography of global shipbuilding capacity are intensifying. Shipyards in the Republic of Korea, seeking to produce more high-value, technologically advanced ships, are addressing capacity constraints partly through overseas expansion.

In April 2026, the country launched a strategy to strengthen coordination between shipbuilding and shipping, advance maritime innovation and enhance competitiveness (Republic of Korea, Ministry of Oceans and Fisheries, 2026). Japan is expanding shipbuilding capacity through partnerships (United States, International Trade Administration, 2026; Japan, Ministry of Land, Infrastructure, Transport and Tourism, 2025) as a complement to domestic revitalization. The European Union adopted an Industrial Maritime Strategy in April 2026 promoting investment in shipbuilding, shipping, ports and maritime technologies, while supporting decarbonization, innovation and the security of critical maritime infrastructure (European Council, 2026a). The United Arab Emirates is boosting its maritime industry through a Shipbuilders' Consortium (AD Ports Group, 2026), while India, under its Maritime Amrit Kaal Vision 2047, is expected to gradually emerge (Lloyd's List, 2026) as a complementary player in global shipbuilding (India, Ministry of Ports, Shipping and Waterways, 2026; Invest India, 2025; Kapoor and Katsoulas, 2026).

3. The global fleet at a crossroads: Ageing assets, modernization pressures and overcapacity risks

In 2025, the average age of the global shipping fleet was 12.9 years based on dead weight ton capacity and 22.1 years by vessel count. The global fleet's age in 2026 by capacity and vessel count averaged 13.3 years and 22.4 years, respectively (table II.3). Reflecting firmer ordering in recent years and continued investment in modern ships, the world container fleet had an average age of 13.8 years in 2025. In 2026, over one third of the containership fleet and 42 per cent of containership capacity are estimated at 10 years or less. Over half of general cargo ships are more than 20 years old. Bulk carriers have a relatively balanced age distribution, with a concentration between 10 and 14 years. Oil tankers are spread around the middle of the age range (10–19 years) as well as older segments (20 years and more).


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Table II.3
Age profile of the global fleet by types of ships and economies

Ship type	Age group: 0–4 years	5–9 years	10–14 years	15–19 years	More than 20 years	All
	World average ship sizes (dead weight tons)					
Bulk carriers	70 373	88 156	78 110	67 326	55 850	72 953
Container ships	71 776	67 891	73 233	44 970	32 860	55 158
General cargo	7 360	5 455	6 820	5 375	2 848	4 238
Oil tankers	70 053	87 458	56 216	64 487	28 358	52 850
Other ship types	8 117	7 679	4 233	6 406	3 343	5 013
All ships	30 896	36 969	31 831	26 746	9 067	21 865

World total 2026		Age group: 0–4	5–9	10–14	15–19	More than 20	All	Average age (years): 2025	2026
All ships	Percentage of total number of ships	12.6	11.1	17.1	17.3	41.9	100.0	22.1	22.4
	Percentage of total dead weight tons	17.8	18.8	24.8	21.2	17.4	100.0	12.9	13.3
	Average ship size (dead weight tons)	30 896	36 969	31 831	26 746	9 067	21 865		
Developed economies 2026		**0–4**	**5–9**	**10–14**	**15–19**	**More than 20**	**All**	**2025**	**2026**
All ships	Percentage of total number of ships	9.2	11.2	13.4	15.3	50.9	100.0	26.1	26.4
	Percentage of total dead weight tons	16.9	22.3	27.4	22.0	11.5	100.0	12.3	12.6
	Average ship size (dead weight tons)	27 557	30 114	30 723	21 580	3 389	15 053	NA	NA
Developing economies 2026		**0–4**	**5–9**	**10–14**	**15–19**	**More than 20**	**All**	2025	2026
All ships	Percentage of total number of ships	14.1	11.2	18.7	18.3	37.7	100.0	20.2	20.5
	Percentage of total dead weight tons	18.2	18.1	24.3	21.1	18.3	100.0	13.0	13.4
	Average ship size (dead weight tons)	31 536	39 378	31 906	28 295	11 866	24 483	NA	NA

Source: UNCTAD calculations, based on data from Clarksons Research.

Note: The table includes propelled seagoing vessels of 100 gross tons and above. Dead weight tons for some individual vessels have been estimated. The average age of a dead weight ton is calculated as the sum of all products of the age and dead weight tonnage of a ship, divided by the sum of the dead weight tonnage of all ships. The grouping of economies by development status is based on flag States.

Although renewal is underway, ships older than 20 years account for about 42% of the fleet by ship count and 17.4% of total capacity

Although renewal is underway, ships older than 20 years account for about 42 per cent of the fleet by ship count and 17.4 per cent of total capacity. Newer ships (0–9 years) represent about 23.7 per cent of the fleet and over 36.6 per cent of capacity. Many older ships, which are generally smaller, operate alongside newer and larger ships. By capacity, older ships contribute 11.5 per cent to developed economy fleets and 18.3 per cent to the fleets of developing economies. These trends underscore the potential for recycling activity to increase in the coming years, especially if market conditions deteriorate. Reliance on older tonnages suggests there will be growing pressure for fleet renewal as environmental regulations tighten and decarbonization requirements accelerate.

4. Ship recycling is set to increase as ageing fleets, decarbonization requirements and a potential normalization of shipping routes converge

Global ship recycling remained limited in 2025, despite some increase over the previous year, with total volumes reaching about 8.5 million gross tons (table II.4). Bulk carriers (35.8 per cent), oil tankers (25.9 per cent) and gas carriers (18.4 per cent) made up most recycled tonnage. Very little containership tonnage was sold for scraping (0.8 per cent).

Table II.4
Ship tonnage sold for recycling, 2025
(Thousand gross tons)

Ship type	India	Bangladesh	Türkiye	China	Pakistan	Rest of the world	World total	Percentage share
Bulk carriers	466	1 362	83	786	337	NA	3 034	35.8
Container ships	36	14	10	NA	NA	3 987	64	0.8
Oil tankers	1 283	546	157	44	111	52 533	2 193	25.9
Gas carriers	839	714	3	7	NA	NA	1 563	18.4
General cargo ships	138	66	249	18	30	54 704	556	6.6
Chemical tankers	84	4	2	NA	NA	2 759	92	1.1
Ferries and passenger ships	43	16	154	NA	NA	35 359	249	2.9
Offshore supply	76	4	374	3	1	203 109	661	7.8
Other/n.a.	34	8	2	2	NA	21 632	67	0.8
Total gross tons	**2 998**	**2 735**	**1 034**	**859**	**479**	**374 083**	**8 479**	**100.0**
Percentage share	**35.4**	**32.3**	**12.2**	**10.1**	**5.6**	**4.4**	**100**	

Source: UNCTAD calculations, based on data from Clarksons Research. See also ship recycling data at https://unctadstat.unctad.org/datacentre/.

A few South Asian countries lead the world ship recycling market. Bangladesh (32.3 per cent) and India (35.4 per cent) together account for more than two thirds of global recycling activity. China (10.1 per cent), Pakistan (5.6 per cent) and Türkiye (12.2 per cent) also contribute moderate shares. Ship recycling facilities in Bangladesh and India handle various ship types. Türkiye recycles offshore vessels and general cargo ships, indicating some degree of specialization.

Together, these five countries have over 95 per cent of global ship recycling capacity, reflecting comparative advantages related to labour costs, regulatory conditions and established ship recycling infrastructure. This concentration raises environmental and social sustainability concerns, however, as ship recycling involves handling hazardous materials and waste. It requires adequate safeguards to protect workers' safety and health and reduce environmental risks. The entry into force of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships (Hong Kong Convention) in 2025 could promote safer and more environmentally sound recycling practices globally, so that they do not pose unnecessary risks to human health and safety or to the environment (IMO, 2026i and 2026j; UNCTAD, 2025b). Stricter environmental and safety regulations are currently reshaping the ship recycling industry. The updated European List now contains 41 approved ship recycling facilities: 30 are in Europe, 10 in Türkiye and 1 in the United States (European Commission, 2026). The update authorizes listed shipyards to recycle large European Union-flagged vessels while complying with stringent safety and environmental rules.

As decarbonization accelerates, demand for sustainable recycling capacity will increase. Developing countries active in this industry should aim to move up the value chain by promoting safer, cleaner and more technologically advanced recycling practices, while aligning with global environmental and social sustainability standards. Developing countries that strengthen their position in ship recycling, maintenance and retrofitting may benefit from capturing value across the full life cycle of maritime assets. While the use of the parallel fleet, notably the tanker fleet, has prolonged the commercial life of older vessels, raised second-hand prices and reduced ship recycling (UNCTAD, 2025b), looking forward, tanker fleet recycling will likely increase.

5. Flags of registration and countries of ownership remain a distinct feature of international shipping

Since 2000, the concentration of fleet registration has steadily increased, resulting in a leading set of mega registries, followed by a second layer of maritime nations providing ship registration services and then a list of smaller flags with limited capacity. For many developing countries, there is potential to develop a competitive ship registry while targeting specialized niches, such as "green registries" aligned with decarbonization.

Global shipping ownership and ship registration remain distinct features of international shipping. Ships are primarily owned by large maritime economies but predominantly flagged in a small group of open-registry countries that allow foreign-owned vessels to register under their flag. Table II.5 features the leading ship-owning economies (beneficial ownership) in 2025. In terms of dead weight ton capacity, ship ownership is concentrated, in descending order of their share, in Greece (15.8 per cent), China (15.0 per cent), Japan (9.7 per cent), Singapore (7.3 per cent) and Hong Kong, China (4.9 per cent).

The top five ship-owning nations control 52.7 per cent of global shipping capacity. The top 10 ship-owning economies account for 67 per cent of global capacity, while the top 35 control 92.4 per cent. About 71 per cent of global shipping capacity is foreign flagged (i.e., registered in a country different from the country of ownership), with shares for many ship-owning countries exceeding 80 to 90 per cent. Concentration in the ownership structure reflects shipping's capital intensity and the importance of scale, financial access and technical expertise.

Five countries have over 95% of global ship recycling capacity, reflecting comparative advantages related to labour costs, regulatory conditions and established ship recycling infrastructure

As decarbonization accelerates, demand for sustainable recycling capacity will increase

Table II.5
World fleet ownership by capacity and flag of registration, as of 1 January 2026

		Number of vessels			Dead weight tons			Percentage share	
	Country or territory of ownership	National flag	Foreign flag	Total	National flag	Foreign flag	Total	Foreign flag as a percentage of total	Total as a percentage of world dead weight
1	Greece	553	4 606	5 168	46 143 938	350 582 352	397 071 457	88.3	15.8
2	China	7 473	3 639	11 186	138 886 654	233 122 821	377 047 235	61.8	15.0
3	Japan	997	3 140	4 139	43 181 735	199 985 197	243 174 558	82.2	9.7
4	Singapore	1 620	1 590	3 250	95 921 788	86 186 738	182 417 467	47.2	7.3
5	Hong Kong, China	734	1 196	1 978	66 612 322	54 978 292	122 791 589	44.8	4.9
6	Republic of Korea	822	856	1 699	22 472 742	76 488 647	99 203 358	77.1	4.0
7	Germany	169	1 780	1 949	8 563 867	60 486 689	69 050 556	87.6	2.8
8	Taiwan Province of China	141	924	1 076	5 729 765	60 375 934	66 183 794	91.2	2.6
9	United Kingdom including Isle of Man	313	952	1 275	7 947 718	52 206 683	61 058 864	85.5	2.4
10	United Arab Emirates	156	1 492	1 683	672 845	58 041 818	59 608 484	97.4	2.4
11	Switzerland	11	868	879	731 437	57 505 442	58 236 879	98.7	2.3
12	Norway	897	835	1 734	15 459 228	34 209 066	49 798 987	68.7	2.0
13	Türkiye	397	1 791	2 202	6 325 484	40 931 677	47 702 183	85.8	1.9
14	United States including Puerto Rico	777	899	1 689	10 221 511	34 718 793	45 644 581	76.1	1.8
15	Denmark	403	432	835	22 404 713	22 689 102	45 093 815	50.3	1.8
16	Bermuda	-	307	308	-	38 117 448	38 178 002	99.8	1.5
17	Indonesia	2 671	150	2 831	30 942 420	4 106 453	35 078 747	11.7	1.4
18	Belgium	120	228	348	11 694 325	19 802 182	31 496 507	62.9	1.3
19	Monaco	-	331	331	-	30 604 028	30 604 028	100.0	1.2
20	India	931	233	1 178	17 440 218	10 763 217	28 829 990	37.3	1.1
21	Cyprus	106	297	403	4 497 437	23 518 436	28 015 873	83.9	1.1
22	France	154	382	537	5 019 114	21 579 051	26 607 546	81.1	1.1
23	Viet Nam	876	389	1 276	8 970 210	11 668 579	20 717 304	56.3	0.8
24	Saudi Arabia	218	104	325	19 373 736	942 912	20 321 765	4.6	0.8
25	Islamic Republic of Iran	249	11	261	18 930 301	512 309	19 444 162	2.6	0.8
26	Kingdom of the Netherlands	653	546	1 200	5 341 061	12 585 000	18 029 490	69.8	0.7
27	Russian Federation	1 538	116	1 661	16 122 196	1 325 616	17 467 738	7.6	0.7
28	Brazil	321	97	418	5 112 445	10 220 893	15 333 338	66.7	0.6
29	Italy	396	123	519	6 325 974	4 354 389	10 680 363	40.8	0.4
30	Canada	205	172	379	2 672 672	7 608 331	10 289 357	73.9	0.4
31	Nigeria	235	82	325	5 609 607	4 222 897	10 129 782	41.7	0.4
32	Malaysia	427	186	629	6 194 814	3 185 083	9 541 943	33.4	0.4
33	Oman	3	70	73	518	8 334 058	8 334 576	100.0	0.3
34	Qatar	50	84	134	679 370	6 793 900	7 473 270	90.9	0.3
35	Bangladesh	283	10	293	5 790 693	184 788	5 975 481	3.1	0.2
	Top 35	**24 899**	**28 918**	**54 171**	**661 992 858**	**1 642 938 821**	**2 316 633 069**	**70.9**	**92.4**
	World	**27 994**	**31 782**	**62 109**	**698 915 614**	**1 714 402 936**	**2 508 147 963**	**68.4**	**100.0**

Source: UNCTAD calculations, based on data provided by Clarksons Research. See also https://unctadstat.unctad.org/datacentre/dataviewer/US.FleetBeneficialOwners.

Note: The table includes propelled seagoing vessels of 1,000 gross tons and above. The totals include vessels with an unknown flag. The sum of national and foreign flags equals the total. The foreign flag share as a percentage of the total is calculated as the share of vessels with a known flag.

As of 1 January 2026, based on dead weight tons and in descending order of their share, Liberia, Panama and the Marshall Islands continued to top the global list of leading flag States (table II.6). Together, they accounted for 44.1 per cent of world shipping capacity. By ship count, their share is only 16.2 per cent, underscoring the large sizes of ships registered under their flags. The top 10 ship registers accounted for 75.3 per cent.

In recent years, frequent reflagging and the use of "false flags" have emerged, driven by geopolitics, regulatory changes and restrictive economic measures, notably those introduced by the United Kingdom, United States and European Union. A growing segment of global shipping has a substantial share of the fleet operating under unilateral restrictive economic measures and a parallel fleet. This is reshaping trade flows and compliance risks. By June 2026, the number of sanctioned oil tankers totalled 970 vessels (117 million dwt or 17 per cent of tanker capacity). Beyond tankers, 1,831 vessels (4 per cent of global capacity) across all segments are under sanction (Clarksons Research, 2026p; European Council, 2026b). Since 2024, 673 vessels totalling over 52 million dwt have reflagged to Singapore. Hong Kong, China accounted for nearly half the outflow, largely reflecting the impact of trade tensions among major economies. Panama has also seen an outflow of ships towards Singapore. Containerships have been the main focus, with 268 ships representing more than half the total capacity reflagged (Lloyd's List, 2026).

The distinction between ownership and registration reflects a system driven by financial concentration and differences in regulations, standards, enforcement and compliance costs. Ownership is aligned with access to capital and maritime expertise, while flagging focuses on reputation, service levels, costs, taxation and the quality of regulatory oversight. The ownership and registration divide is also visible in global fleet value. As shown in table II.7, together, China (12.6 per cent), Greece (11.0 per cent) and Japan (9.6 per cent) accounted for one third of global fleet value on 1 January 2026. The top 20 ship-owning economies accounted for over 84 per cent of global fleet value. Leading open registers had the largest fleet value, including, in order of share, Liberia (15.3 per cent), Panama (10.8 per cent) and the Marshall Islands (10.7 per cent). Together, they held nearly 37 per cent of value; the top 20 flags accounted for around 85 per cent.

Ownership is aligned with access to capital and maritime expertise, while flagging focuses on reputation, service levels, costs, taxation and the quality of regulatory oversight



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Table II.6
Leading flags of registration, as of 1 January 2026

Rank		Number of vessels	Share of world total vessels (percentage)	Dead weight tons (thousands)	Share of world total dead weight tons (percentage)	Average vessel size (thousands of dead weight tons)	Growth in dead weight tons, 2025–2026 (percentage)
1	**Liberia**	5 846	5.1	446 506	17.7	76 378	5.5
2	**Panama**	8 478	7.3	349 621	13.8	41 239	-5.9
3	**Marshall Islands**	4 379	3.8	317 667	12.6	72 543	4.0
4	**Singapore**	3 477	3.0	186 000	7.4	53 494	22.1
5	**Hong Kong, China**	2 251	1.9	175 884	7.0	78 136	-13.3
6	**China**	10 924	9.4	142 003	5.6	12 999	1.5
7	**Malta**	1 968	1.7	114 157	4.5	58 007	0.8
8	**Bahamas**	1 276	1.1	71 327	2.8	55 899	1.4
9	**Greece**	1 170	1.0	51 670	2.0	44 162	-3.3
10	**Japan**	5 189	4.5	47 081	1.9	9 073	7.5
11	**International Shipping Register of Madeira**	1 128	1.0	39 071	1.5	34 637	9.0
12	**Indonesia**	14 618	12.6	36 358	1.4	2 487	5.1
13	**Cyprus**	1 028	0.9	35 156	1.4	34 198	2.6
14	**Danish International Register of Shipping**	530	0.5	24 552	1.0	46 325	-3.0
15	**Republic of Korea**	2 154	1.9	23 746	0.9	11 024	10.6
16	**Islamic Republic of Iran**	1 037	0.9	20 190	0.8	19 469	-4.2
17	**Isle of Man**	266	0.2	19 950	0.8	74 999	0.1
18	**Russian Federation**	2 953	2.6	19 605	0.8	6 639	34.4
19	**Saudi Arabia**	519	0.4	19 510	0.8	37 592	10.0
20	**India**	1 973	1.7	19 037	0.8	9 649	6.0
21	**Norwegian International Ship Register**	646	0.6	18 355	0.7	28 413	-3.1
22	**Barbados**	447	0.4	14 527	0.6	32 499	-22.4
23	**Cameroon**	332	0.3	14 475	0.6	43 599	150.5
24	**United States**	3 438	3.0	13 448	0.5	3 912	1.7
25	**Sierra Leone**	681	0.6	13 420	0.5	19 707	134.0
26	**Belgium**	223	0.2	12 307	0.5	55 186	79.2
27	**France**	524	0.5	10 498	0.4	20 035	18.1
28	**Viet Nam**	1 906	1.6	9 928	0.4	5 209	-14.4
29	**United Kingdom**	780	0.7	9 827	0.4	12 599	-3.1
30	**Malaysia**	1 792	1.5	9 278	0.4	5 178	-5.9
	Top 30	**81 933**	**70.8**	**2 285 155**	**90.4**	**27 891**	**2.3**
	World total	**115 655**	**100**	**2 528 788**	**100**	**21 865**	**3.5**

Source: UNCTAD calculations, based on data provided by Clarksons Research. See also https://unctadstat.unctad.org/datacentre/dataviewer/US.MerchantFleet.

Note: The table includes propelled seagoing merchant ships of 100 gross tons and above. Dead weight ton figures for some individual vessels have been estimated.

Table II.7
Value of the world fleet by country of ownership and flag of registration, as of 1 January 2026
(Percentage share of total value in United States dollars)

	Country or territory of ownership	Share of total value (percentage)		Flag of registration	Share of total value (percentage)
1	China	12.6	1	Liberia	15.3
2	Greece	11.0	2	Panama	10.8
3	Japan	9.6	3	Marshall Islands	10.7
4	Singapore	6.9	4	Singapore	8.2
5	United States	6.8	5	Bahamas	6.8
6	United Kingdom	3.9	6	Malta	6.3
7	Republic of Korea	3.8	7	China	6.2
8	Norway	3.7	8	Hong Kong, China	5.0
9	Germany	3.4	9	Greece	1.7
10	Switzerland	3.3	10	Portugal	1.7
11	Hong Kong, China	3.3	11	Japan	1.6
12	Taiwan Province of China	2.5	12	Cyprus	1.4
13	Denmark	2.2	13	Norway	1.3
14	Kingdom of the Netherlands	1.9	14	Bermuda	1.3
15	United Arab Emirates	1.8	15	Italy	1.2
16	France	1.8	16	Denmark	1.2
17	Brazil	1.7	17	Indonesia	1.1
18	Bermuda	1.6	18	Russian Federation	1.0
19	Türkiye	1.3	19	France	1.0
20	Italy	1.2	20	Republic of Korea	0.9
	Top 20 countries or territories	**84.3**		**Top 20 flags**	**84.9**
	Rest of the world	**15.7**		**Rest of the world**	**15.1**
	Total	**100.0**		**Total**	**100.0**

Source: UNCTAD calculations, based on data provided by Clarksons Research. See also https://unctadstat.unctad.org/datacentre/dataviewer/US.VesselValueByRegistration and https://unctadstat.unctad.org/datacentre/dataviewer/US.VesselValueByOwnership.

Note: The table includes vessels of 1,000 gross tons and above.

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2026 Review of maritime transport

Chapter III

Freight rates and maritime transport costs

Freight rate volatility remained a defining feature of maritime transport in 2025 and 2026, reflecting supply and demand dynamics, shifting trade patterns, disruptions from geopolitical tensions and security threats, and fluctuations in available ship capacity. Against this backdrop, this chapter examines container, dry bulk and tanker freight rates from January 2025 to August 2026.

A headline development in 2026 was the disruption affecting the Strait of Hormuz. This contributed to fluctuations in freight rates, increased marine fuel prices and raised shipping costs well beyond routes serving the Persian Gulf. The impact varied across economies. Small island developing States and the least developed countries faced the greatest consequences because their imports often travel longer distances and pass through transshipment hubs, relying on multiple shipping legs before reaching their destination. As a result, fuel costs account for a larger share of total international transport costs and add to import prices. As of the third quarter of 2026, heightened security risks affecting shipping through the Bab el-Mandeb Strait and the Black Sea, alongside climate-related water constraints impeding operations in the Panama Canal, further amplified operational challenges and contributed to higher costs and freight rate volatility on affected routes.

Amid multiple disruptions and challenges, freight rate developments differed across shipping market segments. In 2025, container spot rates declined from their 2024 peaks, reflecting a combination of

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factors including the entry into service of new ship capacity, the fading away of inflated freight rate levels due to the Red Sea crisis. Nevertheless, freight rates remained volatile and above 2023 levels. Container freight rates varied significantly across routes, reflecting differences in demand, capacity and exposure to disruptions. Continued ship diversions around the Cape of Good Hope, in the absence of a broad return to the Suez Canal route, have increased TEU-mile demand and absorbed part of the available fleet capacity.

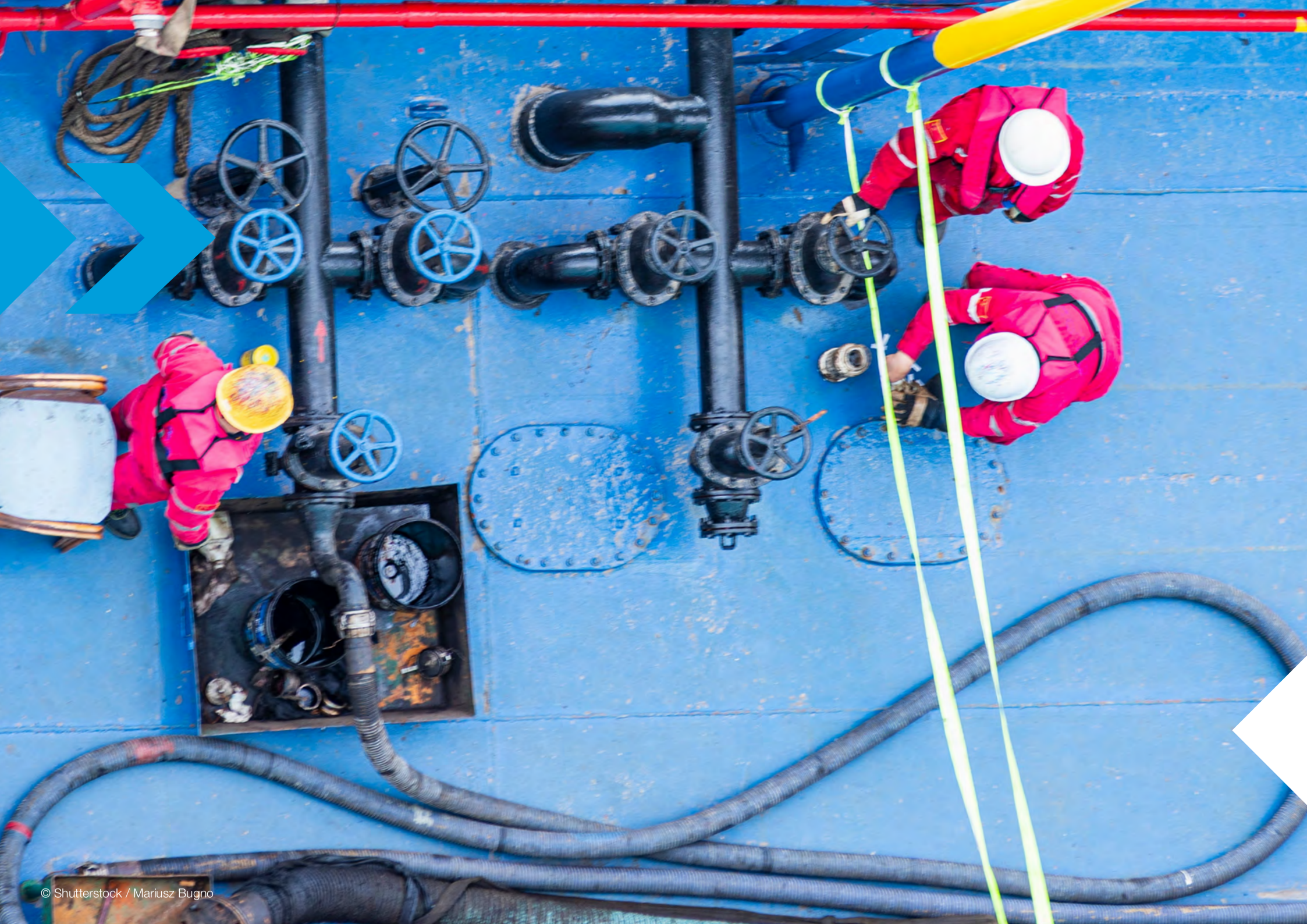
During the first three quarters of 2026, container spot rates increased again and remained volatile amid geopolitical disruptions, trade policy uncertainty, operational constraints and port congestion limiting effective ship capacity. The disruption affecting the Strait of Hormuz from late February 2026 raised bunker prices and surcharges across shipping routes, although direct operational effects were concentrated in the Persian Gulf and nearby services. Time charter rates remained elevated as vessel diversions, reconfigured liner networks and limited vessel availability sustained demand for charter vessels. Some container services returned through the Red Sea and Suez Canal in the summer of 2026, shortening sailing distances and potentially easing capacity pressures. A broader return, if sustained, could release additional effective ship capacity and exert downward pressure on freight rates. By contrast, Panama Canal draft restrictions, introduced in early July 2026, have imposed operational constraints on affected routes, potentially further tightening effective capacity and adding upward pressure and uncertainty to container freight rates.

In 2025, average dry bulk freight rates settled slightly below 2024 levels, with a weak first half followed by a strong second-half recovery. Seasonal weakness, weather-related disruptions to iron ore exports, slower industrial activity in China and lower coal imports, and increased vessel supply weighed on rates in the first half. Rates strengthened in the second half as iron ore and bauxite shipments rose, seasonal cargo demand recovered and longer voyage distances supported ton-mile demand and vessel utilization.

Rates climbed further in the first half of 2026, buoyed by higher iron ore exports from Australia and Brazil, growing bauxite and new iron ore exports from Guinea, and longer voyage distances. Disruption around the Strait of Hormuz had a mixed effect on the freight market: lower grain and fertilizer shipments reduced vessel demand on Persian Gulf routes, while vessel delays temporarily diminished effective vessel availability, and higher bunker and insurance costs raised voyage costs. By the third quarter, escalating security risks in the Black Sea had further disrupted grain and other dry bulk flows, constrained vessel operations, and increased freight and insurance costs on affected routes.

Tanker freight markets diverged in 2025. Crude tanker rates remained relatively strong. Earnings increased as demand for vessel capacity outpaced limited fleet growth, supported by higher crude exports, stronger Asian import demand, shifting crude export patterns, longer-haul trades and geopolitical developments. By contrast, refined product tanker rates and earnings declined as product trade growth slowed and fleet capacity expanded. The limited resumption of some product tanker transits through the Red Sea and Suez Canal shortened voyage distances on affected routes, reducing ton-mile demand. The movement of some product tankers into crude oil trades nevertheless reduced available product tanker capacity and provided some support to product tanker earnings later in the year.

Tanker freight rates rose sharply in 2026, particularly in the crude segment, following the disruption affecting the Strait of Hormuz. Vessel delays and disrupted movements in and around the Persian Gulf reduced effective carrying capacity, while higher insurance and bunker costs and increased longer-haul crude shipments from the Atlantic basin to Asia added further upward pressure on freight rates. Ongoing disruptions and longer and more complex crude trade routes and associated logistical challenges continued to constrain fleet efficiency, pushing crude tanker rates to record highs by August 2026. Refined product tanker rates remained comparatively weaker as subdued product exports limited transport demand and moderated upward pressure on rates.



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Key takeaways

- Disruptions and uncertainty in maritime transport are driving freight rate and transport cost volatility. Robust monitoring of maritime freight rates and cost developments, assessments of their impacts, and enhanced response capacities to anticipate and respond to shocks are increasingly important. Attention should be given to strengthening the capacity of developing countries, particularly the least developed countries, small island developing States and landlocked developing countries.

- **Route specific shipping costs and capacity monitoring:** Establish integrated monitoring systems that bring together, through a one-stop platform, relevant publicly available market intelligence information and data from varied sources, including the shipping industry, port sector, customs, transport authorities, shippers and other relevant stakeholders. Such information could be used to track and assess key indicators that shape and drive transport costs. These may include route-level freight rates, surcharges, service frequency, vessel capacity and deployment patterns, waiting times, delays, congestion, fuel prices, insurance premiums, voyage distances, shipment timing and cargo demand.

- **Exposure and impact assessment:** Support countries in assessing how maritime transport conditions, including route connectivity, cargo composition, limited gateway access and reliance on transshipment, could affect the delivered cost of imported essential goods across the transport chain. Any such assessment would consider, among other elements, the possible effects on inflation, public finances and supply reliability. Accessible analytical tools could be developed to translate policy questions into model-based assessments and support the interpretation of results, comparison of mitigation options and the formulation of measures tailored to match varying levels of national exposure, particularly in the least developed countries and small island developing States.

- **Strengthen response and mitigation capacities to contain increases in freight rates and transport costs:** Bolster national capacities to prepare for and respond to policy changes and disruptions, including to maritime chokepoints. Measures could include facilitating alternative routes and transport options, prioritizing essential goods, addressing temporary logistics bottlenecks, and targeted financial or other support where appropriate. Over the longer term, supporting the energy transition and more sustainable transport systems, including through greater energy efficiency and low-carbon transport solutions, could help reduce transport costs and exposure to fossil fuel price volatility. Where domestic policy measures are introduced, communicate their scope and implementation timelines clearly to reduce uncertainty and market disruptions. Responses should be time-bound, evidence-based and tailored to specific country exposure and circumstances.

- **Policy coordination and data sharing:** Strengthen coordination and data sharing among all relevant stakeholders and partners, including those from the trade, transport, port, customs, energy and insurance sectors; disaster-management organizations; competition authorities and other private sector actors. This process should aim to improve preparedness and responses to maritime transport disruptions. International and regional organizations should support common data standards, timely information sharing, and analytical capacity to strengthen evidence-based decision-making and coordination.

A. Trends in freight rates

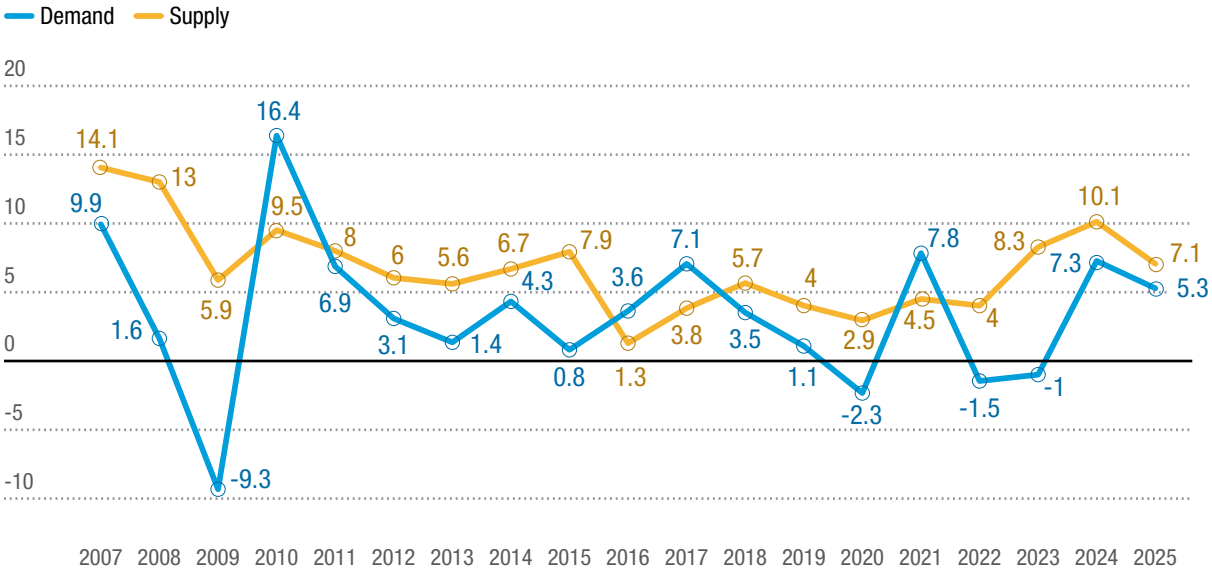
1. Container spot freight rates in 2025: Declining from 2024 peaks while remaining volatile and above levels before the Red Sea crisis

In 2025, container spot freight rates declined from their 2024 peaks but remained above 2023 levels, before the Red Sea crisis. Continued fleet expansion, trade policy shifts and the reorganization of carrier networks drove freight rate patterns and volatility.

As growth in container fleet capacity (7.1 per cent) continued to outpace trade growth (5.3 per cent) in 2025, the container shipping market remained oversupplied (figure III.1).

The Shanghai Containerized Freight Index (SCFI), a key benchmark of spot rates for containerized shipments from Shanghai to major global destinations, averaged 1,581 points in 2025, 37 per cent below its 2024 level but 57 per cent above its 2023 average and nearly twice its 2019 average (figure III.2).

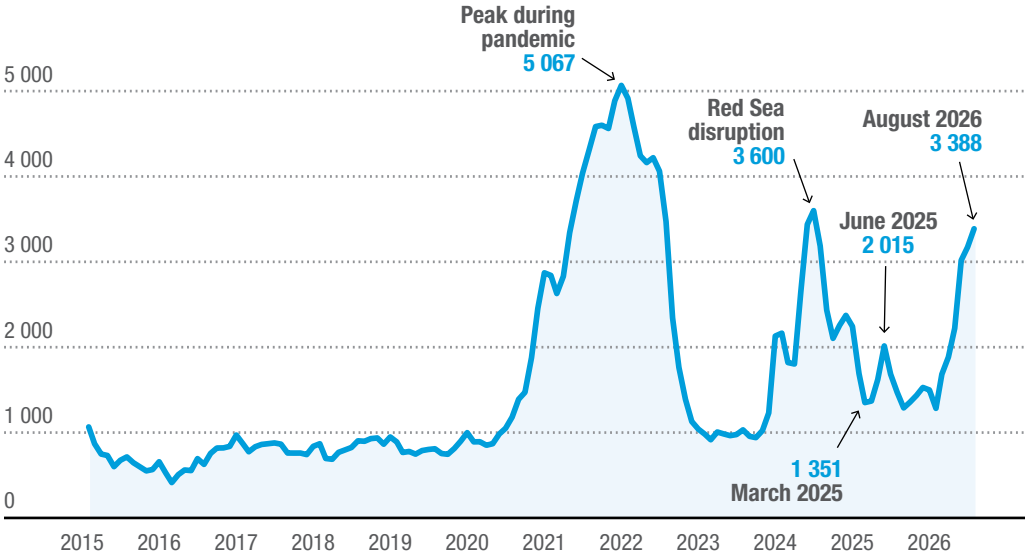
Figure III.1
Container demand and fleet capacity growth, 2007–2025
(Percentage change)



Source: UNCTAD calculations. Demand (TEU) is based on MDS Transmodal, World Cargo Database data from chapter I; supply is based on Clarksons Research, Shipping Intelligence Network, and Container Intelligence Monthly, various issues.

Note: Supply data refer to the total capacity of the container-carrying fleet (TEU), including multipurpose and other vessels with some container-carrying capacity.

Figure III.2
Shanghai Containerized Freight Index spot rates, comprehensive index, January 2015 to August 2026
(Monthly averages, index)



Source: UNCTAD, based on data from the Shanghai Shipping Exchange Institute.

Note: The basis of the composite index is 1,000 points; the base period is 16 October 2009. Data are from January of each year.

SCFI data show that spot freight rates declined across most major trade lanes in 2025, although the scale varied (figure III.3). Average rates from Shanghai to Europe and the west coast of North America fell by about 49 per cent; those to the east coast of North America declined by 42 per cent. Rates to the east coast of South America dropped by 47 per cent compared to 36 per cent to the Mediterranean, 28 per cent to Australia and New Zealand, and 27 per cent to South Africa. The smallest decline was recorded on the route to West Africa, at about 4 per cent.

2. Geopolitical developments, trade policy shifts and supply side factors shaped container freight rates in 2025

During the first quarter of 2025, container freight rates declined amid continued fleet expansion, seasonal demand weakness and expectations of a gradual easing of Red Sea disruptions. The SCFI slipped from 2,505 points on 3 January to 1,357 at the end of March 2025, a decline of 46 per cent.



At the same time, the new East–West container shipping alliance networks, reflecting the reorganization of cooperation among major container shipping lines, began operating from February 2025 (Hapag-Lloyd, 2024; also see chapter II). The transition continued through mid-2025 as vessels and services were progressively phased into new configurations (Sea Intelligence, 2025a). During the transition period, some services operated with temporary schedule adjustments and overlapping network configurations before new service structures were fully established. These changes temporarily affected the distribution of capacity across some trade lanes and added strain to supply side adjustments at a time when expanding fleet capacity and seasonal demand weakness were already placing downward pressure on spot freight rates (Sea Intelligence, 2025a and 2025b). Longer-term freight rate impacts will depend on demand, effective capacity and carriers' capacity management.

From the second quarter of 2025, changes in the tariff policy of the United States contributed to greater volatility in trans-Pacific freight container rates. Following an initial decline in bookings after tariff increases in April 2025, the temporary reduction in China-United States tariffs agreed in May prompted the front-loading of shipments (Clarksons Research, 2025a) and a sharp but short-lived rebound in freight rates in June 2025 (see UNCTAD, 2025). Reflecting this temporary spike in demand, the SCFI comprehensive index rose from an average of 1,376 points in April 2025 to 2,015 in June 2025 before declining again.

From July through late September 2025, freight rates decreased as carriers restored capacity to trans-Pacific services, continued fleet deliveries added to vessel supply, and shipping demand weakened following earlier cargo front-loading during the temporary tariff reduction (Norton, 2025; MarketWatch, 2025). By September 2025, average SCFI rates on trans-Pacific routes had fallen to about $1,914 per FEU to the North American West Coast and $2,831 per FEU to the East Coast, around 57 per cent and 53 per cent below their January averages, respectively.

In the fourth quarter of 2025, spot rates remained volatile and under pressure amid continued fleet growth and weaker demand, before rebounding towards the end of the year. Cape of Good Hope ship diversions continued to absorb effective capacity, while trade policy uncertainty affected demand and capacity deployment. The SCFI averaged 1,528 points in December, reflecting a late-year rebound. Port fee measures in China and the United States also had implications. While measures increased expected operating costs for affected vessels, their direct impact on freight rates was difficult to distinguish from broader market developments across various routes (Ho-Him, 2025; United States, Office of the United States Trade Representative, 2025).

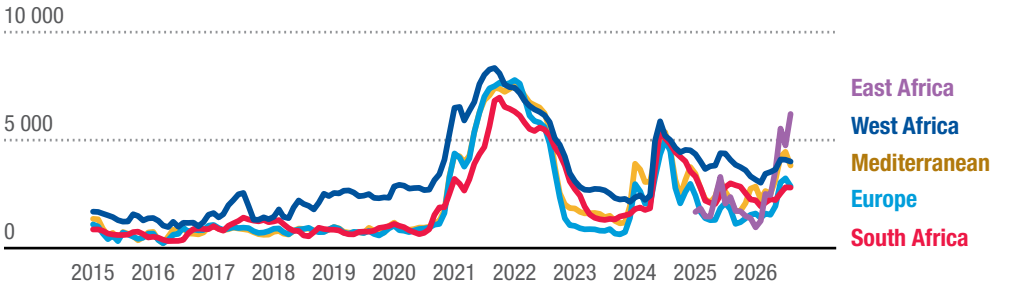
Cape of Good Hope diversions absorbed effective shipping capacity, while trade policy uncertainty influenced demand and capacity deployment



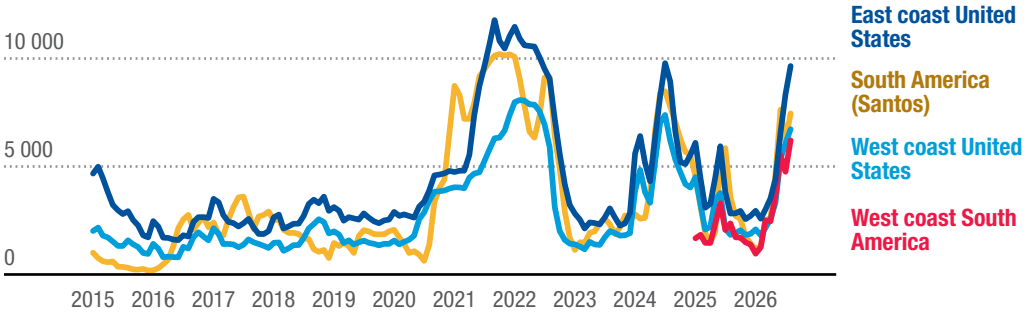
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Figure III.3
Shanghai Containerized Freight Index spot rates by route, January 2015 to August 2026
(Monthly averages, United States dollars per TEU)

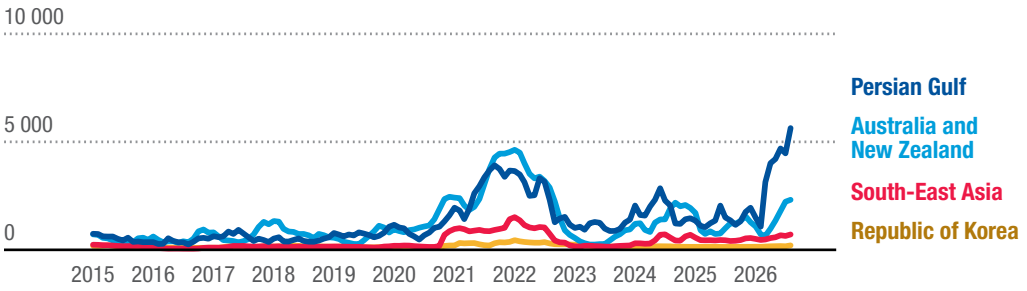
Africa and Europe



Americas



Asia and Oceania



Source: UNCTAD, based on data from the Shanghai Shipping Exchange Institute.

Note: Freight rates from Shanghai to selected destinations. Rates are expressed in United States dollars per TEU, except for rates to the east and west coasts of the United States, which are expressed in United States dollars per FEU.

3. Container freight rates in 2026 and outlook: Geopolitical tensions, chokepoint disruptions, trade policy implications and fuel costs drive higher rates

Container spot rates increased during the first eight months of 2026, with the SCFI rising above 3,000 points by June and reaching about 3,400 points in August, compared with approximately 1,500 points in January 2026. The initial increase reflected disruption around the Strait of Hormuz, higher bunker prices and constraints on effective vessel capacity. In August, rates remained elevated amid strong demand on trans-Pacific routes and continued operational disruptions, while emerging Panama Canal restrictions added uncertainty to Asia–North America services.

From late February 2026, disruption affecting the Strait of Hormuz sharply reduced vessel traffic and energy exports from the Persian Gulf (Anderson, 2026). The resulting increase in oil prices raised bunker prices and fuel-related surcharges across shipping markets, while the direct operational effects were concentrated on services serving the Persian Gulf and nearby regional markets (Bouissou and Angrand, 2026). Container spot freight rates on routes connecting Shanghai with the Persian Gulf and the Red Sea increased sharply, rising from an average of $1,075 per TEU in February to record highs of $4,694 in June 2026 and $5,637 in August 2026. Service suspensions and rerouting reduced effective capacity; higher fuel and war-risk insurance costs and congestion at alternative gateways compounded operating costs and volatility while increasing freight rates in the region (Popova and Stolyarov, 2026).

At the same time, tariffs that would apply after the temporary 10 per cent United States import/customs duty expired on 24 July 2026 encouraged earlier shipments, concentrating some seasonal import demand in May and June 2026 and adding pressure on available capacity on major East–West routes (Berger, 2026). On trans-Pacific routes, average SCFI rates increased from $1,815 per FEU in February to $5,351 in June and $6,726 in August 2026 to the west coast of North America, and from $2,582 to $6,580 and $9,651, respectively, to the east coast. Higher bunker costs, continued rerouting around the Cape of Good Hope, slower speeds and port congestion also influenced effective capacity (Clarksons Research, 2026b). Panama Canal draught restrictions, introduced in early July, have caused operational constraints, particularly for Asia–North America east coast services, contributing to tighter effective capacity, amplifying uncertainty and potentially increasing freight rates on affected routes. Concurrently, a limited return of container services to the Red Sea–Suez Canal route was observed from July 2026. Several major carriers expanded the use of the Suez route on selected services, signalling a gradual return (Suez Canal Authority, 2026; Egypt Today, 2026), although traffic remained well below pre-crisis levels (see chapter II).

The outlook for container freight rates depends largely on two main developments: whether regular vessel traffic resumes through the Strait of Hormuz and whether carriers return to routes through the Red Sea and Suez Canal. Both will depend on broader geopolitical developments in the region. In August 2026, the SCFI rate covering Shanghai–Persian Gulf and Red Sea services had increased to more than five times its February 2026 average. Vessel transits through the Strait remained far below predisruption levels, and congestion persisted at alternative gateways. Continued or increased disruptions would maintain higher congestion, impacting shipping routes and transshipment costs on Persian Gulf and nearby routes, while bunker prices and fuel-related surcharges could continue to affect freight rates more broadly.

Container spot freight rates rose sharply on major routes in the first eight months of 2026 amid disruptions and higher costs, but fleet expansion and a potential return to shorter routes could ease rates

A broader influence on global container freight markets will be the extent to which carriers resume transits through the Red Sea and Suez Canal as well as developments around the Bab el-Mandeb Strait. A general shift away from the Cape of Good Hope route to the shorter Suez Canal lane would increase effective vessel capacity, and, together with continued fleet deliveries (see chapter II), would place downward pressure on container freight rates. If carriers continue to avoid the Red Sea, capacity constraints and longer voyage distances would continue to support higher freight rates.

4. Containership time charter rates have remained elevated in 2025 and into 2026, but easing capacity constraints could lower rates

Containership time charter rates have remained elevated despite volatile spot rates, driven by tight vessel availability and sustained demand for tonnage

Containership time charter rates, which reflect the cost of hiring a containership for an agreed period, remained elevated in 2025 and the first eight months of 2026, despite volatility in spot freight rates. Spot rates, which reflect prices to move containers on a particular route at a particular time, responded quickly to cargo demand, tariff changes and shipment front-loading. Charter rates, meanwhile, were supported by tight vessel availability and operators' efforts to secure tonnage for several months or years. The Strait of Hormuz disruption added further demand for containership capacity serving regional and feeder services.

The New ConTex Index, a benchmark for assessing time charter rates for containerships across selected vessel classes, averaged around 1,500 points in 2025, about 40 per cent above 2024 (figure III.4). It averaged around 1,530 points from January to August 2026 and reached 1,629 on 27 August 2026, above its 2025 peak (Hamburg and Bremen Shipbrokers' Association, 2026b and 2026c).

Longer Cape of Good Hope voyages required additional vessels throughout 2025 and into 2026 (compared with the shorter Red Sea–Suez Canal route), while uncertainty over a return to the Suez Canal route discouraged carriers from releasing chartered capacity. This contributed to tight charter market conditions and supported time charter rates. New alliance networks in early 2025 also created temporary vessel requirements during schedule changes (Hapag-Lloyd, 2024). From late February 2026, the Strait of Hormuz disruption temporarily increased regional charter demand for container vessel capacity as service disruptions, rerouting and congestion at alternative ports absorbed capacity. Yet their effect on global container ship charter markets was more limited than that of the Red Sea crisis (Bouissou and Angrand, 2026; Anderson, 2026; Partridge, 2026).

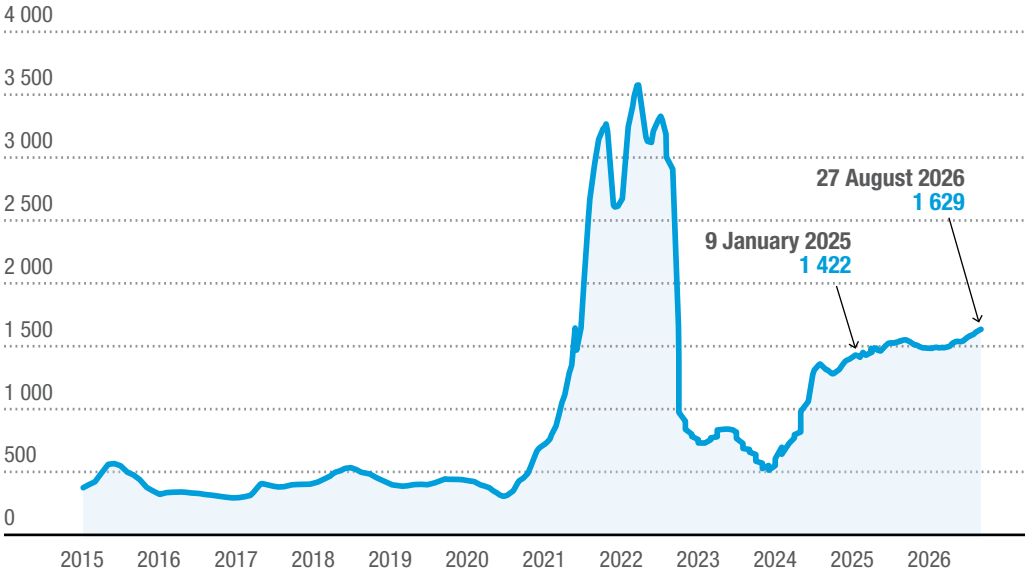
Vessels available for immediate charter remained limited throughout 2025 and into 2026. Operators therefore extended existing charter agreements or secured vessels available at later dates (Hamburg and Bremen Shipbrokers' Association, 2025a, 2025b and 2025c). Average charter duration reached about 21 months in April 2026, compared to 9 months in 2023, indicating that operators were securing both current and future capacity (Clarksons Research, 2026a).

Charter rate increases were not limited to large vessels. In 2025, average 12-month rates rose by about 40 per cent for 1,100 and 2,500 TEU vessels, 35 per cent for 2,700 TEU and 4,250 TEU vessels, and 20 per cent for 6,500 TEU vessels. By 27 August 2026, daily 12-month charter rates ranged from about $17,250 for 1,100 TEU vessels to around $71,100 for 6,500 TEU vessels, largely reflecting differences in vessel size and carrying capacity. Demand for smaller and medium-sized ships reflected their use in regional services, transshipment connections and temporary network changes, while longer voyages increased requirements for larger

chartered vessels (Hamburg and Bremen Shipbrokers' Association, 2025d, 2026b and 2026c; Bouissou and Angrand, 2026).

The charter rate outlook depends primarily on the pace of ship deliveries and disruptions affecting shipping routes and demand. A broader return to the Red Sea and Suez Canal route would shorten distances, release effective ship carrying capacity and reduce charter demand, although possible congestion during the transition could delay these effects (Hancock, 2026). By contrast, continued disruptions affecting major shipping routes could sustain demand for chartered capacity. The Strait of Hormuz disruption would mainly sustain demand for smaller and intermediate vessels serving alternative ports and routes in the Persian Gulf region (Anderson, 2026; Partridge, 2026).

Figure III.4
New ConTex Index, January 2015 to August 2026
(Index: 1,000 points in October 2007)



Source: UNCTAD calculations, based on data from the New ConTex Index for container ship chartering produced by the Hamburg and Bremen Shipbrokers Association (2026a).

Note: The New ConTex Index is based on assessments of the current day charter rates of six selected container ship types, which are representative of their size categories: types 1,100 TEU and 1,700 TEU, with a charter period of one year, and types 2,500, 2,700, 3,500 and 4,250 TEU, with a charter period of two years.

As shown in 2025 and the first three quarters of 2026, geopolitical developments, trade policy shifts, energy markets, carrier responses and market fundamentals clearly interact to shape container freight rates.

Although new ship deliveries will increase the supply of ship capacity, freight rates will remain highly sensitive to changes in these factors overall.

5. Dry bulk shipping rates in 2025: A lower first half followed by substantial increases in the second half

Seasonal and industrial weakness weighed on dry bulk freight rates in early 2025, partly offset by longer-distance cargo movements

Dry bulk freight rates for commodities such as iron ore, coal, grains and several minor bulks averaged slightly below 2024 levels in 2025. Rates remained significantly volatile during the year, with a weak first half and a strong recovery in the second half. The Baltic Dry Index, which tracks spot freight rates across major dry bulk routes, averaged 1,681 points in 2025, 4 per cent below its 2024 average but 22 per cent above its 2023 average (figure III.5). Average bulk carrier earnings were about $13,900 per day for the year, slightly above the 10-year average.

Stronger shipments and longer-distance iron ore and bauxite trades supported a recovery in dry bulk freight rates in the second half of 2025

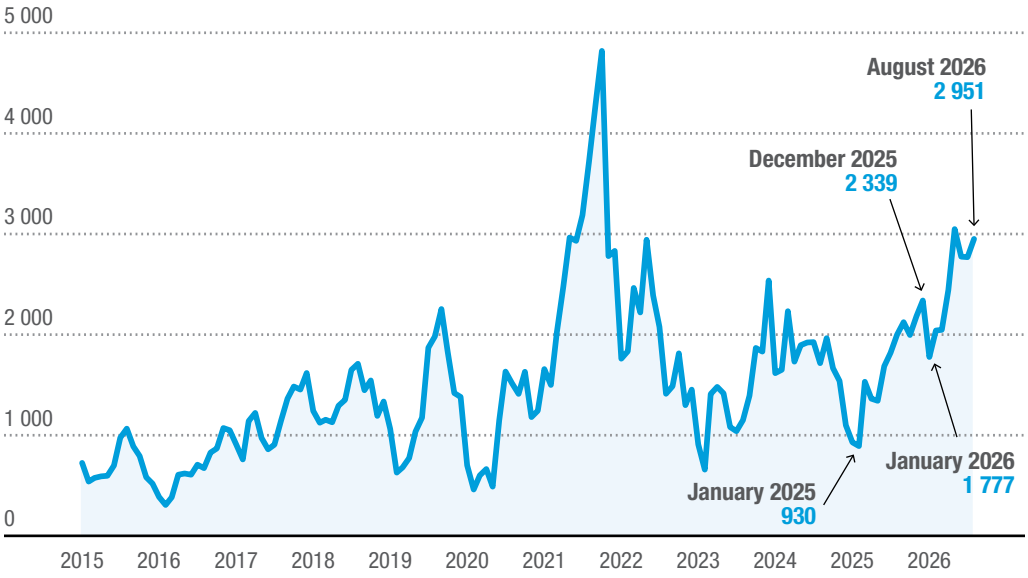
Market conditions were particularly weak at the beginning of the year. The Baltic Dry Index fell to an average of 930 points in January 2025, while bulk carrier earnings averaged about $7,800 per day that month and approximately $10,900 in the first half of the year, around 30 per cent below the same period in 2024 (Clarksons Research, 2025c and 2025d).

The drop in freight rates during the first half of the year reflected the seasonal reduction in cargo demand around the Lunar New Year, combined with adverse weather that disrupted iron ore production and exports from Australia in the first quarter of 2025. More broadly, lower rates reflected slower industrial activity in China, weaker steel production in several economies and lower Chinese coal imports, which softened dry bulk trade and vessel demand. Long-distance bauxite exports from Guinea, Brazilian iron ore exports and grain cargoes, however, partly offset these declines by increasing voyage distances (ton-miles) and supporting the use of Capesize vessels[1] (Clarksons Research, 2025d).

Freight rates and earnings increased in the second half of the year as weather-related disruptions eased, iron ore and bauxite shipments increased, and seasonal cargo demand rose. Longer-distance iron ore and bauxite trades also increased ton-mile demand, tightening the balance between vessel demand and available capacity and supporting higher vessel utilization and freight rates. Earnings rose across all major vessel classes, with Supramax[2] and Capesize vessels recording the largest increases, compared with first-half averages, of about 60 per cent. Coal shipments in 2025 remained below 2024 levels, however, while grain shipments varied by region and season and fleet growth limited the overall increase. By the end of 2025, the Baltic Dry Index briefly reached 2,845 points on 3 December. Average bulk carrier earnings touched about $19,500 per day in early December, the highest level in two years (Clarksons Research, 2025b and 2026c).

[1] These large dry bulk carriers are primarily used to transport iron ore and coal.
[2] These medium-sized bulk carriers transport a variety of commodities, including grains, fertilizers and coal.

Figure III.5
Baltic Dry Index, January 2015 to August 2026
(Index, monthly average)



Source: UNCTAD calculations, based on data from the Baltic Exchange.

6. Dry bulk shipping rates in 2026 and outlook: Higher commodity exports and longer voyages have raised freight rates; fleet growth may limit further increases while geopolitical factors add volatility

Dry bulk freight rates increased in the first eight months of 2026. The Baltic Dry Index averaged 2,482 points, 47 per cent above 2025, and reached 2,951 in August 2026. Bulk carrier earnings averaged about $18,200 per day, 31 per cent above 2025. Higher iron ore exports from Australia and Brazil, longer Atlantic-Asia voyages, and the start-up of iron ore exports alongside continued growth in bauxite exports from Guinea supported demand for Capesize vessels and freight rates. Higher grain and minor bulk shipments increased demand for Kamsarmax[3] and Ultramax vessels,[4] while coal shipments declined, partly offsetting those gains.

The situation in the Strait of Hormuz affected dry bulk freight rates through two channels: directly by reducing cargo volumes and ship carrying capacity on routes serving the Persian Gulf, and indirectly through higher bunker prices across the wider dry bulk market. Bulk carrier transits through the Strait fell sharply, interrupting grain imports and fertilizer shipments,[5] and reducing cargo and vessel demand on routes serving the Persian Gulf. Vessel delays in or near the Persian Gulf temporarily reduced effective ship capacity, while higher bunker prices raised voyage costs across the wider dry bulk market. As Persian Gulf trades represent about 4 per cent of global dry bulk volumes, the direct operational effects were largely concentrated on routes serving the

Strait of Hormuz disruptions had mixed effects on dry bulk freight rates, weakening regional cargo demand while raising global bunker costs

[3] These large dry bulk carriers are mainly used to transport coal, grains and iron ore.
[4] These medium-sized dry bulk carriers transport a variety of commodities, including grains, coal, fertilizers and other dry bulk cargoes.
[5] Dry bulk carriers carry fertilizers in solid form such as urea, sulfur and phosphate, while ammonia is carried on specialized liquefied gas carriers.

Fleet growth outpacing demand could weigh on dry bulk freight rates, while geopolitical disruptions sustain volatility

region, whereas the effect of fuel costs was broader (Clarksons Research, 2026d, 2026e and 2026f). Escalating security risks in the Black Sea from July 2026 added another source of disruption in grain shipments, reduced vessel availability, and increased freight and insurance costs on affected routes (Lloyd's List, 2026a; S&P Global, 2026a). Some grain flows were redirected towards alternative export gateways, including Baltic and other European ports (Popova and Stolyarov, 2026).

The outlook for dry bulk freight rates remains uncertain and volatile, depending on Asian imports of bulk commodities, voyage distances, vessel availability, fleet growth and fuel costs. Although China is expected to remain the dominant seaborne iron ore importer and a major coal importer, slower steel demand, expanding renewable energy capacity, and a greater domestic and land-borne coal supply may reduce its demand for seaborne coal (Clarksons Research, 2026f). This would weaken cargo and vessel demand for dry bulk commodities, putting downward pressure on freight rates. While growth in steel production and related raw material demand in India and South-East Asia could gradually increase dry bulk cargo volumes and vessel demand, it is unlikely to match the scale or pace of China's past construction-led expansion (Chatterjee, 2026) or to boost freight rates. Fleet capacity is projected to grow faster than ton-mile demand, which could limit further freight rate hikes.

Crude tanker earnings rose in 2025, while weaker demand and fleet growth weighed on product tanker markets

Geopolitical disruptions remain an important source of uncertainty. Volatility in dry bulk freight markets is likely to continue, depending on developments in the Strait of Hormuz and the Black Sea, and whether current disruptions are short or prolonged. In all cases, dry bulk freight rates will continue to be shaped by the interaction between commodity trade growth, voyage distances, fleet expansion and effective vessel availability, geopolitical factors and transport costs.

7. Tanker freight rates and earnings in 2025: Crude tanker earnings strengthened amid heightened geopolitical tensions, while product tanker markets weakened

Tanker freight markets remained volatile in 2025, with a clear divergence between crude and product tanker segments. Crude tanker earnings strengthened, supported by heightened geopolitical tensions, changing crude trade patterns, stronger late-year exports and limited fleet growth, although average crude tanker freight indices remained slightly below 2024 levels. Product tanker rates weakened, reflecting reduced demand for transport, fleet growth, shorter voyage distances, and lower ton-mile demand. The Baltic Dirty Tanker Index, which tracks crude oil tanker spot rates, averaged 1,069 points in 2025, 2 per cent below the 2024 average (figure III.6). The Baltic Clean Tanker Index, covering product tanker spot rates, averaged 667 points, 18 per cent below 2024. Average tanker earnings were broadly unchanged at around $34,900 per day, as a 22 per cent increase in crude tanker earnings, to about $52,600 per day, was largely offset by a 23 per cent decline in refined product tanker earnings, to around $23,300 per day (figure III.7).

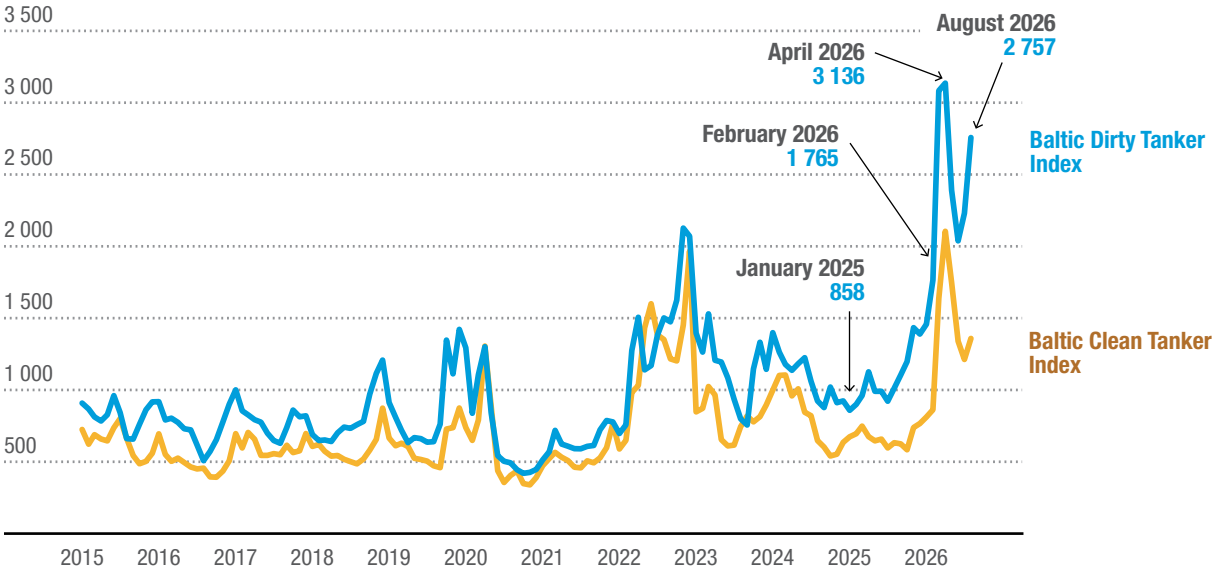
At the start of 2025, crude tanker rates and earnings remained relatively firm, reflecting limited fleet growth, changes in crude trade patterns and tighter ship carrying capacity availability. This followed additional restrictions announced on 10 January covering two oil producers and 183 vessels, including many oil tankers (United States, Department of the Treasury, 2025), combined with expectations that the planned easing of Organization of Petroleum Exporting Countries Plus (OPEC+) production cuts would increase crude exports (Clarksons Research, 2025e).

Refined product tanker rates fell as trade growth remained slow and fleet capacity expanded. The partial return of tanker traffic to shorter routes through the Red Sea and Gulf of Aden reduced the additional ton-mile demand that supported higher rates in 2024 (Clarksons Research, 2025e).

Geopolitical tensions and associated concerns about the security of maritime traffic in the Strait of Hormuz mounted in June 2025. Higher war-risk insurance premiums increased voyage costs, while greater operational risks reduced the number of vessels offered for regional voyages. Average tanker earnings reached $40,845 per day on 23 June 2025, with very large crude carrier earnings on the Middle East–China route exceeding $75,000 per day, their highest level in more than two years. Long-range 2 (LR2) product tankers[6] saw their daily earnings on the Middle East–Japan route rise from about $20,000 earlier in June to around $55,000 by 23 June 2025 (Clarksons Research, 2025h).

Crude tanker rates and earnings rose sharply in the final quarter of 2025, peaking in late November and remaining high in December 2025. Average tanker earnings were around $50,800 per day in December 2025, including about $84,600 per day for crude tankers and $28,500 per day for refined product tankers. Rising crude exports from the Middle East and South America, particularly Brazil and Guyana; stronger Asian import demand and stock building; limited fleet growth and seasonally stronger winter demand supported rates (Clarksons Research, 2025f and 2025g). Further oil trade restrictions announced on 22 October 2025 by a major economy prompted some importers to change crude sourcing, adding demand for vessels able to carry affected cargoes, particularly very large crude carriers (Clarksons Research, 2025f; United States, Office of Foreign Assets Control, 2025). Longer voyages and the switching of some refined product tankers to crude oil transport also supported refined product tanker earnings (Clarksons Research, 2025f).

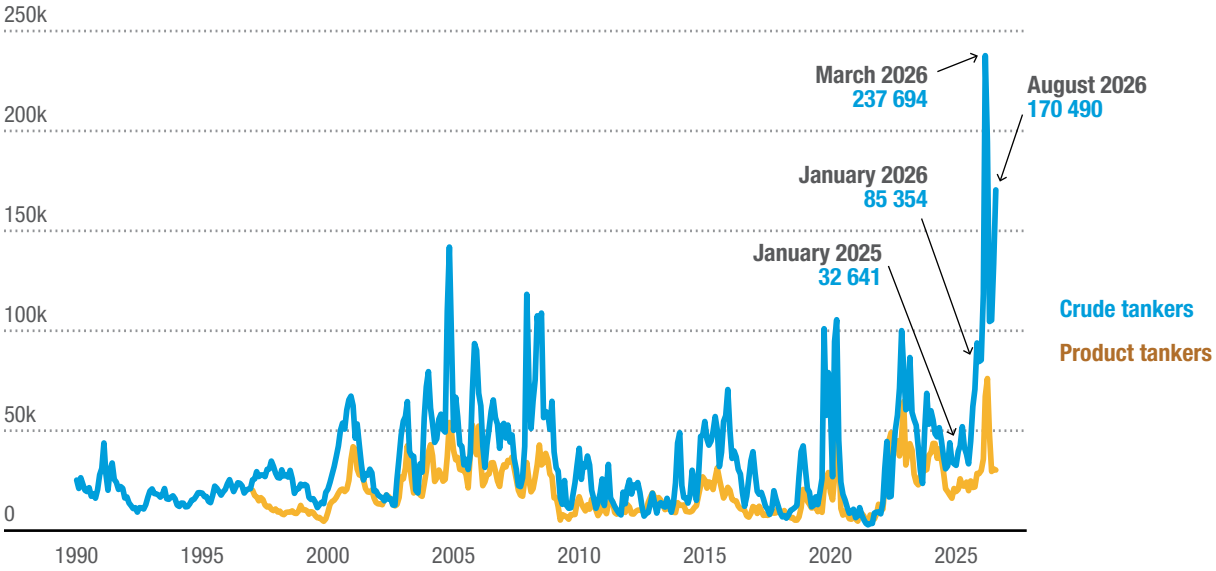
Figure III.6
Baltic Dirty Tanker Index and Baltic Clean Tanker Index, January 2015 to August 2026
(Index, monthly average)



Source: UNCTAD calculations, based on data from Baltic Exchange.

[6] These large vessels are typically used to transport refined petroleum products such as diesel and jet fuel.

Figure III.7
Weighted average earnings, crude and product tankers, January 1990 to August 2026
(United States dollars per day, monthly average)



Source: UNCTAD, based on data from Clarksons Research Shipping Intelligence Network.

8. Tanker freight rates and earnings in 2026 and outlook: The Strait of Hormuz disruption has driven tanker rates to exceptionally high levels

Tanker freight rates and earnings remained exceptionally high in the first eight months of 2026, reflecting constrained effective vessel capacity amid the disruption in the Strait of Hormuz. The Baltic Dirty and Clean Tanker Indices averaged 2,357 and 1,384 points, respectively, more than twice their 2025 averages. From January to August 2026, crude oil tanker earnings averaged about $143,700 per day and refined product tanker earnings about $43,500 per day.

Tanker earnings were already high at the start of 2026 and increased further following the disruption in the Strait of Hormuz. Crude oil tanker earnings shot up from $85,354 in January to $118,448 in February 2026, reflecting trade restrictions in late 2025, higher exports from the Middle East and Latin America, and stronger Chinese imports (Clarksons Research, 2026g and 2026h). Refined product tanker earnings rose from $30,064 in January to $35,778 in February 2026, supported by increased longer-distance trade from the Persian Gulf to East Asia, vessel relocation to higher-earning crude oil trades and weather-related disruptions to vessel operations in north-west Europe (Affinity Research LLP, 2026; Clarksons Research, 2025f, 2026g and 2026h).

The tanker market tightened further in March and April 2026 as the effective supply of ship carrying capacity reduced, and voyage costs increased owing to the disruption and the rise in war-risk insurance premiums (Mohindru, 2026). The Baltic Dirty and Clean Tanker Indices, respectively, peaked at 3,727 on 27 March and 2,202 on 21 April 2026. Crude oil tanker earnings soared to $237,694 per day in March 2026 (a 178 per cent increase from January levels) and refined product tanker earnings reached $76,115 per day in April.

Crude oil tanker rates and earnings eased from their March and April peaks through early June 2026 as lower Persian Gulf exports and weaker Chinese imports outweighed the effects of constrained vessel availability. Following the agreement reached in June, aimed at resolving the conflict, tanker transits through the Strait of Hormuz partially resumed, although traffic remained well below pre-conflict levels. Crude oil tanker freight rates remained elevated and volatile, however, particularly for very large crude carriers. The recovery was short-lived as renewed disruptions prevented the sustained normalization of transit through the Strait of Hormuz. Crude tanker rates subsequently increased to record highs in July and August 2026, supported by constrained vessel availability, longer and more complex trading patterns and associated logistics operations, and elevated risk-related costs (Lloyd's List, 2026b; S&P Global, 2026b). Refined product tanker markets remained comparatively weaker as constrained exports continued to limit transport demand (Chopping, 2026), although rates remained high.

Tanker rates are expected to remain high and volatile relative to the period before the 2022 war in Ukraine, which affected energy markets. Rates continue to be shaped by the interactions among geopolitical developments, oil trade patterns, fleet expansion and energy market conditions. A gradual resumption of vessel transits through the Strait of Hormuz could temporarily keep rates elevated as delayed crude oil shipments are transported and vessels return to Persian Gulf loading areas, potentially reducing vessel availability on other routes. Longer-distance crude shipments from Atlantic exporters to Asia and the rebuilding of commercial and emergency oil stocks could further increase demand and push freight rates up.

Alternatively, continued disruption in the Strait of Hormuz could depress rates by reducing Persian Gulf exports and causing vessels waiting outside the region to move to other loading areas. Developments around the Bab el-Mandeb Strait and Red Sea could add further volatility to tanker freight rates, with longer or diverted voyages increasing ton-mile demand and boosting rates. Disruptions that constrain Saudi crude oil exports could reduce cargo availability and tanker demand, putting downward pressure on rates.

Continued Strait of Hormuz disruptions pushed crude tanker rates to record highs, while refined product tanker markets remained comparatively weaker but high by historical levels. The outlook continues to be volatile

B. Fuel costs as a transport cost determinant

Maritime fuel costs on routes serving the Persian Gulf and others increased because of disruptions to operations in the Strait of Hormuz. Higher fuel costs drive up import costs for food, energy, fertilizers and manufactured goods, potentially inflating consumer prices and reducing real income. Economies that depend heavily on imports or a limited number of gateways are more exposed to freight rate and surcharge increases and their impacts. The following section examines how increased bunker fuel prices are transmitted through shipping networks and affect transport costs across economies. The analysis includes a simulation of the impacts on consumer prices and real income through higher transport costs for imported goods.

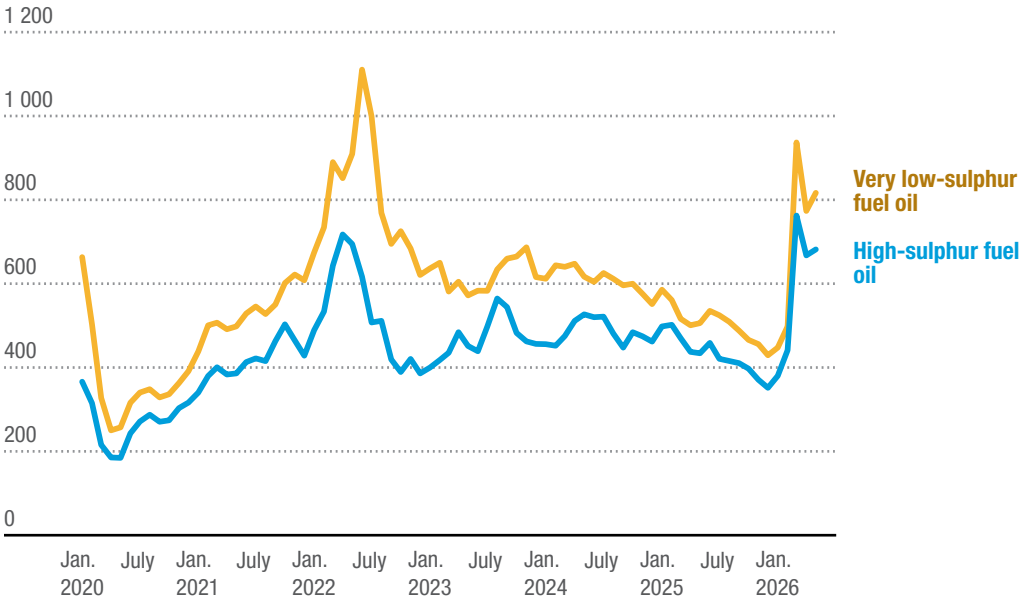
1. Bunker prices increased sharply after security conditions deteriorated in the Persian Gulf area

Consistent with other key fuel price indices, Singapore bunker prices, a global reference for marine fuel, declined during 2025 and

early 2026. High-sulphur fuel oil averaged $484 per ton in 2024, $431 in 2025 and $411 in January–February 2026. Very low-sulphur fuel oil averaged $610, $506 and $473 per ton, respectively (figure III.8). With escalating conflict in the Middle East, maritime transport operations in the Strait of Hormuz came under pressure, causing March fuel price averages to jump sharply.

High-sulphur fuel prices increased by 86 per cent to $763 per ton, the highest monthly average since the data series began in 1990. Very low-sulphur fuel prices rose by 98 per cent to $937, the highest monthly average since July 2022. Prices eased slightly in April and May but remained above 2025 and early 2026 levels.

Figure III.8
Bunker prices in Singapore of high-sulphur and very low-sulphur fuel oil, January 2020 to May 2026



(United States dollars per ton, monthly average)

Source: UNCTAD, based on data from Clarksons Research Shipping Intelligence Network.

2. Fuel costs remain a large and volatile component of shipping costs

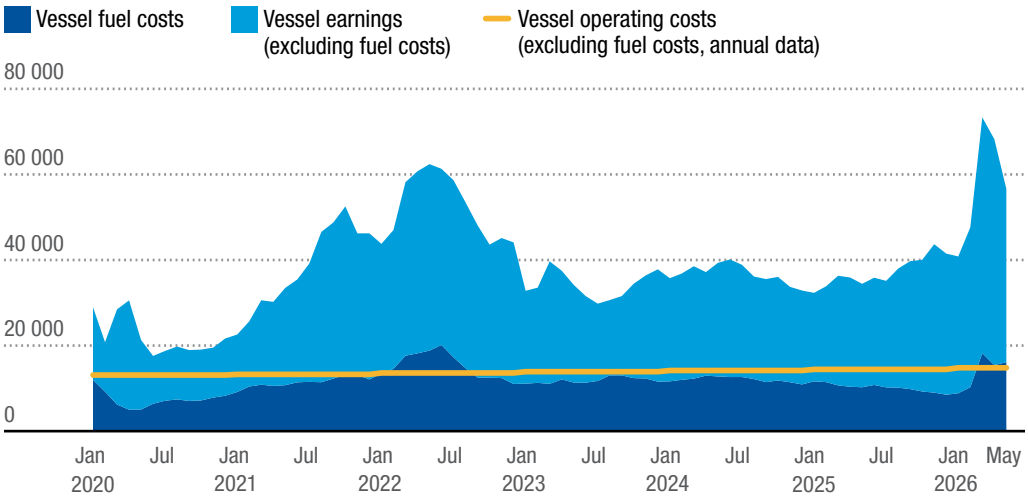
Higher bunker prices increase voyage costs and may therefore raise the maritime transport costs paid by shippers through freight rates, bunker adjustment mechanisms and other fuel-related charges. At the ship level, fuel is a major voyage expense, distinct from recurring operating costs for crew, maintenance, insurance, management and registration. Carrier-reported costs cover broader activities, including fuel, vessel operation and chartering, container leasing, port and terminal services, and cargo handling.

At the ship level, estimated fuel costs across containerships, bulk carriers and tankers averaged about $11,300 per ship per day in 2020–2025, exceeding recurring non-fuel operating costs[7] of about $6,200 and equalling about 45 per cent of average

[7] Ship-level operating costs comprise recurring expenses for crew, stores, spares, repairs and maintenance, insurance, registration, management and administration, but exclude fuel, voyage specific charges and dry-docking costs (Clarksons Research, 2026j).

vessel earnings[8] of $25,400 (figure III.9).[9] In January–May 2026, fuel costs increased to $13,800, while vessel earnings averaged $43,600 per ship per day. During March–May, when bunker prices were highest, averages reached $16,600 and $49,500, respectively. These comparisons illustrate the scale of fuel costs and not changes in profitability. Vessel earnings are calculated after deducting fuel and specified voyage costs but before company-level costs. The figures therefore do not indicate whether shipping companies benefited from the gap between increases in fuel costs and earnings.

Figure III.9
Average vessel fuel costs, earnings and operating costs, weighted average of the containership, bulk carrier and tanker sectors, January 2020 to May 2026
(United States dollars per ship per day)



Source: UNCTAD calculations, based on Clarksons Research Shipping Intelligence Network and IMO (2020).

Note: Average fuel cost per vessel is estimated by multiplying average fuel consumption by fuel prices. Fuel consumption estimates extend IMO (2020) baseline data to account for changes in average vessel speed and fleet composition by ship type. Fuel costs are estimated by ship type and size category. Earnings by ship type and operating costs by ship type and size category are from Clarksons Research. UNCTAD aggregates these estimates using the number of fleets in each category as weights.

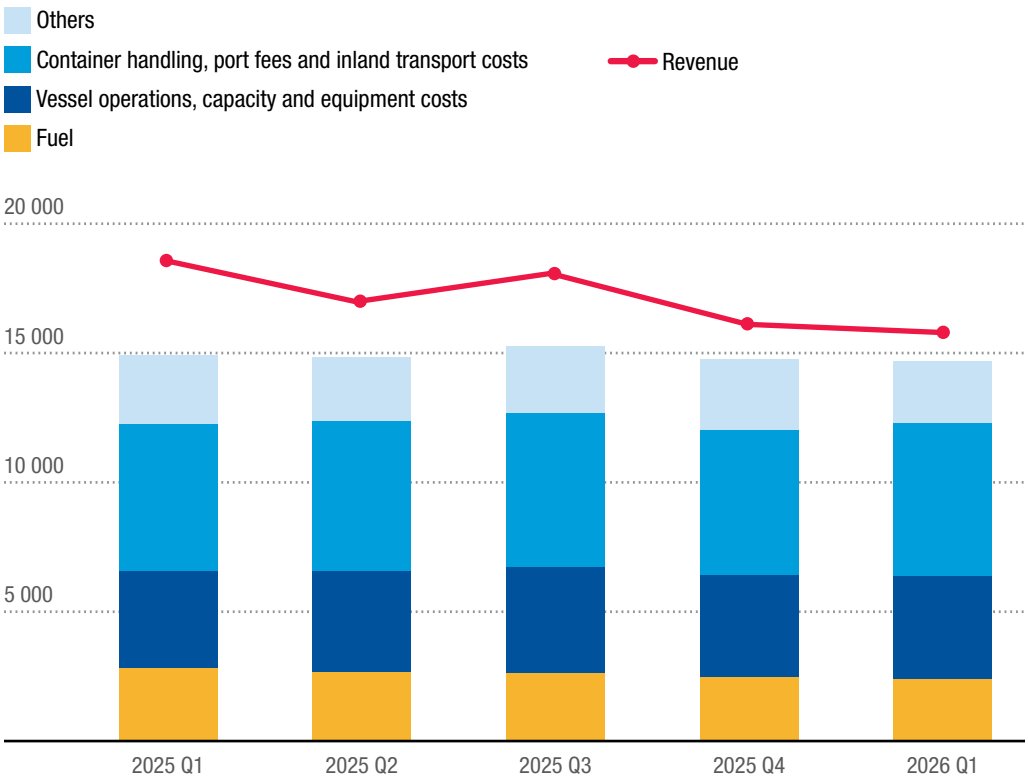
At the carrier level, fuel costs represented 16 to 20 per cent of reported costs for providing container shipping services in 2025 and the first quarter of 2026 (figure III.10).[10] The denominator includes expenses for vessel operation and chartering, container leasing, container handling and haulage, and administration. These are aggregate carrier-level expenses, not costs for an individual vessel or voyage, which vary by vessel characteristics and operating profile. Aggregate fuel expenses declined from $2.85 billion in the first quarter of 2025 to $2.48 billion in the fourth quarter and $2.39 billion in the first quarter of 2026. The figure for the first quarter of 2026 did not capture the full bunker price increase from March because carriers consumed fuel from inventories purchased earlier at lower prices.

[8] Voyage earnings equal freight revenue net of commission and voyage costs, divided by voyage days. Voyage costs comprise fuel, port and canal costs, and applicable EU ETS and FuelEU Maritime costs (Clarksons Research, 2026j).

[9] The comparison does not allocate total shipping costs among components because operating costs, fuel costs and earnings are measured on different bases. It shows the scale of the fuel cost channel.

[10] The compiled sample includes Maersk, Hapag-Lloyd, HMM and Yang Ming.

Figure III.10
Total quarterly revenue and cost of shipping services of selected liner shipping companies, first quarter of 2025 to first quarter of 2026
(Millions of United States dollars)



Source: UNCTAD calculations, based on the financial statements of Maersk, Hapag-Lloyd, HMM and Yang Ming. For Maersk and Hapag-Lloyd, only the ocean and liner shipping segments, respectively, are included. HMM and Yang Ming are included on a consolidated basis because container shipping is their principal business.

Note: Cost definitions and terminology differ among carriers. UNCTAD mapped reported items to the closest common categories. Revenue comprises mainly ocean freight. Vessel operations, capacity and equipment costs include vessel operation and cargo space costs, including charter hire, purchased vessel slots, crew, repairs, ship stores and insurance, as well as container equipment leasing, repositioning and storage. Container handling, port fees and inland transport costs include container handling, loading and unloading, stevedoring, feeder services, inland transport, and port and canal charges. Other costs comprise depreciation and direct operating costs not assigned to these categories.

3. Fuel cost exposure has been uneven across economies

Higher bunker prices increase fuel costs on each maritime voyage. For goods passing through transshipment ports, these costs accumulate across successive maritime legs and can be passed on to shippers through freight rates and fuel-related surcharges (UNCTAD, 2010). UNCTAD therefore estimates maritime fuel costs in ad valorem terms using last-leg and all-leg measures (see technical annex, sections 1 and 2). The last-leg measure covers only the maritime voyage delivering goods to the importing economy, whether directly from the economy of origin or an intermediary transshipment port. The all-leg measure also includes preceding maritime voyages from the origin. The two measures are identical for direct shipping but differ for transshipped goods, showing the additional fuel costs accumulated through transshipment and indirect maritime connections.

Figure III.11 separates fuel costs based on average bunker prices from 1 January to 27 February 2026, before disruption around the Strait of Hormuz intensified, from additional costs resulting from higher average bunker prices from 28 February to 30 June. For the last maritime leg, initial fuel cost shares were 0.8 per cent of the imported goods value globally, 0.7 per cent for small island developing States and 1.5 per cent for the least developed countries. Higher bunker prices added 0.6, 0.5 and 1.1 percentage points, respectively, raising the shares to 1.3,[11] 1.2 and 2.6 per cent. When all maritime legs were included, initial fuel cost shares were 1.9 per cent globally, 2.0 per cent for small island developing States and 2.8 per cent for the least developed countries. Higher bunker prices from 28 February to 30 June added 1.4, 1.5 and 2.0 percentage points, respectively, raising the shares to 3.2, 3.5 and 4.8 per cent.

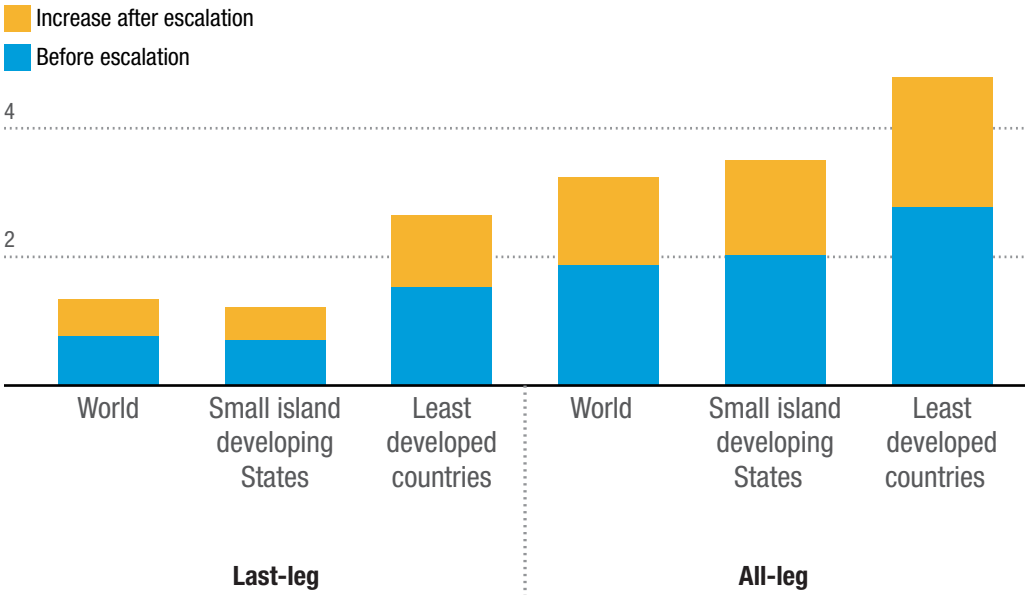
The 1.4 percentage point global increase across all maritime legs (figure III.11) is substantial relative to total international maritime transport costs, estimated in ad valorem terms at 11.1 per cent of traded goods value globally in 2021 (UNCTAD, 2026b). Adding the fuel cost increase to this benchmark would raise total ad valorem maritime transport costs to about 12.5 per cent. The magnitude of the fuel cost increase is comparable with recent tariff changes because both are expressed as shares of goods value. Between 2024 and February 2026, changes in United States tariffs increased average tariffs on global trade by 1–2 percentage points in many product groups and by 3–4 percentage points in several manufacturing sectors (UNCTAD, 2026c). This comparison indicates relative scale rather than economic effects because tariff rates differ by product, while the maritime fuel cost estimate is a global average across seaborne traded goods.

The comparison between last-leg and all-leg measures shows that the higher estimates for small island developing States and least developed countries reflect import and route characteristics. For the former, the last-leg fuel cost share (1.2 per cent, including the impact of higher bunker prices) was slightly below the global average (1.3 per cent), but the all-leg share was higher (3.5 per cent for small island developing States compared to 3.2 per cent on average globally), indicating the importance of preceding voyages. For the latter, both shares exceeded the corresponding global averages, with the difference widening when all maritime legs were included. Longer routes, fewer direct maritime services and greater reliance on transshipment increase cumulative fuel use, while heavier or lower-value imported goods raise fuel costs relative to goods value. Larger all-leg fuel cost shares indicate greater vulnerability to transport cost increases from higher bunker prices and the need to assess fuel-related charges across the complete maritime route, rather than only the last leg.

Small island developing States and least developed countries face greater fuel cost vulnerability across complete maritime routes

[11] The total figure does not correspond to the sum of its components due to rounding.

Figure III.11
Average maritime fuel cost before and after the Strait of Hormuz disruption, by economy grouping
(Percentage of goods value)



Source: UNCTAD calculations, based on AIS-derived voyage data provided by Marine Benchmark; IMO (2020); Clarksons Research Shipping Intelligence Network; UNCTAD seaborne trade data; and UNCTAD trade and transport data.

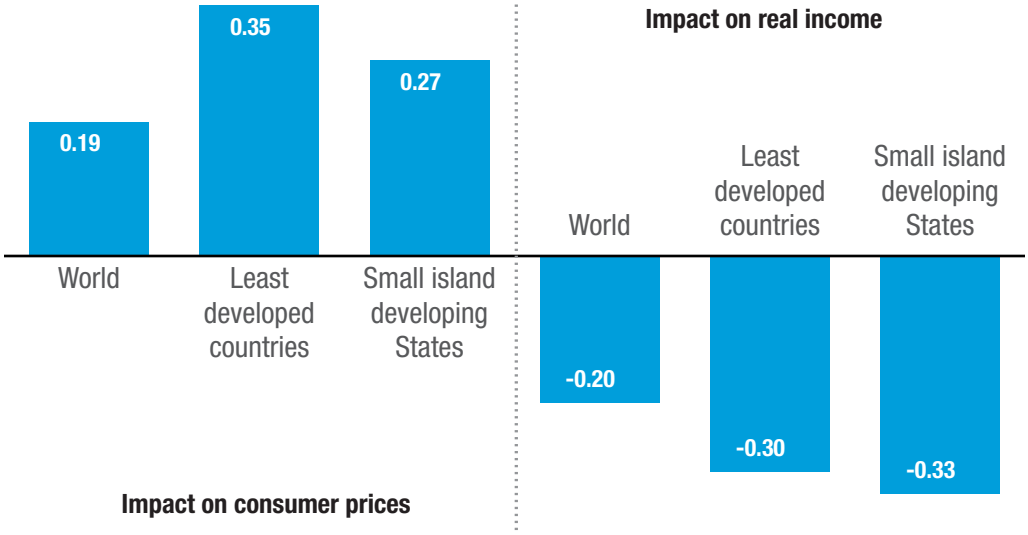
Note: The last-leg measure covers only the maritime voyage delivering goods to the importing economy, directly from the economy of origin or through a transshipment port. The all-leg measure also includes preceding maritime voyages from the origin. The two measures are identical for direct shipping but differ for transshipped goods. See the technical annex, sections 1 and 2, for the estimation methodology.

4. Higher maritime transport costs have impacts on consumer prices and real income, with greater impacts on the least developed countries and small island developing States

By increasing ship operating costs, which are passed to shippers and reflected in the higher delivered prices of imported goods, including production inputs, higher maritime fuel costs can raise consumer prices and reduce real income. To estimate these effects, the increase in maritime fuel costs across all maritime legs, from 1 January to 27 February 2026 (two-month average) to 28 February to 30 June 2026 (four-month average), was applied to bilateral maritime transport costs in a quantitative trade and transport network model (see technical annex, section 3). The transport network component allows vessels to shift between routes in response to fuel cost changes on individual voyage legs. Assuming that the increase is sustained until around the end of 2027, the global consumer price level is simulated to increase by 0.19 per cent (figure III.12). The simulation isolates the maritime fuel cost channel and does not apply higher oil prices directly to household energy use, domestic transport, electricity generation or other production activities. Changes in household expenditure and production costs arise only through increased maritime transport costs for imported goods.

Consumer prices are estimated to increase by 0.27 per cent in small island developing States and 0.35 per cent in the least developed countries.[12] Real income is estimated to decline by 0.20 per cent globally, 0.33 per cent in small island developing States and 0.30 per cent in the least developed countries. The larger estimated effects in these economy groups reflect their greater reliance on imported goods for consumption and domestic production, together with higher maritime fuel costs across all voyage legs relative to imported goods value.

Figure III.12
Simulated impact of the maritime fuel cost increase on consumer prices and real income, selected economic groupings
(Percentage)



Source: UNCTAD calculations, based on AIS-derived voyage data provided by Marine Benchmark; IMO (2020); Clarksons Research Shipping Intelligence Network; UNCTAD seaborne trade data; UNCTAD trade and transport data; and the GTAP Data Base (Aguiar et al., 2023).

Note: For this analysis, the small island developing States exclude Singapore. Real income refers to model-based welfare, measured as real income available for final expenditure. Results are percentage changes from the baseline. See the technical annex for the estimation methodology.

Another simulation exercise assesses the impact of observed freight rate changes, instead of only increased maritime fuel costs. Observed freight rates incorporate fuel cost changes through bunker adjustment factors, other applicable surcharges and voyage rate calculations. The simulation compares average container, dry bulk, crude oil tanker and refined product tanker freight rates for specific routes based on the two-month average from 1 January to 27 February 2026 and the four-month average from 28 February to 30 June 2026.[13] Each voyage leg is matched to the most representative freight rate series. Freight rate changes are assumed to be sustained until around the end of 2027.

[12] A separate UNCTAD assessment estimates that a 50 per cent oil price increase, with import quantities held at 2024 levels, would raise the annual net oil import bill of 65 net oil-importing least developed countries and small island developing States by $20.4 billion (UNCTAD, 2026a). Other studies examine broader inflation effects. An analysis of 72 developed and developing economies associates a 10 per cent global oil price increase with an average 0.4 percentage point increase in domestic inflation during the same year, with no statistically significant effect after two years (Choi et al., 2017). These broader oil price effects are excluded from the simulation, which covers maritime fuel costs incurred in transporting imported goods.

[13] Between the two periods, the average SCFI comprehensive, Baltic Dry, Baltic Dirty Tanker and Baltic Clean Tanker indices increased by 55, 35, 71, and 107 per cent, respectively. The simulation uses a route specific series rather than applying these aggregate changes uniformly.

Around the end of 2027, consumer prices are simulated to increase by 0.87 per cent globally, 1.67 per cent in the least developed countries and 1.39 per cent in small island developing States. As imported goods account for a larger share of consumption in both economy groupings,[14] transport cost increases have a larger impact on consumer prices and raise domestic production costs through imported inputs.

[14] In the model calibration, directly imported goods account for about 14 per cent of consumption expenditure in the least developed countries and 16 per cent in small island developing States, excluding Singapore, compared with 8 per cent globally.



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Technical annex
Potential implications of higher maritime fuel costs for transport costs and the economy

This annex explains methods used in sections B.3 and B.4 to estimate last-leg and all-leg fuel costs and assess the effects of higher maritime fuel and freight costs on consumer prices and real income.

The methodology proceeds in four steps. First, voyage-level fuel costs and freight rate changes are estimated or matched to individual voyage legs. Second, bilateral trade is allocated across direct and transshipment routes. Third, fuel costs are summed within each route and averaged using estimated route shares to obtain bilateral all-leg fuel costs. Fourth, voyage-leg fuel cost changes and matched freight rate changes are applied separately to the transport network, and the resulting bilateral transport cost changes are introduced into the quantitative trade model to estimate effects on consumer prices and real income.

1. Estimating voyage-level fuel costs and the last-leg measure

Voyage-level fuel costs were estimated using baseline voyage data derived from the Automatic Identification System (AIS) and provided by Marine Benchmark, covering vessel specifications, voyage duration, distance and estimated cargo volume, together with ship type fuel consumption parameters from IMO (2020).

Relevant ship type parameters were applied to the voyage data to estimate fuel consumption, which was then multiplied by the applicable bunker price. The resulting costs were aggregated by destination economy using cargo volumes as weights to estimate last-leg fuel costs. To express these costs in ad valorem terms, cargo volumes were converted into goods values using bilateral unit value data from UNCTAD trade and transport data. Estimated fuel costs were then divided by the value of the goods carried.

2. Allocating bilateral trade across maritime routes

Voyage-level estimates identify cargo volumes and fuel costs by leg, while UNCTAD seaborne trade data identify volumes between origin and destination economies. These data sets are combined by allocating bilateral trade to the voyage legs on which it is carried, enabling an estimation of fuel costs for the complete route.

Estimating route shares, voyage-leg traffic and transport costs

An explicit shipping network model allocates bilateral trade among possible routes. It follows the frameworks of Ganapati et al. (2024) and Ludwig (2025), which extended Allen and Arkolakis (2022) and the quantitative trade model of Eaton and Kortum (2002). The share of route r in trade from economy i to economy j is:

$$\frac{\pi_{ij,r}}{\sum_{r' \in R_{ij}} \pi_{ij,r'}} = \frac{\prod_{l=1}^{K_r} t_{r_{l-1},r_l}^{-\theta}}{\sum_{r' \in R_{ij}} \prod_{l=1}^{K_{r'}} t_{r'_{l-1},r'_l}^{-\theta}} \quad (1)$$

where, t_{r_{l-1},r_l} is the voyage-leg transport cost from location r_{l-1} to r_l, $\pi_{ij,r}$ is the share of economy j's total imports originating in economy i and carried on route r, and R_{ij} is the set of routes between the two economies. K_r is the number of legs in route r and θ is the trade elasticity.

When voyage-leg fuel costs change, the network model recalculates route shares, allowing vessel traffic to shift between direct and transshipment routes.

Voyage-leg transport costs t_{r_{l-1},r_l} are estimated by the generalized method of moments using the following moment conditions:

$$\log(\hat{\Xi}_{kl}(\hat{A}(\rho)|\mathrm{X},\mathrm{Y},\theta)) - \log(\Xi_{kl}^{data}) \tag{2}$$

where, $\hat{\Xi}_{kl}$ and Ξ_{kl}^{data} denote estimated and observed traffic on the voyage leg from k to l. Matrix X contains bilateral seaborne trade, and Y contains the explanatory variables used to estimate t_{r_{l-1},r_l}.

Estimated traffic $\hat{\Xi}_{kl}$ is:

$$\hat{\Xi}_{kl} = \sum_i \sum_j \pi_{ij}^{kl} X_{ij} = \sum_i \sum_j \frac{b_{ik} a_{kl} b_{lj}}{b_{ij}} X_{ij} = \mathrm{A} \odot (\mathrm{B}' \cdot (\mathrm{X} \odot \mathrm{B}^{\circ -1}) \cdot \mathrm{B}') \tag{3}$$

Matrix A has elements $a_{kl} \equiv t_{kl}^{-\theta}$, while $\mathrm{B} \equiv \sum_{K=0}^{\infty} \mathrm{A}^K = (\mathrm{I} - \mathrm{A})^{-1}$ is the Leontief inverse. Its element $b_{ij} = \tau_{ij}^{-\theta}$ represents average transport costs across possible routes from economy i to j, accumulated over all voyage legs within each route, raised to the power of $-\theta$.[15] The operators $\odot$, $^{\circ -1}$ and $\cdot$ denote element-wise multiplication, element-wise inverse and matrix multiplication, respectively.

Voyage-leg transport costs t_{kl} are estimated as:

$$t_{kl}^{-\theta} = \frac{1}{1 + \exp(\mathrm{Y}\rho)} \tag{4}$$

Matrix elements $\mathrm{Y}\rho$ are fitted values from an auxiliary regression resembling a gravity equation:

$$\mathrm{Y}\rho = \rho_0 + \rho_1 \cdot \ln d_{kl} + \rho_2 \cdot \ln \Xi_{kl} + \rho_3 \cdot \ln \Xi_k + \rho_4 \cdot \ln \Xi_l + \rho_5 \cdot 1_{\text{backhaul}} + \rho_6 \cdot 1_{\{k,l \in \text{land border}\}} + \rho_7 \cdot 1_{\{k,l \in \text{landlocked}\}} \tag{5}$$

In equation 5, the explanatory variables are average sea distance, $\ln d_{kl}$, voyage-leg traffic, $\ln \Xi_{kl}$, outgoing and incoming traffic, $\ln \Xi_k$ and $\ln \Xi_l$, and indicators for reverse direction traffic imbalance, a shared land border and landlocked status. Parameters $\rho_1 - \rho_7$, with ρ_0 as the intercept, are estimated by the generalized method of moments by minimizing the weighted quadratic form of the moment conditions in equation 2.

Linking port-level voyages to economy-level trade

Equation 3 assumes that both traffic and trade are observed at the level of the economy. This report extends the equation to combine port-level voyage traffic with economy-level bilateral trade:

$$\hat{\Xi}_{kl} = \mathrm{A} \odot ((\mathrm{D} \cdot \mathrm{B})' \cdot (\mathrm{X} \odot (\mathrm{D} \cdot \mathrm{B} \cdot \mathrm{D}')^{\circ -1}) \cdot (\mathrm{B} \cdot \mathrm{D}')') \tag{6}$$

Matrix D maps n_p ports to n_e economies and aggregates elements of B for ports in the same economy. Matrices A and B are defined at the port level with dimensions $n_p \times n_p$, while X is defined at the economy level with dimensions $n_e \times n_e$. The extended model retains the moment conditions in equation 2 but calculates the estimated traffic entering those conditions using equation 6 instead of equation 3.[16]

[15] This measure is proportional to the expected value of bilateral transport costs accumulated over all voyage legs before route specific productivity shocks are realized.

[16] The correlation between estimated and observed log-transformed port-to-port traffic was 0.89.

Extending the route share calculation to additive voyage-leg costs

The original model assumes multiplicative transport costs. This report applied and extended the additive formulation developed in online appendix D.1 of Allen and Arkolakis (2022), allowing fuel costs on successive voyage legs to be summed across a complete route.[17] Equation 6 remains unchanged, but $\mathrm{A} = [a_{kl} \equiv \exp(-\theta t'_{kl})]$ and $\mathrm{B} = [b_{kl} = \exp(-\theta \tau'_{kl})]$, where t'_{kl} and τ'_{kl} correspond to $t_{kl} - 1$ and $\tau_{kl} - 1$, respectively, in the multiplicative formulation (the left hand side of equation 4 is replaced by $\exp(-\theta t'_{kl})$). The route share is:

$$\frac{\pi_{ij,r}}{\sum_{r' \in R_{ij}} \pi_{ij,r'}} = \frac{\prod_{l=1}^{K_r} \exp(-\theta t'_{r_{l-1},r_l})}{\sum_{r' \in R_{ij}} \prod_{l=1}^{K_{r'}} \exp(-\theta t'_{r'_{l-1},r'_l})} = \frac{a_{i,r_1} \times \ldots \times a_{r_{l-1},r_l} \times \ldots \times a_{r_{K_r-1},j}}{b'_{ij}}$$

where b'_{ij} is the (i,j) element of $\mathrm{D} \cdot \mathrm{B} \cdot \mathrm{D}'$. The unchanged matrix representation allows the same computational procedure.

3. Estimating route share-weighted cumulative fuel costs

Fuel or freight costs are summed across the voyage legs of each route and averaged across routes using the shares estimated above. The resulting route share-weighted average ad valorem fuel cost from economy i to economy j is:[18]

$$\tau'^{fuel}_{i,j} = \sum_{r \in R_{ij}} \frac{\pi_{ij,r}}{\sum_{r' \in R_{ij}} \pi_{ij,r'}} \sum_{m=1}^{K_r} t'^{fuel}_{r_{m-1},r_m} = \frac{1}{b'_{ij}} \sum_{i_p \in N_p^i} \sum_{j_p \in N_p^j} \sum_{K=0}^{\infty} \sum_{L=0}^{K-1} \sum_{k \in N_p} \sum_{l \in N_p} (\mathrm{A}^L)_{i_p,k} c_{kl} (\mathrm{A}^{K-L-1})_{l,j_p} \quad (7)$$

$$\Leftrightarrow \quad \mathrm{T}'^{fuel} = (\mathrm{D} \cdot \mathrm{B} \cdot \mathrm{D}')^{\circ -1} \odot [\mathrm{D} \cdot (\mathrm{B} \cdot \mathrm{C} \cdot \mathrm{B}) \cdot \mathrm{D}']$$

The term $t'^{fuel}_{r_{m-1},r_m}$ denotes the ad valorem fuel cost on the voyage leg from port r_{m-1} to port r_m. Its sum from $m = 1$ to K_r gives the cumulative fuel cost along route $r \in R_{ij}$.

N_p^i is the set of ports in economy i, i_p is a port in that set and N_p is the set of all ports. In the route decomposition on the right-hand side of the first line of equation 7, K is the total number of voyage legs and L is the number preceding the selected leg from port k to port l. The element $(\mathrm{A}^L)_{i_p,k}$ combines the weights of all L-leg routes from port i_p to port k, while $(\mathrm{A}^{K-L-1})_{l,j_p}$ does the same for the remaining legs from port l to port j_p. Each element $c_{kl} \equiv a_{kl} t'^{fuel}_{kl}$ combines the route weight and fuel cost of a voyage leg and forms matrix $\mathrm{C} \equiv [c_{kl}]$. Matrix T'^{fuel} contains the resulting weighted average fuel cost for each origin-destination economy pair. Because $\mathrm{B} = \sum_{h=0}^{\infty} \mathrm{A}^h$, $\mathrm{B} \cdot \mathrm{C} \cdot \mathrm{B}$ incorporates route weights of preceding and following each selected leg.

Equation 7 is evaluated based on the two-month average from 1 January to 27 February 2026 and the four-month average from 28 February to 30 June 2026 to estimate cumulative fuel costs across all maritime legs in each period and the resulting change, as presented in figure III.11. It sums fuel costs across voyage legs and averages them using baseline route shares, which remain fixed between the two periods. Allowing route shares to adjust would produce a slightly smaller estimated fuel cost increase, but the difference is small under the additive transport cost formulation.

[17] Online appendix D.1 of Allen and Arkolakis (2022) derives the expected value of origin–destination transport costs with additive transport costs. This report extended the formulation by making the implied route shares explicit and using them to sum fuel or freight costs across the legs of each route and average them across routes.

[18] The derivation follows that of link intensity, π_{ij}^{kl}, in appendix A.2 of Allen and Arkolakis (2022).

4. Estimating impacts on the economy

Changes in consumer prices and real income were estimated using the quantitative trade model with a transport mode choice developed for the *Review of Maritime Transport 2025*. Technical annex 2 in chapter III presents the equations, baseline data and exact-hat solution method (UNCTAD, 2025). The model distinguishes maritime from non-maritime transport and allows delivered import prices to affect sourcing, input costs, domestic production, prices and income.

The bilateral change in maritime transport costs estimated by the transport network model was introduced into the trade model. For trade from origin economy (*i*) to destination economy (*j*), the proportional change is:

$$\hat{\tau}_{ij} = \frac{1 + \tau_{ij}^{'1}}{1 + \tau_{ij}^{'0}} = \frac{1 + \tau_{ij}^{'0} + \Delta\tau_{ij}^{'}}{1 + \tau_{ij}^{'0}}$$

where $\tau_{ij}^{'0}$ is the baseline expected ad valorem cost of the complete maritime journey, derived from the corresponding element of D·B·D' using voyage-leg costs from equations 4 and 5. The counterfactual is $\tau_{ij}^{'1} = \tau_{ij}^{'0} + \Delta\tau_{ij}^{'}$. A value of $\hat{\tau}_{ij}$ greater than one indicates an increase from the baseline.

The fuel cost and freight rate simulations use the same baseline transport cost, $\tau_{ij}^{'0}$, but calculate $\Delta\tau_{ij}^{'}$ differently. In the fuel cost simulation, non-fuel components of voyage-leg transport costs remain at the baseline. For a voyage leg from port k to port l, the counterfactual transport cost is: $t_{kl}^{',new} = t_{kl}^{',base} + \Delta t_{kl}^{',fuel}$ where $t_{kl}^{',base}$ is the baseline voyage-leg transport cost from equations 4 and 5 and $\Delta t_{kl}^{',fuel}$ is the increase in ad valorem fuel costs calculated using average bunker prices from 1 January to 27 February 2026 and 28 February to 30 June 2026. Recalculating the transport network matrix using $t_{kl}^{',new}$ gives the bilateral change in maritime transport costs: $\Delta\tau_{ij}^{',fuel} = \tau_{ij}^{',new} - \tau_{ij}^{',base} = -\frac{1}{\theta}\left[\log\left(b_{ij}^{',new}\right) - \log\left(b_{ij}^{',base}\right)\right]$ where $b_{ij}^{',base}$ and $b_{ij}^{',new}$ are the corresponding origin–destination elements of the transport network matrices calculated using baseline and counterfactual voyage-leg costs. This recalculation allows route shares and estimated vessel traffic to adjust to differences in fuel cost increases across voyage legs.

For the freight rate simulation, $\Delta t_{kl}^{',fuel}$ is replaced by $\Delta t_{kl}^{',freight}$. The transport network matrix is recalculated using the adjusted voyage-leg costs, and $\Delta\tau_{ij}^{',freight}$ is obtained from the same logarithmic difference between the baseline and counterfactual matrices used for the fuel cost simulation.

Where the quantitative trade model groups several economies into one region, bilateral values of $\hat{\tau}_{ij}$ are aggregated using geometric means weighted by baseline seaborne trade. The changes apply only to the international maritime transport of goods. Transport costs for domestic trade, non-maritime transport and services, together with tariffs, productivity and other exogenous variables, remain at the baseline. The model determines changes in bilateral trade and transport mode shares, sectoral prices, production, nominal income and tax revenue.

The consumer price result is the change in the expenditure-weighted price index, while real income is nominal income available for final expenditure divided by this index. The model compares baseline and counterfactual equilibria after trade, production, prices and income have been adjusted, without estimating the transition path or duration. The end of 2027 is the scenario horizon if higher transport costs persist. The fuel cost and freight rate simulations should not be added because observed freight rate changes already incorporate part of the fuel cost increase.

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2026 Review of maritime transport

Chapter IV

Port performance and maritime trade facilitation



Global ports face overlapping challenges and disruptions. These have underscored the strategic importance of ports for global trade and supply chains, and highlighted the need to strengthen their sustainability and resilience. In 2025 and the first half of 2026, as in the broader trade and shipping sector, ports experienced pressures beyond the port gates. These included multiple chokepoint disruptions and constraints, heightened geopolitical tensions, a changing trade policy framework, growing digitalization and rising cybersecurity threats, and intensified climatic and extreme weather events, including El Niño patterns. Such factors present challenges and opportunities to rethink port systems and improve resilience. Proactive resilience-building that also supports broader sustainability goals, including decarbonization in maritime transport, and facilitates global maritime trade is crucial to ports' abilities to adapt to a more complex and rapidly changing global operating environment.

Tracking port performance to assess and monitor progress in efficiency, sustainability and resilience is increasingly important. This chapter presents trends in port calls, including by ship type, liner shipping connectivity by country and port, and time spent in ports by vessel types and call sizes.

United Nations

Global port calls increased across all major vessel categories between 2019 and 2025, with African ports experiencing the largest growth in calls by containerships and tankers. In June 2026, Asia continued to lead in liner shipping connectivity, with China in first place and Viet Nam experiencing rapid connectivity growth. Over the past two decades, the least developed countries have improved their liner shipping connectivity, although from a low base and with persistent gaps. Port stays and waiting times grew overall, reflecting evolving shipping patterns and operational pressures, particularly in developing countries. Indicating scale effects and operational efficiencies, especially at transshipment hubs, larger vessels are generally handled more efficiently than smaller ones.

Other port indicators, from over 70 port entities reporting to the UNCTAD TrainForTrade Port Performance Scorecard (PPS), provide additional insights into a wide range of aspects of port performance. In 2025, reported data indicated continued recovery in traffic and revenues, alongside stable profitability and the greater contribution of concession fees to port income. Reporting also suggested increased investment in environmental projects. Women's participation in the port workforce remained limited, especially in operational and cargo handling activities. This was despite some progress, especially in management.

Robust port performance requires not only effective connectivity, efficiency and integration into global trading networks but also the capacity to adapt to upsets such as multiple chokepoint disruptions, while maintaining transport and supply chain continuity. In an increasingly volatile environment, reactive measures by governments, shipping operators and ports alone are insufficient to safeguard maritime transport and supply chain reliability. Coordinated trade facilitation frameworks are required, especially when alternative routing involves multimodal transport, including overland and across borders. Continuity planning in shipping and ports and at the corridor level could help maintain the efficiency and security of trade routes while facilitating access to essential goods, especially during crises.

Section A of this chapter updates global port performance across a set of indicators, including port calls, liner shipping connectivity and time in port. Section B provides additional port performance insights derived from the PPS between 2016 and 2025. Part C examines the role of trade facilitation in business continuity along supply chains during disruptions. It considers how trade facilitation frameworks to guide continuity planning across transport corridors, coordinated by national trade facilitation committees (NTFCs), could be critical for supply chain resilience and security.

Key takeaways

Port performance and sustainability

Strengthen port capacity and operational efficiency, especially in developing regions

- Improved port efficiency, connectivity and traffic volumes require continued investment in expanding berth, terminal and storage capacity as well as in enhancing maritime access and inland transport and logistics connections. Maritime route disruptions, including in strategic chokepoints such as the Strait of Hormuz, are moving port resilience into sharper focus. This includes operational, financial, organizational, infrastructural, climate and cyber resilience. By mainstreaming resilience principles in relevant decisions and plans, including through diversifying logistics options amid disruptions and uncertainty, ports could rapidly restore operations, maintain critical functions and sustain service continuity. At the same time, closer coordination among port authorities, terminal operators and shipping lines could improve operational capacity, reduce waiting times and increase service reliability. Operational improvements should also address smaller and medium-sized calls that have benefited less from economies of scale.

Use performance indicators and data to strengthen port governance and management

- Benchmarking tools such as the PPS and UNCTAD maritime data sets on liner shipping connectivity, port calls, port waiting times and container port traffic provide insights to support analytical work and evidence-based decision-making. They could help ports identify operational and financial weaknesses, inform effective concession management, and track progress in training, environmental investment and women's participation in port activities.

Support investment in the port workforce and environmental sustainability

- Port operations continue to evolve amid recurrent disruptions, rising digitalization and environmental imperatives as well as social and economic sustainability requirements. Training and skills upgrading would help the port workforce adapt to a demanding operating landscape and improve long-term performance. Increased investment in port environmental sustainability is essential to meet more ambitious targets and bolster port resilience.

Trade facilitation

- Ports are being stress-tested by chokepoint disruptions. More recently, in and around the Strait of Hormuz, these have caused ships and cargo flows to divert towards substitute ports and hubs and to rely on alternative transport networks. This has intensified demands on the capacity of affected ports, increased congestion and wait times, reduced schedule reliability and boosted costs. To fully leverage the benefits of alternative routing and diversified logistical arrangements as a hedge against disruptions, uncertainty and costs, governments and public agencies could establish trade facilitation frameworks for corridor-based continuity planning. To rapidly activate alternative transport and transit routes during a disruption, such frameworks should be in place beforehand, tested through simulations and joint exercises, and improved based on lessons learned.

- As disruptions may alter shipping network design, constrain port capacity, undermine operational performance, exacerbate imbalances, resilience and sustainability require better risk assessments and streamlined procedures.

- NTFCs, as public–private coordination entities, could coordinate trade facilitation frameworks for corridor-based continuity planning, establish a dedicated working group, and cooperate with equivalent committees in neighbouring and corridor countries. Regional economic communities could also drive these plans. International organizations, such as UNCTAD, should assist countries to formulate them and provide enhanced trade facilitation solutions to sustain trade flows during disruptions. Equally important is resource mobilization, especially through international cooperation and donors.

A. Global port performance

Port performance extends beyond operational efficiency, including cargo handling, vessel turnaround times and infrastructure utilization. It also reflects to what extent ports attract and serve shipping services, connect markets, accommodate growing traffic and cargo volumes, and maintain reliable operations. All these dimensions matter amid evolving trade patterns, decarbonization and digitalization trends, and increasing disruptions and volatility across supply chains and shipping routes. Tracking and quantifying port performance is important in monitoring trends, assessing progress and benchmarking. Key performance indicators inform relevant decisions, policies and plans.

UNCTAD's data on port calls, liner shipping connectivity and port turnaround time highlight recent trends shaping global port performance, including how ports, especially container ports, are adapting to overlapping maritime route disruptions, shifting trade patterns, reconfigured shipping networks, evolving fleet capacity deployment and related implications for port capacity. These indicators, discussed in section A, are complemented by an additional set of metrics from the UNCTAD TrainForTrade PPS elaborated in section B.

1. Port calls

Port calls indicate maritime activity, capturing vessel movements, shipping operations, and the distribution of traffic across vessel types and regions. They also shed light on the deployment of ship capacity, the configuration of shipping networks and the integration of ports into global supply chains. Data on port calls may help assess a port's shipping connectivity levels, infrastructure capacity, and economic significance and performance.

Several factors may shape port call patterns. These include changes in shipping demand, supply chain conditions, fleet deployment strategies, route choices, port costs and charges, infrastructure and capacity constraints, regulatory requirements, shifts in trade policies, disruptions within and beyond ports, and network configurations, including shifts towards alternative ports.

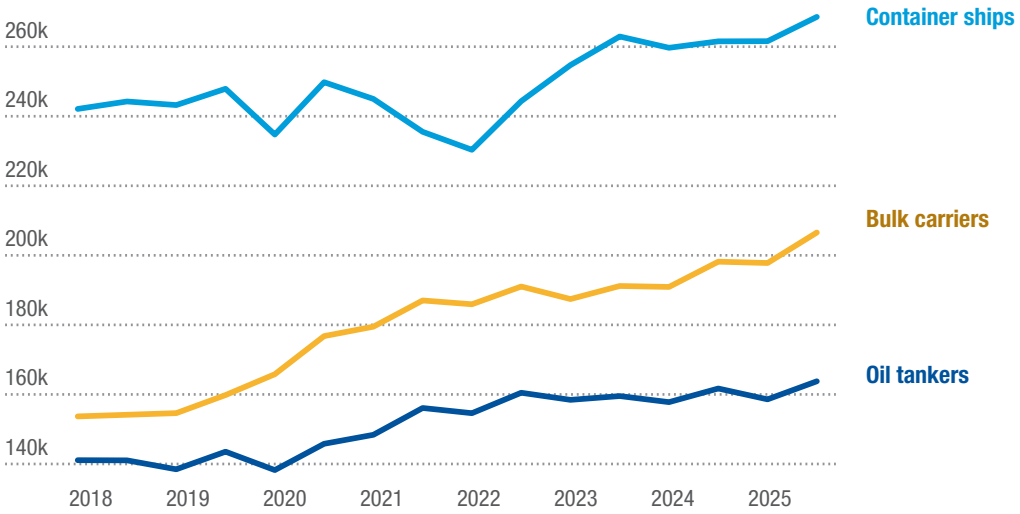
Global port calls: Year-on-year stability amid disruptions

Global port call activity remained broadly stable between June 2025 and June 2026, with the overall level unchanged (Clarksons Research Services, 2026a). Global oil tanker port calls declined amid the Strait of Hormuz disruption, while bulk carrier port calls increased and containership calls remained unchanged. These trends illustrate the networked nature of port performance, as disruptions in one part of the shipping network may affect vessel movements and cargo flows elsewhere. Rerouting and the redistribution of calls across ports may therefore change the pattern of port calls without reducing their overall number.

Global port calls: Expansion for bulk carriers, oil tankers and containerships over the past few years

Global port calls increased between the first half of 2018 and the second half of 2025. Calls by containerships rose by 11 per cent (from 242,000 to 269,000); those for oil tankers climbed by 16 per cent (from 141,000 to 164,000), while bulk carrier port calls jumped by 34 per cent (from 154,000 to 207,000) (figure IV.1).

Figure IV.1
Global port calls per semester and vessel type
(Total number)



Source: UNCTAD, based on data provided by Clarksons Research Services (2026b).

Notes: Vessels are restricted to 1,000 gross tonnage and above, excluding vessels without an IMO number. Port calls data are based on all instances of a vessel entering and leaving a defined port location, only if recorded travelling at less than 1 knot, and combining multiple consecutive instances at the same port where the vessel has not left a buffered shape around the port or within the same day (in selected vessel sectors). Oil tankers include crude, product and other tankers.

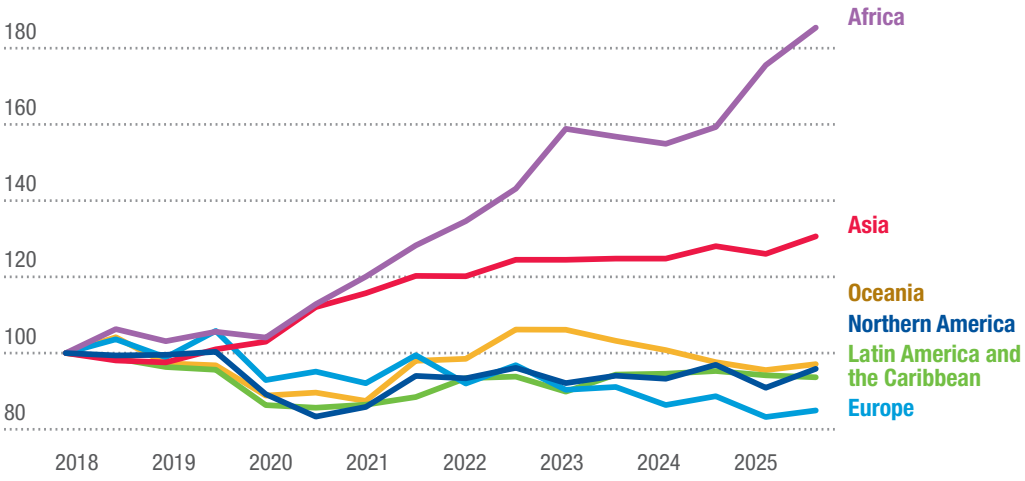
Among all regions, Africa has shown the fastest growth in containership and oil tanker port calls in recent years

Between the first half of 2018 and the second half of 2025, Africa's oil tanker port calls surged by 85 per cent (figure IV.2), reflecting both continued hydrocarbon exports from major producers, such as Algeria, Angola, Libya and Nigeria, and new offshore developments in West Africa. Changes in global energy markets following the war in Ukraine have further reconfigured energy trade routes and sourcing patterns. Oil tanker calls grew by 31 per cent in Asia but declined in other regions.

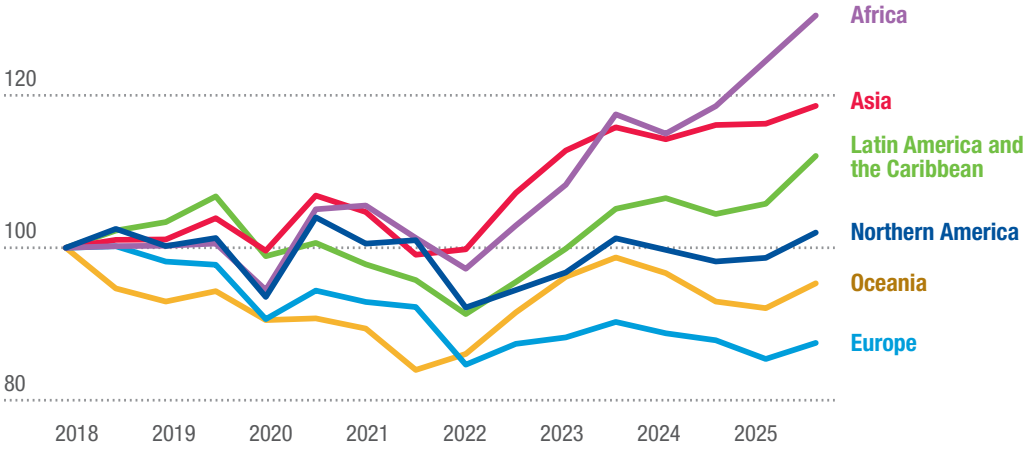
Over the same period, containership calls increased by 30 per cent in Africa, 19 per cent in Asia and 12 per cent in Latin America and the Caribbean. Growth in Asian containerships' port calls is consistent with port connectivity growth and efficiency gains across the continent, as presented in the following subsections. Growth in Africa's containership port calls reflects expanding gateway traffic and transshipment activity at selected ports as well as alignment with expanding containerized trade, investments in port infrastructure and the emergence of selected African ports as regional transshipment hubs (Notteboom et al., 2026; ITF, 2018). Additional factors include the diversion of Asia–Europe and United States-bound cargo around the Cape of Good Hope due to the Red Sea disruption since late 2023. Port call patterns may also be affected by regulations, including environmental and sustainability rules. Changing port call patterns induced by new environmental standards may not be visible regionally but may be meaningful at the port level (box IV.1).

Figure IV.2
Growth in containership and tanker port calls by region, indexed values
(Index: January to June 2018 = 100)

Tankers



Container ships



Source: UNCTAD, based on data provided by Clarksons Research Services (2026b).

Notes: Vessels are restricted to 1,000 gross tonnage and above, excluding vessels without an IMO number. Port call data are based on all instances of a vessel entering and leaving a defined port location, only if recorded travelling at less than 1 knot, and combining multiple consecutive instances at the same port where the vessel has not left a buffered shape around the port or within the same day (in selected vessel sectors).

Box IV.1
The European Union Emissions Trading System and selected African transshipment hubs

In 2025, as part of the extension of the European Union Emissions Trading System (EU ETS) to the maritime sector, shipping companies were required for the first time to surrender allowances for carbon dioxide emissions from voyages by large ships (over 5,000 gross tonnes). Under the system, companies surrender allowances each year for the emissions reported in the previous year. The obligation is being phased in gradually. In 2025, allowances covered 40 per cent of reported 2024 emissions; in 2026, 70 per cent of reported 2025 emissions; and from 2027 onwards, 100 per cent of reported emissions from the previous year. The system applies to 100 per cent of emissions from voyages between European Union and European Economic Area ports, and 50 per cent from voyages between these and other ports. Shipping companies had until September 2025 to surrender corresponding European Union emissions allowances, with financial penalties imposed for any shortfall (European Commission, 2026a).

The introduction of the EU ETS has raised concerns that differences in coverage between European Union and non-European Union port calls may create incentives for rerouting through nearby non-European Union ports. In response, the European Commission in 2023 designated the two most prominent African transshipment hubs – Tanger Med (Morocco) and East Port Said (Egypt) – as "neighbouring container transshipment ports". Both exceed the 65 per cent transshipment threshold and are located within 300 nautical miles of the European Union. As a result, stops by container ships at these hubs are disregarded when calculating EU ETS coverage: the journey is treated as a single voyage between the ports before and after the stop. The designation aims to reduce incentives to reroute traffic solely to lower EU ETS compliance costs (European Commission, 2023; Johnston and Hancock, 2026).

While it is too early to attribute changes in shipping patterns to the EU ETS maritime provisions, recent developments warrant attention. Between 2023 and 2025, sub-Saharan Africa increased its share of global port calls by 14 per cent, while the shares of Tanger Med and East Port Said declined by 7 and 25 per cent, respectively (Clarksons Research Services, 2026c).

Some of this redistribution may reflect disruptions and rerouting. Further analysis is needed to better understand these changes. Shifts in port calls could be linked to transfers in transshipment calls following the introduction of the EU ETS or to a combination of broader changes in liner network configurations, gateway traffic and maritime connectivity.

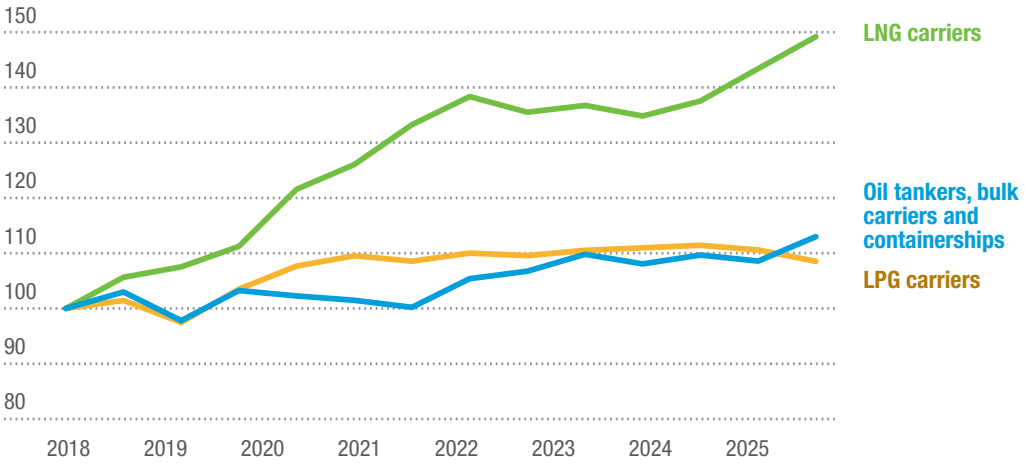
Looking ahead, the expansion of national emissions trading systems to maritime transport and equivalent measures (see chapter II) beyond the European Union will require close monitoring. Evolving environmental regulations and measures may increasingly influence port choices, routing decisions and the configuration of maritime networks (United Kingdom, Environment Agency, 2026).

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Strong expansion in port calls by liquid natural gas carriers from 2019 to 2025

The ability of ports to adapt to changing cargo flows and vessel requirements is a key determinant of performance and resilience. Between the first half of 2019 and the second half of 2025, port calls by LNG carriers increased by 50 per cent, reaching more than 11,000 and outpacing growth in port calls by LPG carriers and other major ship types (oil tankers, bulk carriers and containerships) (figure IV.3). The difference reflects the growing role of LNG in global energy trade (see chapter I) and underscores the need for ports serving the LNG trade to be equipped with dedicated LNG handling infrastructure and appropriate safety and operational arrangements.

Figure IV.3
Growth in gas carrier global port calls, monthly mean per period and vessel type, indexed values
(Index: January to June 2018 = 100)



Source: UNCTAD, based on data provided by Clarksons Research Services (2026a).

Notes: Data accounts solely for vessels with an IMO number. Port calls data are based on all instances of a vessel entering and leaving a defined port location, only if recorded travelling at less than 1 knot, and combining multiple consecutive instances at the same port where the vessel has not left a buffered shape around the port or within the same day (in selected vessel sectors).

2. Liner shipping connectivity

Liner shipping connectivity measures how well countries and ports are integrated into global container shipping networks through the availability, frequency, capacity and geographic reach of liner services.

The UNCTAD Liner Shipping Connectivity Index (LSCI) helps to capture the level of integration of ports and countries by combining six components: scheduled calls, deployed capacity, services, shipping companies, maximum vessel size and country connections (UNCTAD, 2026d).[1]

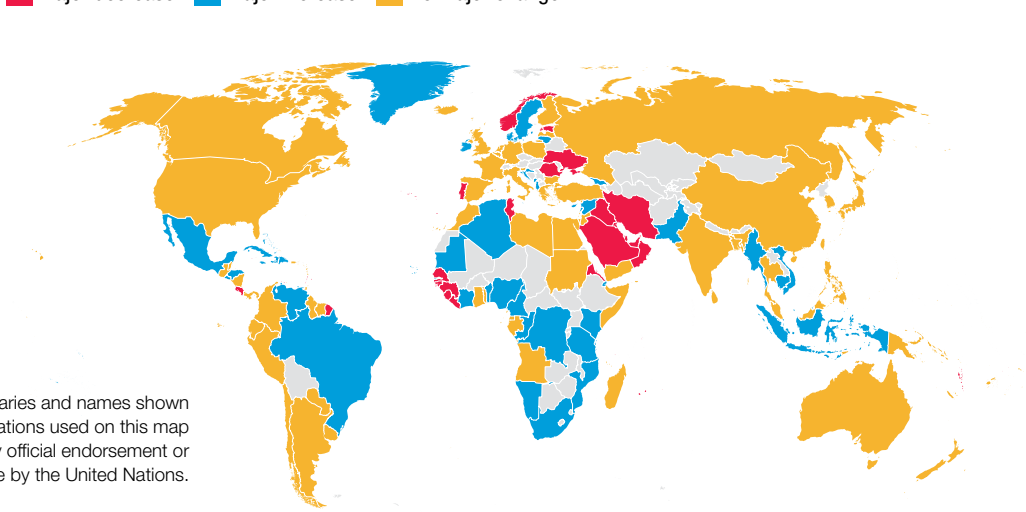
[1] The six components of the LSCI are: the number of scheduled ship calls per week (i.e., weekly average of annual schedule) in the country; total scheduled annual deployed capacity, in TEU, offered in the country; the number of regular liner shipping services from and to the country; the number of liner shipping companies that provide services from and to the country; the size, in TEU, of the largest ship deployed on services from and to the country; and the number of other countries connected to the country through direct liner shipping services (where a direct service is defined as a regular service between two countries, it may include other stops in between, but usually no transshipment, as this is not required in the transport of a container).

Enhanced port infrastructure and operational efficiency may strengthen connectivity by attracting more services, operators and vessel calls. Higher connectivity may in turn support trade and economic performance while creating incentives for further port investment. Connectivity depends, however, not only on port performance but also on market size, economic activity, trade patterns and geography, along with the network and deployment decisions of liner shipping companies.

Many countries saw gains in liner shipping connectivity in the past year, with the greatest jumps in Cabo Verde and the Syrian Arab Republic

In June 2026, compared with June 2025, liner shipping connectivity gains (48 economies) outnumbered losses (37 economies) (map IV.1). Smaller and less connected markets experienced sharper fluctuations, while larger hub economies generally recorded limited changes. Cabo Verde and the Syrian Arab Republic saw the greatest gains; each recorded 46 per cent growth. The greatest declines occurred across the Middle East, with the largest reaching 65 per cent amid geopolitical uncertainty and regional disruptions influencing shipping networks. After the conflict affecting the Strait of Hormuz began, liner carriers suspended or restricted bookings and services, while vessel rerouting reduced deployed capacity on some Middle East-linked routes (see chapter II).

Map IV.1
Liner Shipping Connectivity Index gains, June 2026 compared to June 2025
(Index: February 2023 world mean = 100)



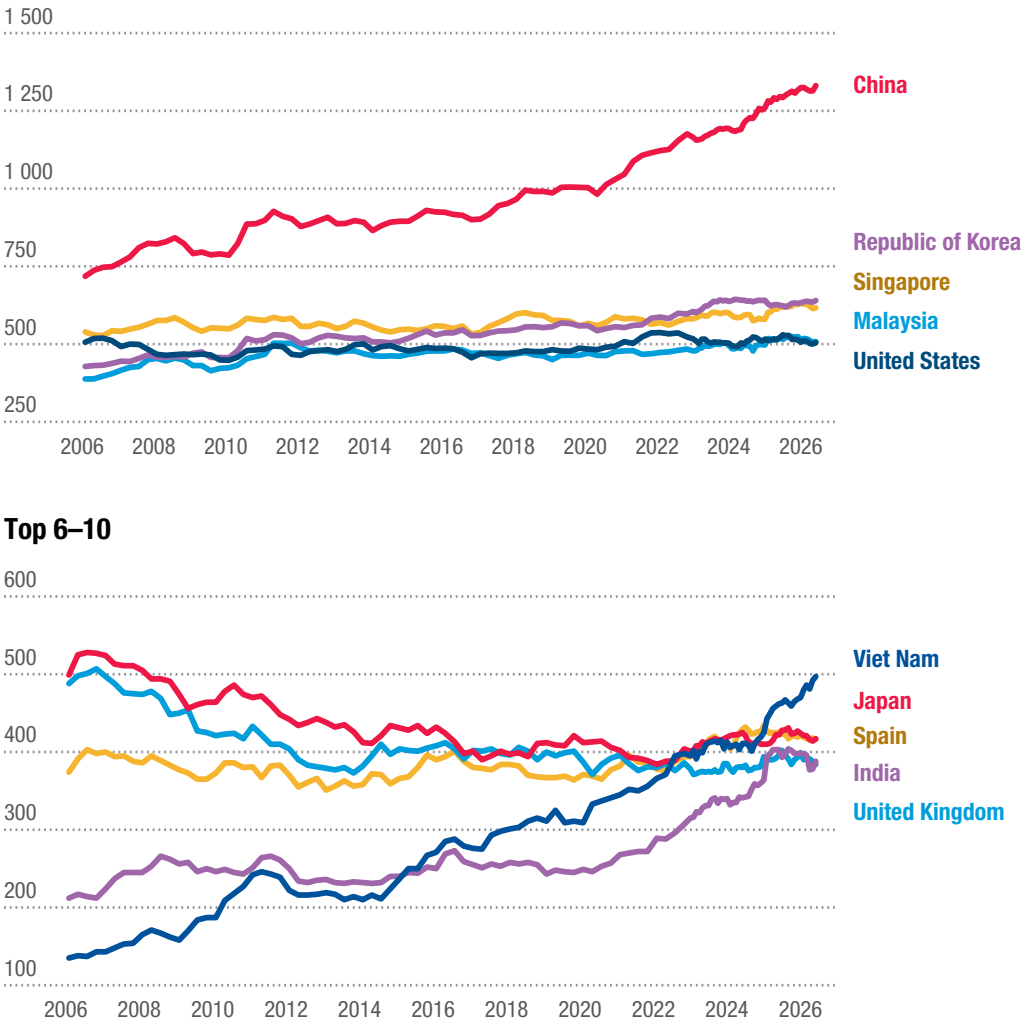
The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Source: UNCTAD, based on data provided by MDS Transmodal, June 2026, available at https://stats.unctad.org/maritimeconnectivity.

Liner shipping connectivity: China leads, Viet Nam sees rapid growth among the top 10 performers; Cambodia, Iraq and Morocco stand out overall

In June 2026, in order of their ranking, China, the Republic of Korea, Singapore, Malaysia, the United States, Viet Nam, Japan, Spain, India and the United Kingdom were the top 10 countries on the UNCTAD LSCI scale (figure IV.4). The Shanghai, Ningbo and Singapore ports comprised the top three ports in the second quarter of 2026 (table IV.1).

Figure IV.4
Top 10 economies on the Liner Shipping Connectivity Index, per month
(Index: February 2023 world mean = 100)



Source: UNCTAD, based on data provided by MDS Transmodal, June 2026, available at https://stats.unctad.org/maritimeconnectivity.

Table IV.1
Top 20 ports on the Liner Shipping Connectivity Index
(Index: 2023 Q1 world mean = 100)

Rank	Port	2026 Q2 LSCI
1	China, Shanghai	2372.47
2	China, Ningbo	2040.69
3	Singapore, Singapore	1833.94
4	Republic of Korea, Pusan	1655.17
5	China, Qingdao	1389.05
6	China, Shekou	1157.85
7	Malaysia, Port Klang	1075.80
8	China, Nansha	1071.13
9	China, Hong Kong SAR, Hong Kong	976.84
10	Netherlands (Kingdom of the), Rotterdam	950.83
11	Belgium, Antwerp	902.03
12	China, Xiamen	900.05
13	China, Taiwan Province of, Kaohsiung	821.61
14	China, Yantian	795.38
15	China, Xingang	767.16
16	Thailand, Laem Chabang	743.29
17	Sri Lanka, Colombo	719.11
18	Japan, Yokohama	698.98
19	Viet Nam, Haiphong	690.29
20	Germany, Hamburg	690.06

Source: UNCTAD, based on data provided by MDS Transmodal, June 2026, available at https://stats.unctad.org/maritimeconnectivity.

Viet Nam provides a striking example of sustained improvement in liner shipping connectivity over the past two decades. In February 2006, it ranked twenty-eighth on the LSCI. By June 2026, it ranked sixth, surpassing India, Japan, Spain and the United Kingdom. Over this period, Viet Nam's LSCI soared more than fourfold, reflecting substantial expansion in deployed annual capacity (from 3 million to 43 million TEU) and growth in maximum ship capacity (from 1,900 to 24,000 TEU). The country's growing role as a regional manufacturing and export hub, supported by port infrastructure and deeper integration into global value chains, contributed to these gains.

Between June 2025 and June 2026, Viet Nam's LSCI increased by 8 per cent, driven by expanded services, more frequent vessel calls and higher deployed capacity.

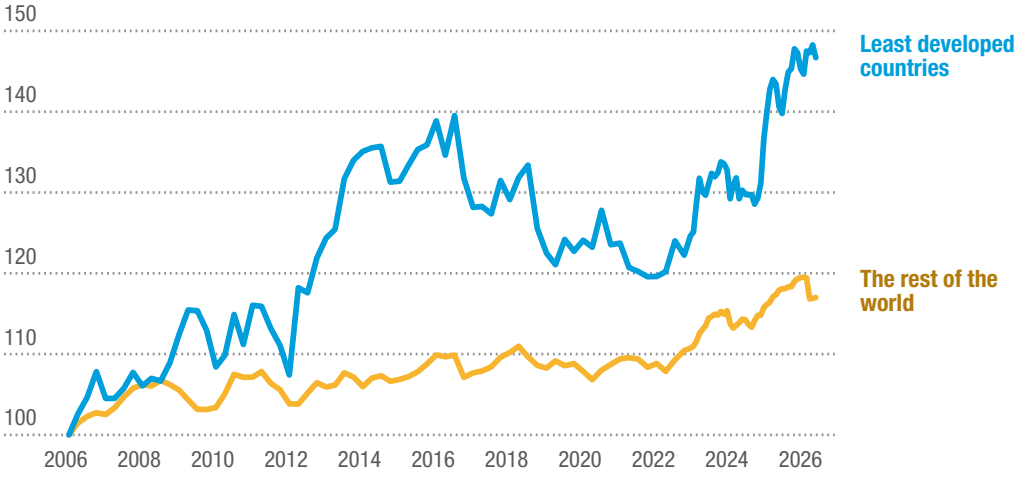
This points to stronger integration into intra-Asian trade networks, supported by export growth and its position as a key hub in the China Plus One strategy, which aims at diversifying and de-risking supply chains. It also reflects carriers' reshuffling of alliance networks and service routes (UNCTAD, 2025).

Among all economies, Cambodia, Iraq and Morocco have recorded the largest connectivity jumps over the past two decades, each achieving roughly a fourfold increase. Cambodia's improved connectivity largely reflects greater deployed capacity and liner shipping services aligning with its export-oriented production in South-East Asia and growing role in global manufacturing and supply chains. Although Iraq's connectivity fell by 60 per cent between March and June 2026 amid regional traffic disruptions, the country has emerged as a growing maritime node through the gradual expansion of deployed capacity, port calls and liner shipping services. Morocco's LSCI growth was underpinned by increased deployed capacity and maximum vessel size, and reflects the expansion of existing ports and the rise of Tanger Med (operational since 2007).

Least developed countries achieve significant long-term liner shipping connectivity gains

Although liner shipping connectivity remains much lower in the least developed countries (at 40.1 compared to 109.7 in the rest of the world, as of June 2026), it has improved significantly over the last two decades. Between February 2006 and June 2026, the average LSCI of the least developed countries grew by 47 per cent, compared with 17 per cent for the rest of the world (figure IV.5). During this period, the largest increases, apart from Cambodia, were in Sierra Leone (46 per cent) and Somalia (139 per cent). Despite connectivity improvements, the least developed country rankings have also shown greater volatility over time, suggesting that they may be more vulnerable to changes in global maritime networks and disruptions.

Figure IV.5
Average monthly Liner Shipping Connectivity Index of the least developed countries and the rest of the world, indexed values
(Index: February 2006 world mean = 100)



Source: UNCTAD, based on data provided by MDS Transmodal, June 2026, available at https://stats.unctad.org/maritimeconnectivity.

Note: The underlying LSCI is indexed to the February 2023 world mean = 100. In this figure only, for comparability of growth over time, each series is rebased to February 2006 = 100. For countries with no liner shipping connections, values are assumed to be zero to better reflect lost connectivity. Countries with no liner shipping connections for the entire period are excluded from the averages.

Among the least developed countries, the most connected country in June 2026 was Togo, recording a 129 per cent increase in liner shipping connectivity since February 2006. Globally, Togo's container port throughput in TEU jumped sixfold between 2010 and 2024, the largest increase across global ports (UNCTAD, 2026a). See box IV.2 for more on these developments.

Box IV.2
Infrastructure, logistics and skills are behind Togo's significant surge in liner shipping connectivity and container port throughput

Since 2014, the Autonomous Port of Lomé has expanded its capacity to serve as a strategic gateway between global shipping routes and the markets of West and Central Africa.

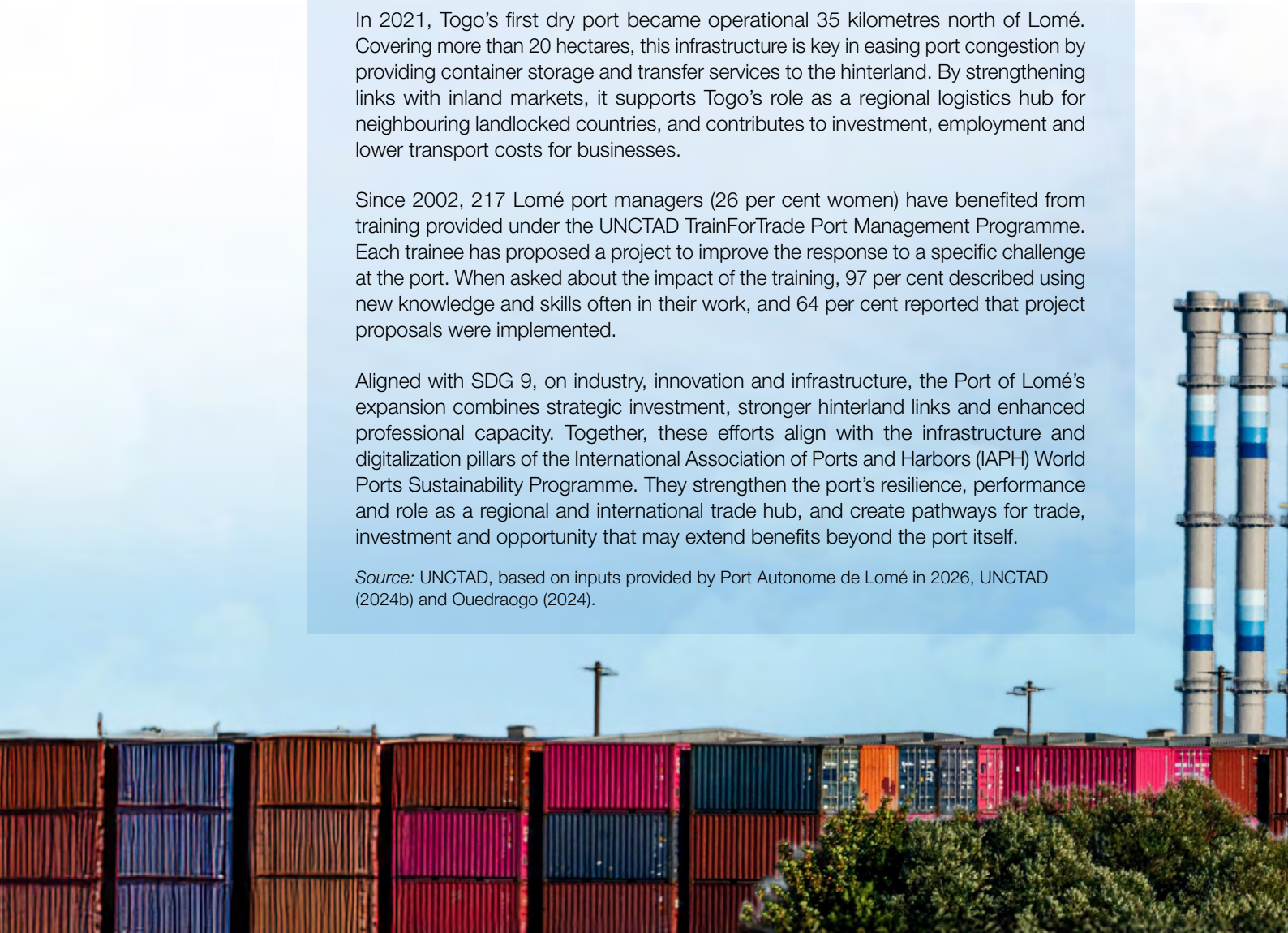
Lomé Container Terminal entered service in December 2014, following a strategic partnership between the State and an international consortium. With a depth of 16.6 metres, the terminal enables the port to receive some of the world's largest container vessels. In October 2014, the TOGO Terminal inaugurated its third quay, with a 15-metre draft and two berths capable of accommodating vessels of up to 7,000 TEU. These investments substantially increased the port's operational capacity. The port's total capacity quadrupled, while cargo volumes rose from 9.2 million tonnes in 2014 to a record 34.8 million tonnes in 2024. A modernization programme of approximately €500 million has followed, supporting the expansion and upgrading of quays and the acquisition of cargo handling equipment.

In 2021, Togo's first dry port became operational 35 kilometres north of Lomé. Covering more than 20 hectares, this infrastructure is key in easing port congestion by providing container storage and transfer services to the hinterland. By strengthening links with inland markets, it supports Togo's role as a regional logistics hub for neighbouring landlocked countries, and contributes to investment, employment and lower transport costs for businesses.

Since 2002, 217 Lomé port managers (26 per cent women) have benefited from training provided under the UNCTAD TrainForTrade Port Management Programme. Each trainee has proposed a project to improve the response to a specific challenge at the port. When asked about the impact of the training, 97 per cent described using new knowledge and skills often in their work, and 64 per cent reported that project proposals were implemented.

Aligned with SDG 9, on industry, innovation and infrastructure, the Port of Lomé's expansion combines strategic investment, stronger hinterland links and enhanced professional capacity. Together, these efforts align with the infrastructure and digitalization pillars of the International Association of Ports and Harbors (IAPH) World Ports Sustainability Programme. They strengthen the port's resilience, performance and role as a regional and international trade hub, and create pathways for trade, investment and opportunity that may extend benefits beyond the port itself.

Source: UNCTAD, based on inputs provided by Port Autonome de Lomé in 2026, UNCTAD (2024b) and Ouedraogo (2024).



3. Time as a measure of performance: Time in port, waiting and moving containers

The efficiency of port operations, measured by the time ships spend in port, is critical for maintaining reliable shipping services, reducing logistics costs and strengthening supply chain resilience. Recent disruptions to shipping and chokepoints, together with broader supply chain shocks, have altered vessel arrival patterns, increased schedule unreliability and contributed to congestion, particularly for container shipping. This section examines trends in vessel time in port, containership waiting times and the time needed to move a container, considering differences in port call sizes. Data precede the Strait of Hormuz disruption and therefore do not fully capture the impact of overlapping disruptions across various strategic shipping corridors.

Port turnaround times improve for dry bulk carriers but worsen for containerships

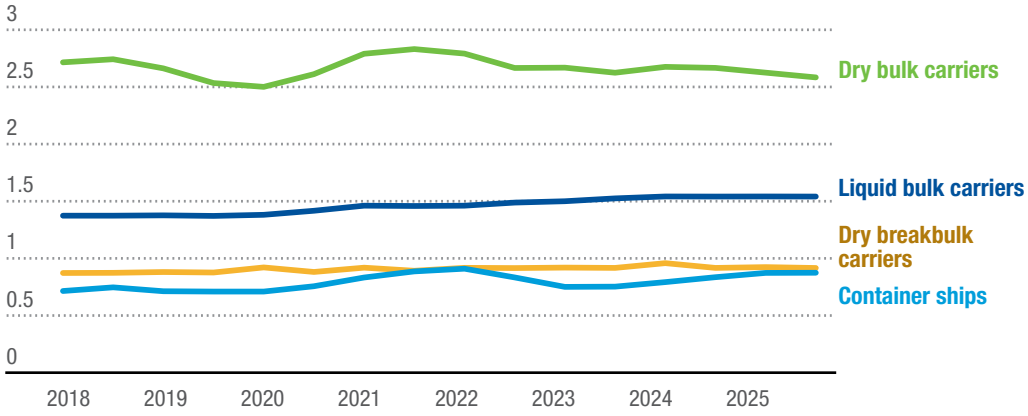
In the second half of 2025, compared with 2024, dry bulk carriers spent, on average, less time in port. The median number of days in port fell from 2.66 to 2.58 or around 2 hours. By contrast, the median time spent by containerships increased from 0.84 to 0.87, equivalent to about 40 minutes (figure IV.6). Dry breakbulk and liquid bulk carriers spent on average the same number of days in 2025 as in 2024.

Over the 2018–2025 period, the median number of days spent in port declined for dry bulk carriers by around 3 hours, from 2.72 to 2.58. It increased for dry breakbulk carriers by around 1 hour (from 0.87 to 0.92) and by around 4 hours for liquid bulk carriers (from 1.37 to 1.54) and containerships (from 0.71 to 0.87). Many factors drive the length of port stays. Some fall with the ports' control and others outside of it. Times in port are often shaped by operational and external factors, including congestion (especially in a highly disrupted operating landscape); changes in traffic and cargo flows, including as a result of ship rerouting and the diversion of cargo; hinterland connectivity and access; the effectiveness of trade facilitation; port productivity and regulatory procedures, among other factors (UNCTAD, 2022 and 2024a).



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Figure IV.6
World median time in port, per semester
(Days)



Source: Clarksons Research Services (2026b), April 2026.

Note: Vessels are restricted to 1,000 gross tonnage and above, excluding vessels without an IMO number. Port calls data are based on all instances of a vessel entering and leaving a defined port location, only if recorded travelling at less than 1 knot, and combining multiple consecutive instances at the same port where the vessel has not left a buffered shape around the port or within the same day (in selected vessel sectors).

In the first half of 2026, congestion remained persistent as operational challenges and ship deployment patterns shifted in response to disruptions in the Strait of Hormuz and continued attacks on ships in the Red Sea corridor. Extreme weather events and tariff-induced front-loading affected volumes on the Pacific route. Port congestion is increasingly a structural feature of global supply chains, as bottlenecks shift from ships to ports and inland connections, where demand outpaces terminal capacity and trade flows become more imbalanced (Knowler, 2026).

Congestion at Asian ports intensified in 2026, driven by adverse weather, vessel bunching and stronger demand. The ports of Shanghai, Ningbo, Singapore, Busan, Colombo, Jakarta and Surabaya saw lengthy waiting times, prompting carriers to skip calls, reroute cargo and cancel sailings. Increased trans-Pacific shipments, as shippers front-loaded cargo ahead of expected United States tariff increases, further strained capacity (Wallis, 2026a).

Underinvestment in terminal infrastructure, combined with the time required to expand capacity, may have contributed to persistent congestion, more frequent freight rate spikes and market volatility, particularly on Asia-bound routes. In August 2026, Typhoon Dolphin reportedly stranded over 2.4 million TEU of container capacity and pushed waiting times to five days in Shanghai and nearly three days in Ningbo, compounding congestion and prompting further adjustments to service schedules and port calls (Wallis, 2026b).

The global average for containership waiting times nearly doubled between the first half of 2019 and the first half of 2026. Total port call durations have increased as a result. Waiting for a berth contributed to the 31 per cent increase in average time spent by a containership in a port between 2019 and 2026, with significant variations by region pointing to congestion. Underinvestment, trade growth, elevated port utilization, weather disruptions and carrier scheduling practices have impacted waiting times. Capacity at nine major ports, including Jawaharlal Nehru Port, Qingdao, Rotterdam, Santos and Shanghai, grew by 21 per cent between the first half of 2019 and the equivalent period in 2026, but against a 28 per cent increase in trade volumes, pressuring container terminal capacity. A focus on asset utilization increases the risk of port congestion (Drewry Maritime Research, 2026).

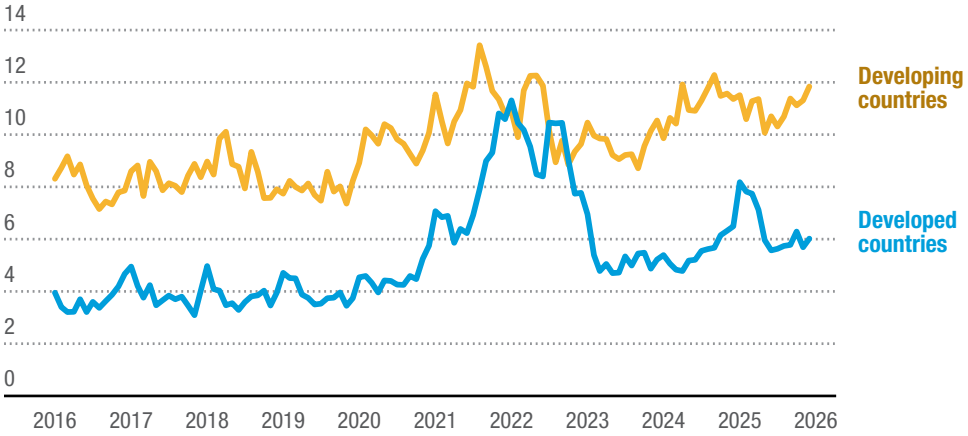
Containerships have been waiting longer at ports over the past decade

Average waiting times for containerships rose between March 2016 and December 2025 across both developed and developing countries (figure IV.7). Waiting times increased from 4.0 to 6.0 hours (+2.0 hours) for developed countries and from 9.2 to 11.8 hours (+2.6 hours) for developing countries.

While improved liner shipping connectivity has deepened global trade integration, it has also increased the interdependence of ports and shipping services. Consequently, disruptions to supply chains, maritime routes and chokepoints propagate rapidly through shipping networks, increasing schedule unreliability, vessel bunching and port waiting times (World Bank, 2026a). Other factors at play may include, for example, larger vessels, capacity constraints at ports and across hinterland and inland logistics, climatic factors and extreme weather events, and heightened geopolitical tensions and uncertainty in trade policy, causing increased front-loading.

From December 2024 to December 2025, waiting times declined slightly in developed countries but increased in developing countries. In sub-Saharan Africa, some explanatory factors may include the continent's import-dominated trade, persistent capacity constraints and limited competition among ports. In the Middle East, Red Sea-related disruptions have underscored the vulnerability of even well-equipped ports to geopolitical shocks (ibid.).

Figure IV.7
Average waiting times for containerships in port
(Hours)



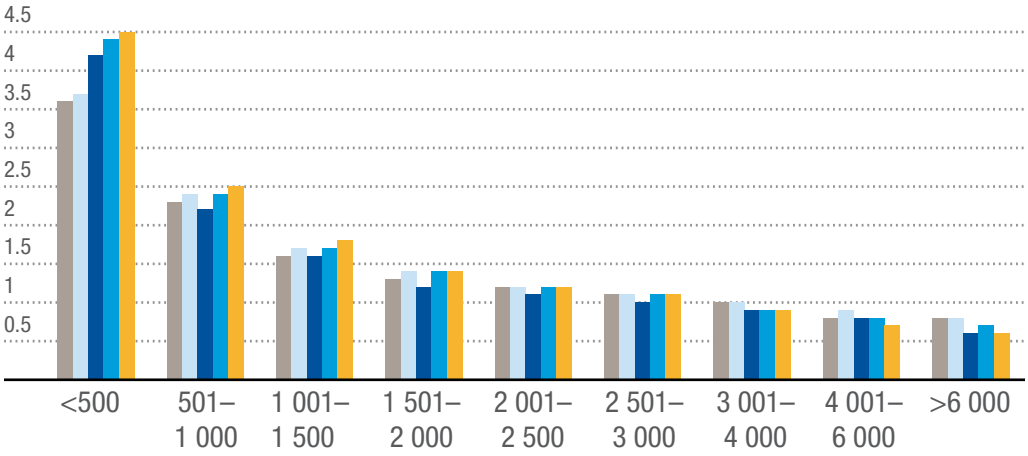
Source: Clarksons Research Services (2026b), April 2026.

Notes: Waiting time estimates are based on the time between the vessel first entering an anchorage associated with a port group (or a port where the vessel has not been seen in an anchorage shape) and its first entering a berth in the port. Developing countries include China.

Scale is driving faster turnaround times for larger port calls

Over the last five years, the time to move a container fell for larger calls (>3,000 moves), remained stable for midsized calls (2,000–3,000 moves) and became longer for smaller calls (<2,000 moves) (figure IV.8). Improved container handling performance for larger port calls relative to smaller ones is consistent with previous UNCTAD analyses indicating that larger container calls are generally handled more efficiently. They benefit from economies of scale, including parallel quay crane operations, automation at larger ports, and larger and more specialized container-handling equipment (UNCTAD, 2024a and 2025b).

Figure IV.8
Time to move a container per port call size category, annual mean for 25 economies with the most port calls
(Minutes)



Source: UNCTAD, based on data provided by the S&P Global Port Performance Program, June 2026.

Note: The nine call size categories are based on the total number of containers moved during a port call, regardless of container size, ranging from under 500 moves (first category) to over 6,000 moves (last category).



Ports in China, the Republic of Korea and Singapore combine strong economies of scale and operational efficiency

Among 25 economies with the largest numbers of port calls, ports in China, the Republic of Korea and Singapore combine high performance with scale especially well (table IV.2), largely due to operational benefits from large-scale container terminals (UNCTAD, 2024a and 2025b).

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Table IV.2
Time to move a container per port call size category, by economy, 2025
(Minutes)

	Call size								
Economy	<500	501–1 000	1 001–1 500	1 501–2 000	2 001–2 500	2 501–3 000	3 001–4 000	4 001–6 000	>6 000
China	3.8	2.1	1.5	1.1	0.8	0.7	0.6	0.5	0.4
United States	3.8	2.4	1.8	1.6	1.5	1.5	1.2	1	0.8
Singapore	3.2	1.7	1.3	1	0.8	0.7	0.6	0.5	0.4
Republic of Korea	3.2	1.6	1.1	1	0.9	0.8	0.7	0.6	0.5
Brazil	5.2	3	2.1	1.8	1.5	1.2	1.2	0.9	0.9
Malaysia	3.2	2.3	1.5	1.1	0.8	0.8	0.7	0.5	0.4
Spain	4.9	2.9	1.9	1.2	1	0.9	0.9	0.7	0.6
Belgium	6	3.6	2	1.7	1.4	1.2	1	0.9	0.9
Germany	6.2	2.7	1.9	1.6	1.5	1.2	1	0.8	0.8
Japan	2.6	1.5	1.2	1	0.9	1	0.9	-	-
United Kingdom	5.5	3	1.9	1.4	1.3	1.2	0.9	0.8	0.7
India	3.5	2.1	1.3	1	0.9	0.8	0.7	0.6	0.5
Viet Nam	2.7	1.6	1.1	0.9	0.8	0.6	0.6	0.5	0.5
Türkiye	4.9	2.6	1.7	1.3	1.2	1.1	1	0.8	0.8
Hong Kong, China	2.6	1.4	1	0.8	0.7	0.6	0.5	0.5	0.4
Taiwan Province of China	2.9	1.6	1	0.8	0.7	0.6	0.5	0.5	0.5
United Arab Emirates	4.4	2.5	1.7	1.3	0.8	0.8	0.7	0.6	0.5
Kingdom of the Netherlands	6.8	3.6	2.4	1.8	1.6	1.3	1.1	0.8	0.7
Australia	6.3	2.9	2.2	1.9	1.5	1.5	1.3	1	0.9
Panama	5.4	2.9	2.1	1.7	1.6	1.2	1.3	0.8	0.8
Italy	7.1	3.8	2.9	2.3	2	1.7	2	1.5	1.6
France	4.9	2.9	2	1.6	1.5	1.4	1.2	1	0.8
Thailand	3.4	2.4	1.4	1.1	1	0.9	0.7	0.7	0.6
Indonesia	4.9	2.5	2	1.4	1.1	1	0.9	0.9	-
Philippines	4.5	3.9	2.9	2.3	1.6	1.9	1.2	-	-
Average	**4.5**	**2.5**	**1.8**	**1.4**	**1.2**	**1.1**	**0.9**	**0.7**	**0.6**

Source: S&P Global Port Performance Program, June 2026.

Note: The nine call size categories are based on the total number of containers moved during a port call, regardless of container size, ranging from under 500 moves (first category) to over 6,000 moves (last category).

B. TrainForTrade Port Performance Scorecard

A global benchmarking system is crucial to evaluate port performance

Understanding port performance is essential to the competitiveness of port systems and their contribution to economic development. Towards that end, UNCTAD in 2018 developed the PPS under the TrainForTrade Port Management Programme (UNCTAD, 2026b and 2026c).

The number of port entities reporting to the PPS expanded to over 70 in 2026, allowing them to benchmark their performance against regional and global peers. Continued expansion across Africa, the Americas, Asia and Europe reflects the growing importance of standardized performance measurement. The scorecard's geographically diverse data set improves benchmarking while capturing a broad range of regulatory, economic and operational contexts. It helps port managers identify strengths and weaknesses, monitor trends, assess vulnerabilities and support evidence-based decision-making.

Over time, the scorecard has emerged as a comprehensive global database on port performance.

Key performance indicators: 2016–2025

Table IV.3 summarizes key PPS performance metrics from 2016 to 2025. It encompasses financial performance, human resources, vessel and cargo operations, gender participation and environmental indicators. Together, these integrated data provide a holistic view of evolving port performance across multiple dimensions. They enable identification of underlying trends, structural shifts and areas of resilience or vulnerability, while illustrating how ports have adapted to changing economic conditions, external shocks and emerging strategic priorities. PPS metrics complement UNCTAD's port performance indicators on connectivity (LSCI), port activity (port calls) and efficiency (waiting time and time to move containers) as presented above.

Table IV.3
Port Performance Scorecard, summary statistics (2016–2025)

Indicator, unit	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Finance										
EBITDA/revenue (operating margin), percentage	49.7	44.8	50.4	46.2	44.3	45.5	44.1	45.7	48.9	**46.2**
Labour/revenue, percentage	19.0	19.0	18.0	19.1	23.8	21.3	19.5	19.2	19.2	**20.2**
Vessel dues/revenue, percentage	17.5	19.7	20.3	18.2	18.2	17.9	19.9	18.5	18.3	**17.8**
Cargo dues/revenue, percentage	28.3	27.8	24.3	26.3	26.3	25.9	24.1	22.3	22.1	**22.0**
Concession fees/revenue, percentage	20.0	19.8	20.8	22.5	24.4	23.6	21.0	22.0	24.0	**24.7**
Rents/revenue, percentage	3.1	2.7	3.4	2.8	3.3	2.8	3.6	2.3	1.5	**0.5**

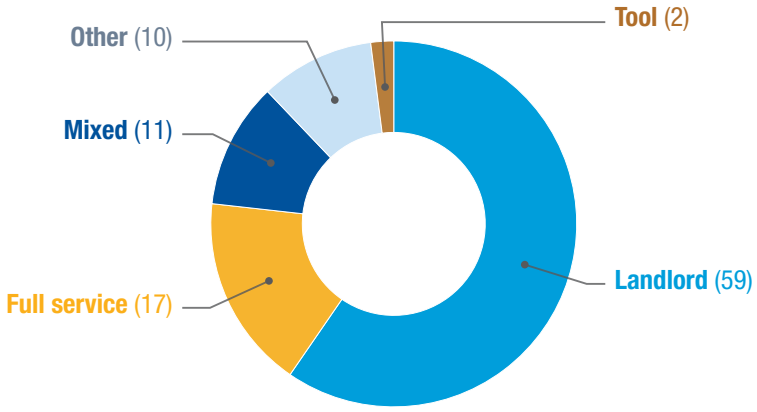
Indicator, unit	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Human resources										
Tonnes/employee, thousands of tonnes	33.9	37.2	45.5	42.6	37.9	45.9	44.9	38.3	37.3	**22.9**
Revenue/employee, thousands of dollars	164.3	155.0	175.0	199.0	178.0	225.4	247.8	222.9	182.3	**134.6**
EBITDA/employee, thousands of dollars	70.5	67.5	81.5	86.5	69.9	80.1	111.7	91.9	80.9	**57.6**
Labour cost/employee, thousands of dollars	35.0	36.5	39.4	40.9	41.2	44.6	43.5	45.0	43.4	**23.1**
Training cost/wages, percentage	0.8	1.0	1.1	0.8	0.3	0.3	0.3	0.6	1.2	**0.6**
Gender: female participation rate										
All categories, percentage	12.4	12.9	15.7	15.2	15.9	17.3	17.7	17.7	19.2	**18.4**
Management, percentage	28.3	26.3	30.0	32.2	33.2	33.3	34.1	37.1	39.0	**46.4**
Operations, percentage	12.4	12.0	11.6	14.0	14.0	12.5	15.4	17.1	19.9	**15.0**
Cargo handling, percentage	0.0	3.1	5.9	1.3	0.0	1.2	0.6	1.2	2.2	**2.2**
Other employees, percentage	28.6	24.8	26.6	29.3	27.4	25.8	22.2	27.8	26.0	**29.9**
Vessel operations										
Average waiting time, hours	5.0	8.6	14.4	9.8	10.1	5.9	8.8	9.8	13.8	**17.4**
Average gross tonnage per vessel, thousands of tonnes	15.2	14.5	15.5	15.5	14.4	16.2	19.7	17.9	18.5	**18.0**
Oil tanker arrivals, percentage	6.9	8.2	8.5	9.2	10.5	10.8	9.0	7.7	7.2	**8.5**
Bulk carrier arrivals, percentage	7.0	6.9	7.2	7.1	8.1	7.8	7.6	8.1	7.2	**8.2**
Containership arrivals, percentage	11.9	12.8	12.6	13.7	14.3	14.6	12.4	12.4	14.0	**17.0**
Cruise ship arrivals, percentage	2.3	2.6	2.2	1.6	0.2	0.4	1.7	2.5	2.7	**2.9**
General cargo ship arrivals, percentage	18.9	16.3	18.3	19.3	20.6	19.5	20.4	16.8	16.6	**16.4**
Average of other ship arrivals, percentage	14.2	12.0	20.3	15.7	14.7	12.2	14.0	15.4	14.0	**11.6**
Cargo operations										
Average tonnage per arrival (all ships), thousands of tonnes	4.2	5.7	5.1	5.4	5.4	5.1	4.9	4.5	5.2	**6.2**
Tonnes/working hour, dry or solid bulk	225.0	212.5	234.7	171.0	228.6	184.5	151.4	152.1	272.0	**126.5**
Tonnes/hour, liquid bulk	472.3	221.6	171.1	154.0	150.0	201.8	242.7	112.1	136.8	**123.7**
Containers lifted/ship hour at berth, number	22.2	26.4	18.3	20.4	19.2	20.0	15.1	15.1	18.3	**27.8**
Average container dwell time, days	5.0	4.0	4.6	5.0	5.0	5.0	5.0	5.0	4.0	**4.2**
Thousands of tonnes/hectare (all cargo)	52.5	52.4	49.3	52.7	49.7	49.6	50.6	50.2	48.1	**52.3**
Thousands of tonnes/berth metre (all cargo)	1.6	2.0	2.3	2.3	2.0	2.1	1.9	1.6	1.4	**1.3**
Thousands of passengers on ferries	652.7	879.3	739.4	842.4	248.6	147.2	750.5	787.8	794.5	**771.6**
Thousands of passengers on cruises	21.4	23.9	31.8	28.1	0.9	1.5	20.2	27.4	35.8	**37.5**
Environment										
Investment in environmental projects/total capital expenditure, percentage	0.0	1.3	1.2	0.8	0.1	0.5	0.3	0.6	3.5	**8.9**
Environmental expenditures/revenue, percentage	0.0	0.2	0.2	0.7	0.3	0.2	0.5	0.2	0.2	**0.2**
Number of entities reporting	**54**	**60**	**63**	**64**	**64**	**71**	**72**	**59**	**52**	**58**

Source: UNCTAD, June 2026, available at https://pps.unctad.org.

Port governance structures: The landlord model predominates

The distribution of operating models among PPS ports illustrates the sector's structural characteristics. Most ports (59 per cent) operate under the landlord model, with a smaller share (17 per cent) under the full service model. The tool model remains marginal (2 per cent).[2] All three models may involve public or private organizational frameworks (figure IV.9). The range of governance models provides a useful basis for benchmarking, as governance arrangements influence investment decisions, operational responsibilities and, ultimately, port performance.

Figure IV.9
Share of ports by type of operating model (2016–2025)
(Percentage)



Source: UNCTAD, based on PPS data.

Rising concession income and consolidation of the landlord model

Port revenue structures have gradually shifted towards greater reliance on concession-based income (table IV.3). The revenue share of concession fees increased to nearly 25 per cent in 2025, up from 24 per cent in 2024 and 20 per cent in 2016. Traditional sources, namely, vessel dues and cargo dues, remained at 18 per cent and 22 per cent in 2025, respectively. Rental revenues are comparatively marginal and have declined in recent years, reaching less than 1 per cent in 2025. These trends reflect the broader consolidation of the landlord model, with private actors playing a growing role in port operations. Port authorities increasingly focus on facilitation and regulation rather than direct service provision.

Diverging growth in cargo volume and revenue

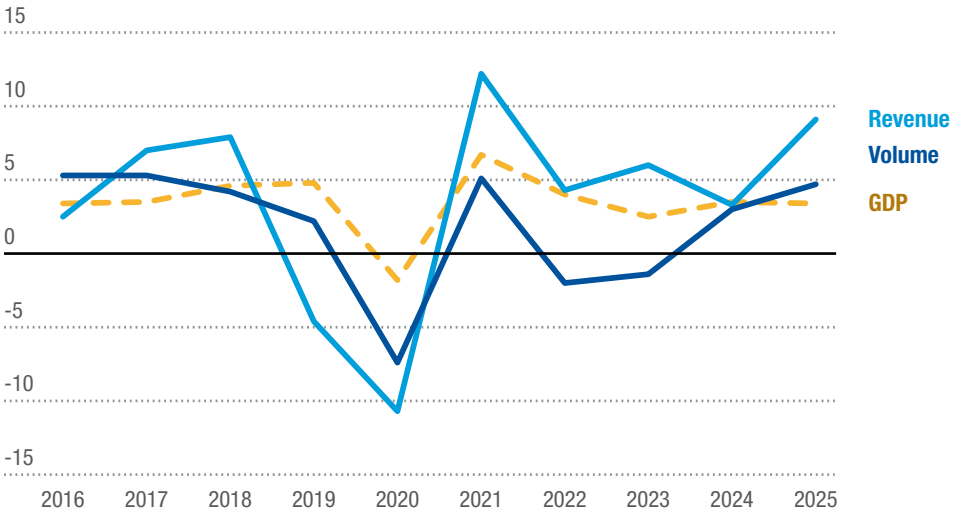
In 2025, port revenue grew by around 9 per cent compared to 5 per cent for cargo volume. The evolution of cargo throughput and revenue illustrates a broadly aligned recovery, following the sharp contraction in 2020 (figure IV.10). Both indicators rebounded strongly in 2021, with revenue increasing more significantly (over 12 per cent) than port cargo volume (around

[2] Under the landlord model, the port authority owns the land and basic infrastructure, and private operators lease terminals, invest in equipment and manage operations. In the full service model, the port authority owns, manages and operates all infrastructure, equipment and cargo handling services. Under the tool model, the port authority owns the land, infrastructure and major equipment, while private companies carry out cargo handling operations.

5 per cent). GDP growth followed a similar pattern of downturn and recovery, although it remained more gradual, suggesting that port activity may fluctuate more widely than broader economic activity.

While volume growth has remained moderate and volatile, revenues have continued to perform more strongly. This divergence suggests a multiplier effect in revenue generation, potentially reflecting tariff adjustments, improved pricing strategies, operational efficiencies, and the gradual removal of crisis-related rebates and fee reductions. Overall, the data show that revenues have increasingly outpaced both volume growth and economic expansion, suggesting that factors beyond volume contributed to stronger revenue performance.

Figure IV.10
Median port cargo volume and revenue compared to median country GDP (2016–2025)
(Annual percentage change)



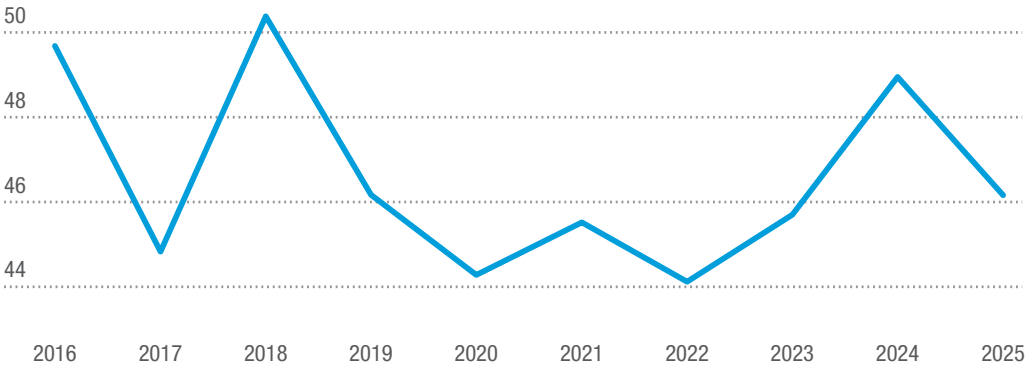
Source: UNCTAD, based on PPS data (cargo volume and revenue) and IMF Datamapper data (country GDP), June 2026.

Note: The 2024 real GDP growth rate is an IMF estimate for Togo; 2025 real GDP growth rates are IMF estimates for Côte d'Ivoire, Cameroon, Gabon, Ghana and Guinea. All other GDP growth rates are realized.

Resilient earnings margins amid global disruptions

Figure IV.11 shows the stability of earnings before interest, taxes, depreciation and amortization (EBITDA) margins over 2016–2025. Earnings largely remained within a narrow range of 44 to 50 per cent of revenue, declining to 46 per cent in 2025 from 49 per cent in 2024. Despite significant global disruptions in recent years, ports maintained stable operational profitability, highlighting their resilience and ability to absorb and respond effectively to successive economic and operational shocks.

Figure IV.11
Median port earnings as a share of revenue (2016–2025)
(Percentage)



Source: UNCTAD, based on PPS data.

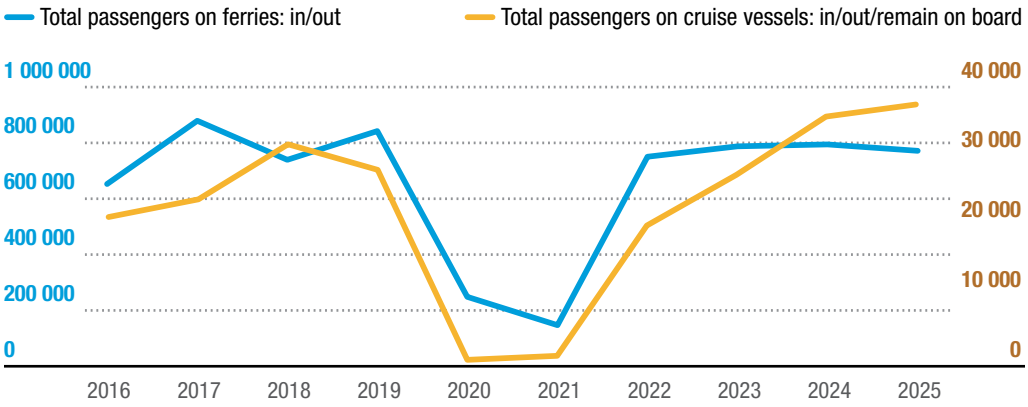
Note: Earnings denotes earnings before interest, taxes, depreciation and amortization.

Strong post-pandemic rebound in ferry and cruise traffic with cruise passengers reaching a record high in 2025

For many ports, passenger transport constitutes an important sector of activity. Passenger traffic has recovered strongly since the severe disruption of the COVID-19 pandemic (figure IV.12). Both ferry and cruise passenger volumes declined dramatically in 2020, with cruise traffic nearly coming to a halt. From 2021 onwards, both segments steadily regained lost ground. By 2025, ferry passenger volumes had returned broadly to pre-pandemic levels, indicating a strong rebound in demand and a stabilization phase, with traffic volumes consolidating and fluctuations becoming more moderate. Cruise passenger numbers reached a record high, highlighting the industry's continued strength and recovery (CLIA, 2026). These patterns demonstrate the resilience of passenger port operations and their ability to restore operational continuity following major disruptions.

The rebound in passenger traffic has contributed to the broader recovery in port activity, underscoring the importance of maintaining adequate capacity and operational resilience across both cargo and passenger services.

Figure IV.12
Median cruise and ferry passengers (2016–2025)

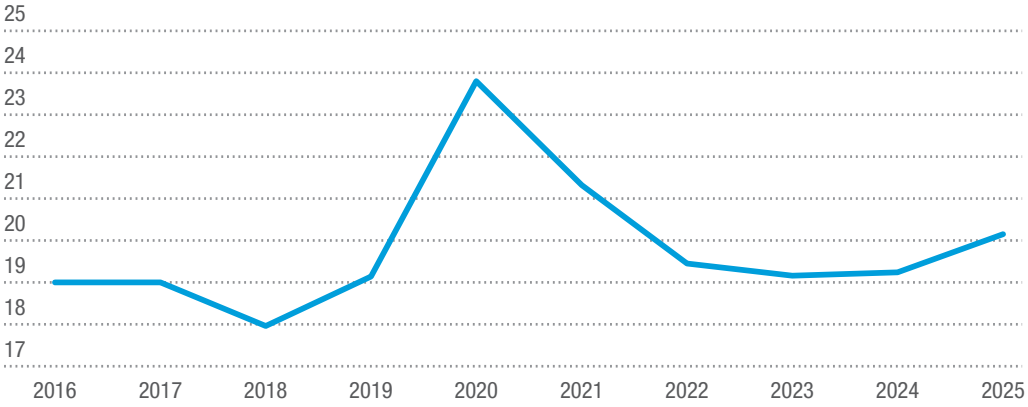


Source: UNCTAD, based on PPS data.

Workforce investment: Rising payroll as a share of port revenue and a post-pandemic rebalancing of labour costs

A moderate increase in human capital investment in 2025 may reflect a strategic shift, as ports increasingly recognize the importance of skilled labour and organizational capacity in sustaining long-term performance (figure IV.13). Data since 2016 reveal a gradual reversal of pandemic-related increases in payroll as a share of revenue. The ratio peaked at close to 24 per cent in 2020, through the combined effect of revenue contraction and the relative rigidity of labour costs, before declining to around 19 to 20 per cent from 2022 onwards.

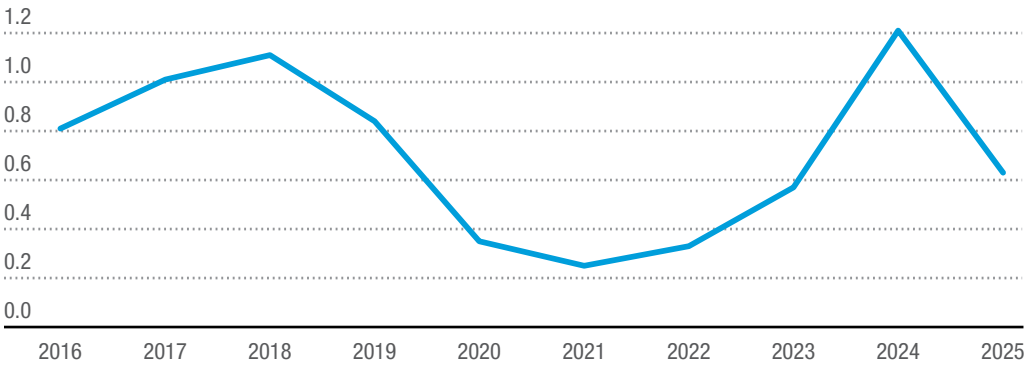
Figure IV.13
Median port payroll expenses as a share of port revenue (2016–2025)
(Percentage)



Source: UNCTAD, based on PPS data.

Training expenditure as a share of wage costs declined to 0.6 per cent in 2025, although it has remained relatively stable, generally fluctuating between 0.6 and 1.1 per cent despite a temporary decline to 0.3 per cent during the pandemic years (figure IV.14). In periods of financial pressure, ports should maintain a strong baseline level of investment in training, as human capital development is an essential and structural component of operational resilience and long-term competitiveness.

Figure IV.14
Median port training expenses as a share of wage costs (2016–2025)
(Percentage)

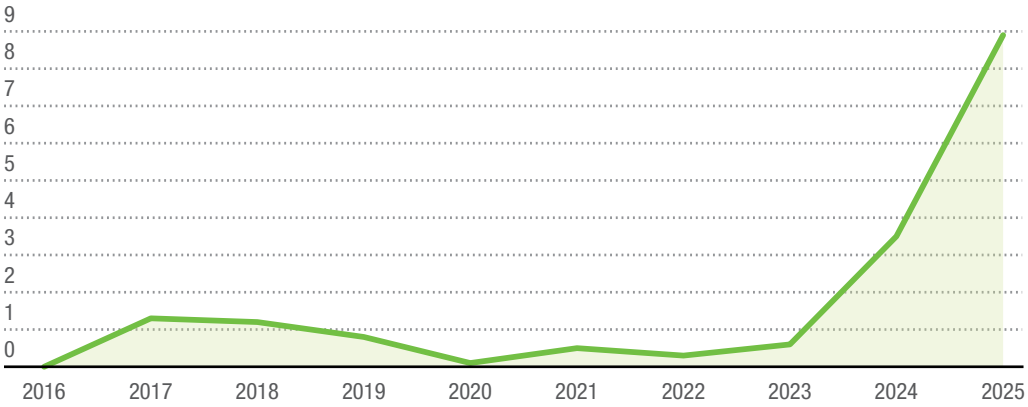


Source: UNCTAD, based on PPS data.

A boost in port environmental sustainability projects in 2025

Environmental investment has seen a significant recent shift, increasing sharply to 9 per cent in 2025, after remaining below 1 per cent of total capital expenditure for most of the 2016–2025 period (figure IV.15). This rise indicates a growing focus on sustainability and environmental performance, likely driven by regulatory pressures, stakeholder expectations and the need to align with global decarbonization objectives.

Figure IV.15
Median port investment in environmental projects as a share of total capital expenditure (2016–2025)
(Percentage)

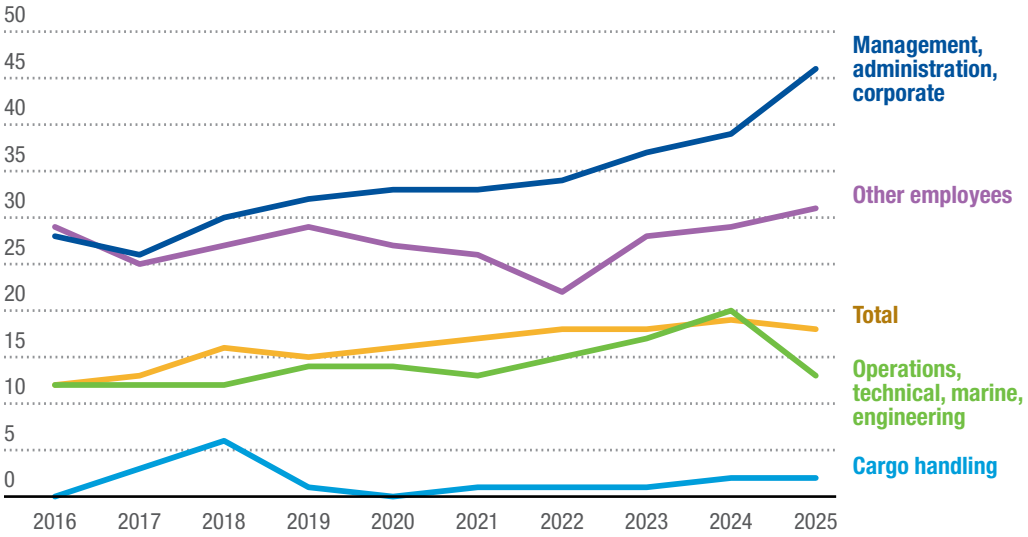


Source: UNCTAD, based on PPS data.

Women's participation: Near parity in management but persistent gaps in operations

The PPS sheds light on women's participation in the global port workforce as a basis for monitoring progress towards greater gender diversity in a traditionally male-dominated sector. Recent data indicate that women account for approximately 18 per cent of the total port workforce, a slight decrease from a peak of 19 per cent in 2024 (figure IV.16). While overall participation has remained relatively stable, significant disparities persist across occupational categories. Women are approaching parity in management and administrative roles, holding 46 per cent of positions, and an upward trend continues. But they remain substantially underrepresented in operational functions and cargo handling activities.

Figure IV.16
Women's participation in ports, as a share of employees, per sector (2016–2025)
(Percentage)



Source: UNCTAD, based on PPS data.

As the port sector faces growing complexity and competition, attracting and retaining a diverse and highly skilled workforce is increasingly important. Advancing the full and effective participation of women is therefore not only a matter of equity but also a strategic priority for strengthening workforce capacity, long-term performance and sustainability.



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C. Maritime trade facilitation

Ports are on the front line of disruptions to strategic shipping routes. Beyond the latest crisis affecting the Strait of Hormuz, the disruption in the Black Sea since 2022, challenges in the Red Sea and Suez Canal since late 2023, and, more recently, draft restrictions introduced by the Panama Canal Authority in the face of droughts and potential El Niño weather patterns are also affecting global port operations. Moreover, localized events, such as the explosion at the Port of Beirut in 2020, cybersecurity incidents and piracy attacks have laid bare the continued vulnerability of ports.

Trade facilitation strengthens supply chain resilience by enabling efficient, coordinated and adaptable logistics systems

In this context, trade facilitation acts as a cross-cutting enabler that strengthens the performance and resilience of ports and related transport and logistics systems. Trade facilitation steers regulatory and administrative processes to enhance supply chain resilience and de-risking. It improves crisis responses, including by enabling the rapid use of alternative ports, transport routes and modes of transport, and by leveraging relevant logistics options. In short, trade facilitation complements actions to bolster the resilience of physical infrastructure, equipment and hard assets but also helps process goods efficiently, coordinate border agencies, facilitate transit, exchange information and adapt procedures.

Amid recurrent disruptions to routes and transport networks, an adequate and fit-for-purpose trade facilitation framework is a precondition for sustainable and resilient transport and logistics.

1. Trade facilitation supports enhanced preparedness and resilience to disruption

Trade facilitation enables business and operational continuity in shipping, ports and transport corridors. A fit-for-purpose trade facilitation framework and adequate institutional and customs and transit arrangements may facilitate the rapid use of alternative routes if chokepoints and primary routes are disrupted. It could enable solutions such as information-sharing, cross-border management and transit agreements as well as cooperation among relevant authorities and stakeholders to mitigate the effects of a disruption.

A trade facilitation framework should allow an effective shift away from disrupted maritime routes to alternative modes of transport and logistics solutions, including through cross-border multimodal transport networks. These should be available and ready to offer the same seamless movement of goods without unnecessary delays, duties or barriers so that operators can shift transport and logistics routes and supply chains remain agile and efficient.

A well-functioning trade facilitation ecosystem banks on transparent, streamlined and cost-efficient procedures. These are particularly critical for inland and multimodal transport routes involving multiple border crossings, where efficient transit depends on harmonized regulations, coordinated customs procedures, and interoperable digital systems such as customs single windows and port community systems.

As shipping operations through the Strait of Hormuz were disrupted (see chapter II), increased reliance on alternative overland transport solutions underscored the importance of trade facilitation measures in maintaining trade flows. For example, Pakistan's Transit of Goods Order[3] opened six inland routes on its territory to maintain trade with the Islamic Republic of Iran as ships could no longer circulate in the Strait. This measure established a legal framework for cargo originating in third countries and destined for the Islamic Republic of Iran. India's customs system has created specific measures to simplify trade procedures for returning Indian ships that could not go through the Strait of Hormuz, including by eliminating requirements for bills of entry in some cases (India, Ministry of Finance, 2026).

Regional trade facilitation solutions have supported traffic rerouting caused by the Black Sea disruption. At the start of the war in Ukraine, Danube ports served as alternative gateways to Black Sea ports and became a lifeline for Ukraine's exports. In the first half of 2022, waterside cargo moving through the Ukrainian Danube ports increased by 234 per cent compared to 2021 (CCNR, 2023). This rerouting was enhanced by the implementation of the EU–Ukraine Solidarity Lanes,[4] the Common Transit Convention and the Convention on the Simplification of Formalities in Trade in Goods (European Commission, 2022). Ongoing reinforced transit and transport partnerships among countries such as the Republic of Moldova, Romania and Ukraine further supported the use of alternative ports and routes (European Commission, 2026b). Major bottlenecks arose along the Danube River, however, after some countries imposed export restrictions affecting cargo transit (CCNR, 2023).

These examples underscore the importance of trade facilitation for effective trade and traffic rerouting in response to disruptions. Such measures allow trade, including critical cargo, to circulate more efficiently across ports, national territories and borders, irrespective of the mode of transport, in a fast-tracked manner. They include reducing additional procedures required to change transport modes and trade routes.

2. Importance of extending contingency and business continuity planning to the entire transport and logistics chain

Although immediate responses to disruptions may provide temporary relief and mitigate impacts, preparedness requires identifying and developing alternative arrangements in advance, such as rerouting options. According to the United Nations Office for Disaster Risk Reduction,[5] contingency planning analyses risks and establishes arrangements in advance to enable timely, effective and appropriate responses. Contingency planning may therefore strengthen the effectiveness of rerouting by anticipating possible disruption scenarios and establishing institutional, regulatory and operational arrangements to respond to them. Rerouting without an appropriate trade facilitation framework may be less effective and impose additional costs, delays and breaks in the supply chain.

Effective rerouting depends on advance contingency planning and appropriate trade facilitation arrangements

Beyond scenario-specific contingency arrangements, business continuity planning provides a complementary framework for maintaining critical functions during disruptions. Business continuity planning centres on a strategic plan used as a risk management and mitigation tool. It enables organizations, including in transport and logistics, to "prepare for, provide and maintain capabilities for managing an organization's overall ability

[3] Pakistan, Ministry of Commerce, Order S.R.O.691(I)/2026, 25 April 2026. Available at https://www.commerce.gov.pk/wp-content/uploads/2026/04/SRO691.pdf.
[4] See more on the EU–Ukraine Solidary Lanes at https://commission.europa.eu/topics/eu-solidarity-ukraine/eu-assistance-ukraine/eu-ukraine-solidarity-lanes_en.
[5] See https://www.undrr.org/terminology/contingency-planning.

to continue to operate during disruptions" (ISO, 2019). It includes, among others, governance arrangements, measures for firms/companies to maintain operational procedures during disruptions, and steps to strengthen the resilience of critical infrastructure to risks such as climate events, security breaches or cyberattacks.

Business continuity planning is a multilayered concept. While it is generally associated with companies and organizations such as transport operators, it may also cover a site such as a port (UNCTAD, 2022). It may extend beyond the site to cover a transport network, whether unimodal or multimodal, connecting a port to the hinterland and, in the case of international corridors, linking countries across borders.

Business continuity planning is integral to port operations and increasingly relied upon amid growing disruptions

Business continuity plans are essential to port resilience and national emergency preparedness

Ports are critical infrastructure supporting national security and economic activity. Consequently, many port authorities have developed business continuity plans as part of broader national emergency preparedness and resilience frameworks.

UNCTAD's *Building Capacity to Manage Risks and Enhance Resilience: A Guidebook for Ports* offers further analysis and examples of business continuity frameworks in global ports. For instance, in 2004, the Port of Meulaboh, Indonesia, implemented measures to maintain business continuity and increase capacity after tsunami-related destruction (UNCTAD, 2022). In 2023, the Port Authority of Singapore encouraged its maritime communities to "maintain a business continuity plan for haze" (MPA, 2023).

Business continuity planning is supported by international guidance and industry standards such as the code of practice on security in ports (IMO and ILO, 2003). Though not legally binding, the code provides practical recommendations for addressing security in ports. It assists in identifying the roles and responsibilities of governments, employers and workers during a security breach and offers a proactive approach to security in ports. More recently, in 2021, the *IAPH Cybersecurity Guidelines for Ports and Port Facilities* issued recommendations for business continuity during digital disruption (IAPH, 2021). While 80 per cent of ports in high-income countries have a cybersecurity business continuity plan, only 25 per cent of ports in low-income countries have one (World Bank, 2026b).

Port-level plans alone, however, may not be sufficient when disruptions extend beyond an individual port and affect maritime routes and transport corridors involving several countries and varied trade and customs regulatory systems. Such plans may not include the trade facilitation measures implemented by customs and border agencies, such as pre-arrival processing and risk management. Moreover, the use of technology in trade-related regulatory procedures, such as customs clearance through electronic customs single windows and the implementation of port community systems, have greatly improved the readiness of border agencies in responding to disruptions from different national jurisdictions. These allow more predictable trade flows along corridors.

Shipping companies are key players in business continuity across the transport and logistics chain. To preserve continuity and competitiveness, they have increasingly taken steps such as investing in inland transport systems and logistics, technology, data, risk management, customer relations and the formulation of business continuity plans. Box IV.3 presents the example of one container shipping operator. The example is for illustration only, as planning for continuity as well as preparedness requirements and practices vary across stakeholders, sectors, regions and supply chain structures. In general, coordination and collaboration between private operators and public authorities is key.

Box IV.3
Preparedness and planning for continuity in practice by private operators

Private sector operators play a key role in maintaining the flow of goods and strengthening maritime supply chain resilience through preparedness, contingency planning, operational flexibility and business continuity measures. A.P. Moller-Maersk, one of the world's largest integrated logistics providers, has operationalized business continuity planning in response to disruptions.

Dynamic risk-based decision-making

During crises, shipping and logistics operators may apply continuous risk assessment frameworks to determine whether key routes remain viable. Operational decisions, such as suspending transit through high-risk areas, can be taken based on real-time monitoring of security developments and coordination with international authorities and partners.

At Maersk, this dynamic approach reflects efforts to achieve real-time risk visibility, supported by integrated data systems that map global disruptions to specific shipments and supply chain dependencies. Maersk emphasizes real-time exposure mapping and actionable risk insights to enable faster and more informed decisions across its network.

Rapid reconfiguration of transport networks

Planning for continuity is also reflected in the rapid reconfiguration of transport networks when maritime routes become constrained. In response to disruptions affecting the Strait of Hormuz, Maersk has scaled up multimodal land bridge solutions, connecting alternative ports such as Jeddah, Salalah and Khor Fakkan with inland destinations via road and rail corridors. These corridors have allowed cargo flows to continue, effectively shifting part of the transport chain from sea to land. This illustrates how logistics providers can maintain service continuity by leveraging integrated networks rather than relying solely on maritime routes.

Flexible customer solutions and prioritization

Continuity measures are also about achieving operational and commercial resilience to support shippers and mitigate impacts. During crises, Maersk has introduced a range of contingency measures and flexible service options, including extended storage or transit allowances, rerouting options, and the prioritization of essential goods, such as food, medicines and perishable products. Temporary commercial adjustments, comprising extended free time for containers or emergency freight solutions, have also been deployed to provide operational flexibility and mitigate impacts on shippers.

Integrated end-to-end visibility and coordination

A defining feature of Maersk's approach is its integration of ocean, inland transport, customs and supply chain management services. This enables better synchronization across different stages of the logistics chain and facilitates faster recovery. Digital tools providing shipment visibility, predictive tracking and exception management further enhance the ability to anticipate disruptions and coordinate responses across actors. Control tower set-ups and integrated platforms allow companies to manage complex rerouting and modal shifts in near real time.

Passport for goods

Industry-wide, a data-driven "passport for goods" concept is emerging, based on leveraging upstream supply chain data, such as commercial, logistics and product information, to create a digital, continuously updated record of a shipment that can be shared across logistics providers and border agencies. By enabling trusted data-sharing and facilitating more predictable and streamlined border processes, such models support faster recovery during disruptions, particularly when supply chains are rerouted across multimodal corridors.

Implications for trade facilitation and resilience-building in transport and logistics

- Multimodal transport integration is essential: inland transport corridors, including all modes, individually or combined, can be effective substitutes and mitigate the impacts of a disrupted maritime transport network.
- Real-time data are a key enabler: visibility and risk intelligence underpin effective decision-making and coordination, especially in crises.
- Flexibility should extend beyond operations: commercial terms and customer solutions need to adapt alongside changes in physical logistics.
- End-to-end approaches outperform siloed responses: integrated logistics models allow faster and more coherent continuity planning.
- As global supply chains become more exposed to disruptions, including geopolitical factors, climate risks and cyber threats, among others, business continuity planning has moved into sharp focus and is becoming core to trade facilitation.

Source: Maersk (2024 and 2025), selected Maersk case studies on supply chain resilience, Andersson (2026).



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The UNCTAD Trade Facilitation Framework for Corridor-Based Continuity Planning

Responding effectively to transport and logistics disruptions, including in maritime transport and at chokepoints, requires continuity planning that extends along corridors while featuring trade facilitation more prominently. The UNCTAD Trade Facilitation Framework for Corridor-Based Continuity Planning is being developed to help secure international trade and business continuity along corridors during crises. It envisions extending a single continuity planning framework to transport and transit corridors to improve connections and complementarity among customs and non-customs agencies at ports and borders. This would strengthen the preparedness and resilience of all relevant agencies and help activate a coordinated, harmonized emergency plan. It would support the continuity of trade delivery and mitigate supply chain disruptions, particularly for vulnerable economies.

This approach will favour proactive planning. It entails mainstreaming risk management principles and resilience, and is designed for rapid and effective responses, efficiency and cost control. It may involve applying specific trade facilitation measures such as cross-border collaboration, transit harmonization and data exchange among border agencies.

The framework based on predefined continuity criteria could transform trade facilitation into a crisis mitigator and even solver, increasing predictability in uncertain scenarios. Preliminary key elements are:[6]

- A regional framework with coordinated border management
- A list of ports and gateways linked to transport corridors
- Pre-identified alternative multimodal transport and transit routes with trade facilitation arrangements for rapid rerouting
- A list of relevant border agencies
- A list of pre-identified priority goods such as medicines, fertilizers, etc.
- Simplified and facilitated transit procedures
- Information technology interoperability with data exchange along the corridor

The role of a trade facilitation institutional framework in corridor-based continuity planning

International and trade facilitation agreements, tools and regional cooperation could provide an important institutional and regulatory foundation for corridor-based business continuity planning. The United Nations Centre for Trade Facilitation and Electronic Business, in its recommendation no. 44 on cross-border facilitation measures for disaster relief, specifically section 4.3, encourages cross-border regulatory agencies to implement business continuity plans to achieve rapid disaster relief and to update the centre regularly with lessons learned from crises (UNECE, 2021). The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), in its study *Towards Sustainable Transport Corridors: Enhancing Road Connectivity in the ESCAP Region for LLDCs and Transit Countries*, encourages inter-agency cooperation and digital customs tools for continuity planning (UNESCAP, 2026). At the fiftieth session of the IMO Facilitation Committee, bilateral business continuity planning between China and Singapore was identified as a best practice in maintaining e-certificate data exchanges for efficient port clearance even in disruptions (IMO, 2026).

International cooperation and trade facilitation frameworks strengthen business continuity across transport corridors

With the increased use of overland and multimodal routes due to increasing disruptions, the United Nations Code for Trade and Transport Locations provides support via a “unique and unambiguous geographic coding scheme” to identify any trade-related geographical place,

[6] The list is preliminary. Further work, outside the scope of the *Review of Maritime Transport*, will be required to refine the concept and formulation of such a framework.

increasing the potential for automation and fewer errors, and therefore facilitating trade (UNECE, 2026). The Customs Convention on the International Transport of Goods under Cover of TIR Carnets further increases the efficiency of inland trade through transit countries by reducing inspections of goods (UNECE, 2025). A United Nations–Transit International Routier (TIR) corridor was used in 2024 between Kuwait and Latvia (13 countries) to bypass the Suez Canal disruption (Rey-Bellet, 2024). Regional and national efforts made the corridor possible. The average level of trade facilitation across those countries in 2023 was 79.57 per cent, above the world average (163 countries) of 66.48 per cent.[7]

The European Union's New Computerised Transit System is a trans-European digital customs system[8] that allows the control of goods moving under the Union and Common Transit procedures sharing transit declarations through a single interface. Especially for land rerouting, the system helps accelerate procedures and avoid unnecessary verifications. Customs and excise duties are suspended along with trade policy measures at the time of import between countries under the Union Transit[9] and Common Transit.[10]

To facilitate harmonized trade facilitation frameworks across corridors, information technology interoperability among border agencies is required, such as through ASYHUB Maritime,[11] an UNCTAD system. It could support business continuity planning through pre-arrival analytics, making it easier to develop and implement continuity plans and pursue rapid trade facilitation solutions during crises. Competing priorities, capacity-building requirements, a lack of political will and limited resources among governments and public sector agencies, however, especially in developing countries, may strand such planning, underscoring the need for strong coordination to effectively respond to emergencies.

3. Leveraging NTFCs to coordinate the Trade Facilitation Framework for Corridor-based Continuity Planning

Article 23.2 of the WTO Agreement on Trade Facilitation stipulates that NTFCs comprise public and private sector stakeholders that coordinate trade facilitation. In crises, NTFCs could play critical roles in formulating and coordinating a trade facilitation framework for continuity planning along trade corridors, with each managing its national jurisdiction.

An UNCTAD survey[12] on business continuity planning in May 2026, however, found that 67 per cent of 54 respondents from 26 NTFCs had no knowledge of business continuity planning (figure IV.17). Four respondents indicated being familiar with the concept through international organizations, such as UNCTAD and the World Customs Organization (WCO). Technical assistance provided by such entities has helped countries create emergency frameworks and build capacity. UNCTAD has created business continuity planning via its ASYCUDA Customs Management System and the Automated System for Relief

[7] An average of countries based on the 2023 results of the United Nations Global Survey on Digital and Sustainable Trade Facilitation, available at https://www.untfsurvey.org/. Values for Romania, Slovakia and the United Arab Emirates are not available.

[8] See more at https://taxation-customs.ec.europa.eu/online-services/online-services-and-databases-customs/new-computerised-transit-system-ncts_en.

[9] All European Union countries, Andorra and San Marino.

[10] European Union countries, European Free Trade Area countries, Georgia, Moldova, Montenegro, the Republic of North Macedonia, Serbia, Türkiye, Ukraine and the United Kingdom.

[11] For more information, see https://www.asyhub.org/.

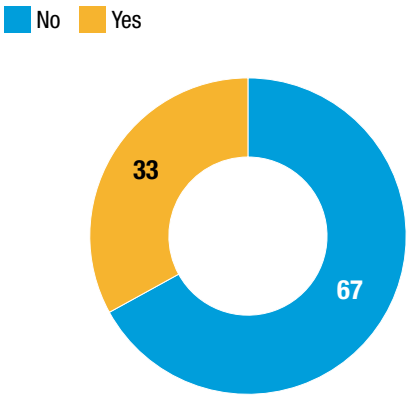
[12] The survey was sent to 33 NTFCs selected based on geographical and geopolitical specificities (e.g., recent conflicts, climate change risks, existence of regional frameworks). NTFC coordinators either responded themselves or shared the survey with other NTFC members. Out of 54 respondents from 26 NTFCs in low-, middle- and high-income countries, 93 per cent were public sector representatives. More information is available at https://forms.cloud.microsoft/e/cpA71NqmuS.

Consignments (ASYREC).[13] Additionally, it has developed the Rapid Scan trade facilitation preparedness tool, which maps emergency trade facilitation regulations in developing countries, assesses how these apply to crises and offers post-crisis recovery solutions.[14] The WCO assisted countries with customs continuity during the COVID-19 pandemic (WCO, 2021).

The survey also showed that a large majority of respondents favoured business continuity plans being implemented within public agencies such as NTFCs (figure IV.18). They also endorsed NTFCs as custodians of national business continuity strategies during disruptions affecting trade, due to their coordinating mandate between public and private sectors, which supports the flow of information and efficiency (UNCTAD, 2026e).

Figure IV.17
Business continuity planning knowledge, implementation and archiving efforts
(Percentage of survey respondents)

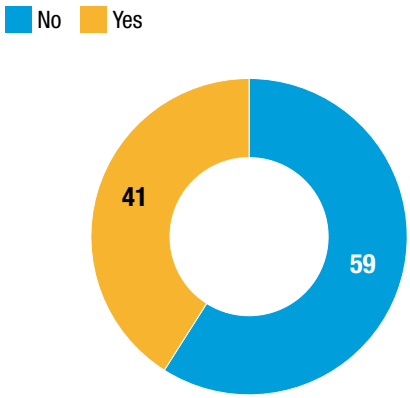
A. Are you familiar with business continuity planning or management?



Source: UNCTAD survey and calculations, 2026.

Note: Based on the total number of respondents to a close-ended survey question: Were you familiar with the concept of business continuity planning or business continuity management prior to this survey? Answers could either be "yes" or "no".

B. Does your agency have archiving and learning practices in place?



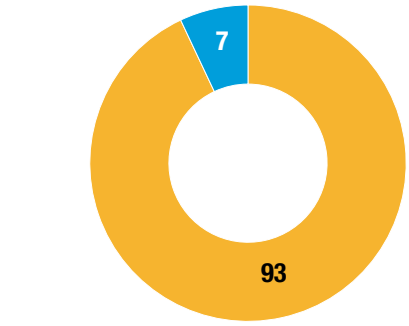
Source: UNCTAD survey and calculations, 2026.

Note: Based on the total number of respondents to an open-ended survey question: Does your agency have an archiving/lessons learned system from previous crises that would facilitate the drafting of a business continuity plan? Answers were interpreted and compiled into "yes" or "no".

[13] For more information, see https://asyworld.gov.vu/content.jsf?c=BCP and ASYREC at https://www.asyrec.org/.

[14] For more information, see https://unctad.org/topic/transport-and-trade-logistics/trade-facilitation/rapid-scan. Countries such as Bolivia and Ecuador have Rapid Scans, and monitor and evaluate them through the UNCTAD Reform Tracker, available at https://reformtracker.org/.

Figure IV.18
Should NTFCs coordinate business continuity planning against trade disruptions?
(Percentage of survey respondents)

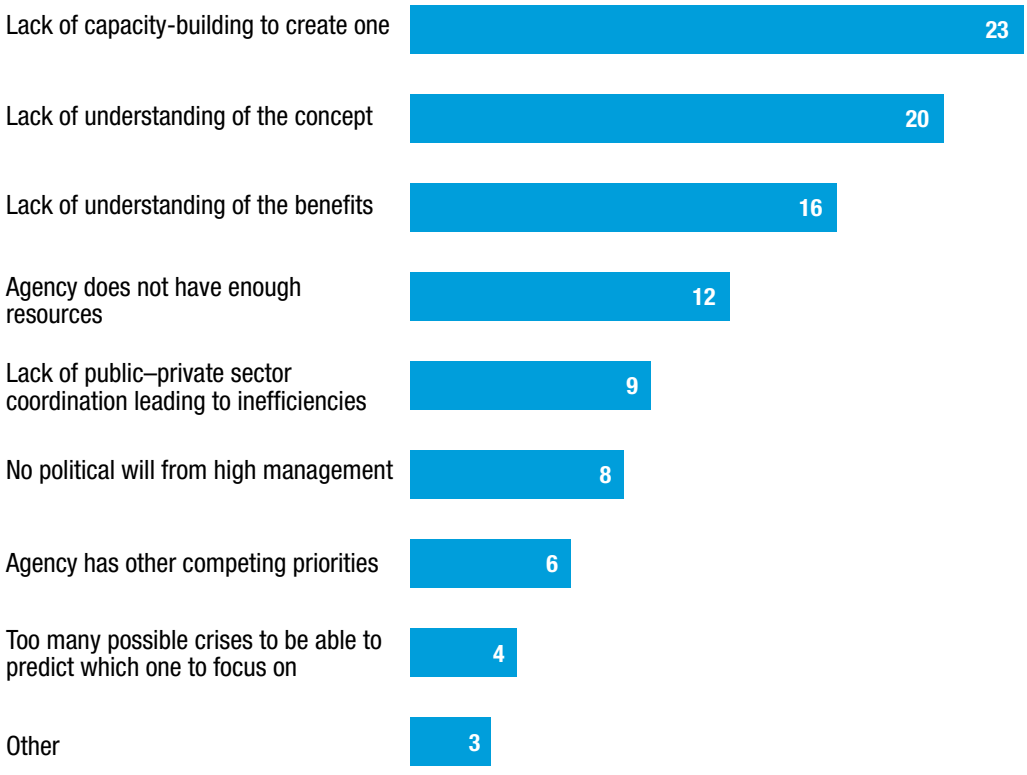


Source: UNCTAD survey and calculations, 2026.

Note: Based on the total number of respondents to a close-ended survey question: Would you (do you) find it useful for your NTFC to coordinate the business continuity plans of members for crises affecting trade? Answers were either "yes" or "no".

Nevertheless, as Figure IV.19 reveals, obstacles remain to formulating and implementing business continuity plans.

Figure IV.19
Challenges in creating a business continuity plan
(Percentage of survey responses)



Source: UNCTAD survey and calculations.

Note: Based on the total number of responses from developing countries, including least developed countries and small island developing States, to a multiple-choice survey question: Why is there no business continuity plan in your agency? Respondents could provide more than one answer.

A working group on continuity planning under an NTFC could help increase stakeholder engagement during preparation, response and emergency termination phases. Adding crisis preparation and management aspects to NTFC responsibilities could enhance their relevance in business continuity during supply chain disruptions. Since countries often have disaster management authorities with preparedness and early warning mechanisms (WCO, 2021), NTFCs would need to increase collaboration with these bodies and combine efforts when disruptions affect trade and transport.[15]

In addition to NTFCs, regional economic communities could also initiate corridor-based continuity planning, since corridors are regional in nature. The East African Community illustrates proactive and strategic crisis planning (box IV.4).

Box IV.4
The East African Community's regional business continuity measures

The East African Community implements measures to maintain business as usual during supply chain disruptions. Its Secretariat and partner States (Burundi, the Democratic Republic of the Congo, Kenya, Rwanda, Somalia, South Sudan, Uganda and the United Republic of Tanzania) have a mix of contingency measures built into the East African Community Customs Union, one-stop border post frameworks and implementation of the WTO Agreement on Trade Facilitation. These measures are not branded as business continuity planning. But they support continuity during shocks such as border closures, floods, truck driver strikes or diseases. Partner States also have disaster management plans.

Among the contingency measures implemented, four in particular stand out. Enhanced by regional legislation, they include the following.

One-stop border posts and coordinated border management allow the clearance of goods in one location on the border. During disruptions, partner States activate joint standard operating procedures to prevent trucks from being reinspected on both sides of the border. During COVID-19, regional cargo driver testing as well as "trusted traveller" protocols kept corridors open while restricting passenger movement.

Corridor governance and performance monitoring: Northern and central corridor transport observatories track truck turnaround, dwell time and bottlenecks. When disruptions hit, the Secretariat uses data to trigger interventions such as escorted convoys, temporary weigh bridge exemptions or alternative routing advice.

Electronic systems and paperless trade: The UNCTAD ASYCUDA Customs Management System, Tanzania Customs Integrated System, Integrated Customs Management System and national single windows allow traders to submit remote declarations. The East African Community's Electronic Cargo Tracking System and Regional Customs Bond Guarantee Scheme keep transit cargo moving even if one customs office is down.

Simplified regimes for small traders: During crises, simplified trade regimes and exemptions for low-value consignments expand to maintain informal cross-border trade flows that sustain border communities.

[15] The contact points of disaster management offices are available at https://reliefweb.int/national-disaster-management-authorities.

The East African Community Customs Management Act and regional regulations provide a legal basis for partner States to harmonize responses and solutions, instead of each country closing borders independently.

Despite many advantages, regional business continuity planning remains underdeveloped in the Community. Scaled-up implementation could achieve several benefits.

Gaps filled: Formal regional business continuity planning would map cross-border dependencies. For instance, Juba relies on Mombasa, which in turn relies on Nimule, which impacts Juba. National planning cannot ensure the resilience of this chain, but a regional plan would pre-agree on alternate corridors, shared commodity lists, pre-cleared trader/authorized economic operators lists and joint communications protocols.

Speed: Instead of ad hoc negotiations, regional plans provide pre-agreed "playbooks" for border agency cooperation, electronic document acceptance and temporary flexibilities around sanitary and phytosanitary measures and technical barriers to trade. This increases procedural speed.

Resilience: Without regional planning, one partner State closing a border creates cascading delays for all countries in the region. A regional plan could define synchronized "essential goods" lanes, mutual recognition of inspections and shared risk management.

Private sector confidence: Traders, insurers and financiers price in uncertainty. A published regional business continuity plan would lower risk premiums and help logistics firms plan alternatives.

Efficient business continuity plans define pre-agreed definitions for "essential goods", pre-qualified traders and shared information technology contingency plans before the next shock hits. Furthermore, a regional plan should be modular by corridor, tiered by disruption type, linked to national plans, and tested through simulations with NTFCs and the private sector. A successful plan also requires communications, as traders need real-time updates via trade information hubs, not just government circulars.

Investing in national efforts to implement the WTO Agreement on Trade Facilitation would further support business continuity planning, as solutions are enabled by risk management, single windows, border agency cooperation and authorized operators. Technical assistance for Category C measures[16] would directly impact the scope of business continuity planning.

In short, a regional business continuity framework is the next step from "faster clearance" to "continuity during shocks".

Source: East African Community Secretariat.

[16] Provisions to implement following the entry into force of the Agreement on Trade Facilitation and requiring assistance and support for capacity-building. For more, see https://www.wto.org/english/tratop_e/tradfa_e/tradfatheagreement_e.htm#:~:text=Category%20C%3A%20provisions%20that%20the,and%20support%20for%20capacity%20building.

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Chapter V

Legal issues and regulatory developments

This chapter provides an overview of key international legal and regulatory developments affecting maritime transport and trade. Part A focuses on the entry into force of the 2010 International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (2010 HNS Convention), its main provisions, benefits for Contracting States and remaining regulatory gaps.

Part B considers the new IMO Guidelines on the Registration of Ships and their role in strengthening maritime governance and combating fraudulent ship registries and registrations.

Part C presents other key legal developments, including: (i) the adoption of the IMO International Code of Safety for Maritime Autonomous Surface Ships (MASS Code), (ii) the entry into force of the Agreement under the United Nations Convention on the Law of the Sea (UNCLOS) on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction (BBNJ Agreement), (iii) the entry into force of the United Nations Convention on the International Effects of Judicial Sales of Ships (Beijing Convention) and (iv) the adoption of the United Nations Convention on Negotiable Cargo Documents (NCD Convention).

United Nations



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Key takeaways

- The entry into force of the 2010 HNS Convention in November 2027 will close a significant gap in the global maritime liability and compensation framework. For the first time, it will establish a comprehensive system for prompt, adequate and predictable compensation for damage arising from the carriage by sea of hazardous and noxious substances, including chemicals, liquefied gases and other dangerous goods. This is particularly important as trade in such substances, including chemicals and alternative fuels, continues to grow. Modelled on the existing international liability regime for persistent oil pollution from tankers, the Convention establishes a two-tier compensation system. It combines strict shipowner liability backed by compulsory insurance with additional compensation from an international fund financed by hazardous and noxious substances (HNS) cargo receivers in Contracting States.

- Accession to the Convention would give claimants in Contracting States access to substantial compensation for loss of life, personal injury, pollution damage and preventive measures. This would not necessarily entail significant financial burdens, as contributions to the HNS Fund are only required if HNS receipts exceed a certain threshold. Accession may therefore be particularly beneficial for many coastal developing States and small island developing States, which are often highly vulnerable to HNS incidents despite importing little or no HNS cargo. All United Nations Member States are encouraged to accede to the Convention and promote its broad application. UNCTAD is available to provide advice and assistance.

- HNS Convention insurance will be required not only for ships registered in Contracting States but also for vessels carrying HNS cargoes to or from their ports. Shipowners should ensure compliance well in advance to avoid limitations on access to key ports and chemical trade hubs.

- Important regulatory gaps remain, notably because the Convention does not cover damage arising from the use of HNS, including alternative fuels, for ship propulsion and operation. Policymakers should engage actively in ongoing IMO work on this and related issues.

- To strengthen maritime governance and address fraudulent ship registration and registries, the IMO Legal Committee has adopted the Guidelines on the Registration of Ships. Although voluntary, they represent the first internationally agreed guidance on ship registration procedures. They are particularly useful for new registries and those seeking to improve existing practices. Implementation by all flag States is strongly encouraged.

- The non-mandatory IMO MASS Code, effective from 1 July 2026, establishes a global framework for the safe integration of artificial intelligence-enabled and remotely operated commercial vessels, while preserving requirements for human oversight and safety. A mandatory code is envisaged for adoption in 2030, following an experience-building phase. Given the implications of ship automation and the importance of effective regulation for navigation safety, pollution prevention and the future role of seafarers, United Nations Member States are encouraged to implement the MASS Code and participate actively in related IMO work.

- The BBNJ Agreement, which entered into force in January 2026, represents a major milestone for the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction. The Agreement addresses many critical issues for developing States, including fair and equitable benefit-sharing related to marine genetic resources and related digital sequence information, as well as capacity-building and technology transfer. Widespread accession is strongly encouraged, as is active engagement in the first session of the Conference of the Parties in January 2027, which is expected to make a number of important decisions to operationalize the Agreement. States are encouraged to develop or strengthen national legal frameworks for implementation, supported by available financial and capacity-building mechanisms Policymakers in Contracting States should also strengthen, as necessary, the effective implementation, enforcement and further development of the international maritime legal framework, in line with the Agreement's objectives.

- The Beijing Convention governs the international effects of a judicial sale of a ship that confers clean title on the purchaser. Its entry into force, on 17 February 2026, represents an important step towards harmonizing maritime law on the cross-border recognition of judicial sales of ships. To enhance its effectiveness and impact internationally, all United Nations Member States are encouraged to consider accession.

- The recently adopted United Nations Convention on Negotiable Cargo Documents creates a uniform framework for transferable paper and electronic documents of title representing goods in transit across all transport modes. It is intended to facilitate trade finance, the sale of goods in transit and multimodal transport. It does not, however, address carrier liability or protect cargo interests from potentially unfair contractual terms. States considering ratification are therefore advised to review domestic laws to ensure that adequate mandatory minimum standards of carrier liability are available to shippers and consignees.

A. Closing an important regulatory gap: The 2010 International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea

1. Entry into force of the 2010 HNS Convention

Following decades of negotiations and preparatory work, the International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 1996, as amended by its 2010 Protocol,[1] has reached a milestone.

The original HNS Convention, adopted in 1996, never entered into force because it did not reach the required number of ratifications. To overcome some obstacles to ratification, the Protocol adopted in 2010 introduced some important amendments (UNCTAD, 2010 and 2012). Ratification of the 2010 Protocol implies ratification of the 1996 Convention as amended by the Protocol, with both instruments being read and interpreted as a single instrument, referred to as the 2010 HNS Convention.

In April 2026, at the 113th session of the IMO Legal Committee, Belgium, Germany, the Kingdom of the Netherlands and Sweden deposited their instruments of ratification or accession, bringing the number of Contracting States to 12 and fulfilling the Convention's remaining State and tonnage requirements for entry into force (IMO, 2026a).[2] On 29 May 2026, the reported volumes of contributing cargo met the final requirement for triggering the 18-month period before the entry into force of the 2010 HNS Convention (IMO, 2026b), on 29 November 2027. Following ratification by Finland in June 2026 (IOPC Funds, 2026), the Convention now has 13 Contracting States (figure V.1).

The entry into force of the 2010 HNS Convention closes a longstanding regulatory gap. Despite the existence of a robust international liability regime for persistent oil pollution damage from tankers – comprising the International Convention on Civil Liability for Oil Pollution Damage, 1992 (CLC 1992) and the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage,1992 (IOPC Fund Convention 1992),[3] collectively known as the CLC–IOPC Funds regime – no relevant international civil liability and compensation framework is in force to cover damage arising from the carriage of HNS by sea.

1 The consolidated text of the Convention is available at https://www.hnsconvention.org/.

2 For the text of reservations by some Contracting States in line with article 5 of the Convention, see IMO, 2026a.

3 Both Conventions have been in force since 1996 and are available at https://www.iopcfunds.org/. As of 30 October 2026, the CLC 1992 has 149 Contracting Parties; the IOPC Fund Convention 1992 has 124 (IMO, 2026a). Earlier versions of the two Conventions are still in force in several jurisdictions. For a detailed analytical overview, see UNCTAD, 2012.

Incidents involving HNS can have severe, widespread and costly consequences, highlighted by recent maritime accidents. These comprise the *X-Press Pearl* chemical spill,[4] the *MV Solong–MV Stena Immaculate* collision[5] and the *YM Mobility* chemical container explosion.[6] Fires, explosions and operational or accidental spills of HNS can result in loss of life and personal injury as well as environmental pollution, costly clean-up operations, port closures and extensive economic losses, and can have long-term ramifications for affected coastal communities. These may be particularly pronounced in coastal developing States, including least developed countries, as well as small island developing States, where ocean goods and services, including maritime transport, fisheries and tourism, are critical for livelihoods and food security.[7]

2. Main provisions

The 2010 HNS Convention is modelled closely on the CLC-IOPC Funds regime but differs in some material respects.

Scope of application

The 2010 HNS Convention has a broad material scope of application, covering damage arising from the carriage as cargo[8] of any substances, materials and articles considered HNS, irrespective of whether they are carried in bulk or packaged form.[9] While the CLC-IOPC Funds regime covers only pollution damage caused outside the ship by contamination and preventive measures, the concept of damage under the 2010 HNS Convention is broader. It includes loss of life or personal injury on board or outside the ship carrying HNS and loss of or damage to property outside the ship, in addition to loss or damage caused by contamination of the environment, loss of income in fishing and tourism, and the costs of preventive measures and further loss or damage caused by such measures.[10]

The 2010 HNS Convention does not cover pollution damage caused by persistent oil (e.g., crude oil, fuel oil, heavy diesel oil or lubricating oil), since such damage may be covered under the CLC-IOPC Funds regime.[11] Persistent oil is included in the list of substances in article 1(5) of the 2010 HNS Convention, however, and non-pollution damage caused by persistent oil (fire, explosion, loss of life or personal injury on board or outside the ship) would be covered by the Convention.[12] Therefore, it adds to the existing level of protection under the CLC-IOPC Funds regime in case of an incident involving an oil tanker by covering certain non-pollution damage.

Fires, explosions and operational or accidental spills of HNS can result in loss of life and personal injury as well as environmental pollution, costly clean-up operations, port closures and extensive economic losses

4 The 2021 *X-Press Pearl* incident off Sri Lanka involved a container ship carrying hazardous chemicals that caught fire, exploded, sank, and caused extensive marine pollution and coastal contamination (United Nations Environment Programme and United Nations Office for the Coordination of Humanitarian Affairs, 2021).

5 The collision between the *MV Solong* and *MV Stena Immaculate* in the North Sea in 2025 involved a container ship carrying dangerous goods and a tanker laden with aviation fuel. The incident caused explosions and fire, resulting in one crew member presumed dead, and posed a significant pollution risk (Marine Accident Investigation Branch, 2025).

6 The 2024 explosion aboard the *YM Mobility* in the port of Ningbo, China, was caused by unstable chemical cargo in a container. It led to a fire and explosion, major damage (estimated at $13 million) and the risk of environmental contamination in a port area (The Maritime Executive, 2025; Safety4Sea, 2025).

7 In 2024, developing State exports of marine fisheries, aquaculture and hatcheries accounted for an estimated value of $41,740 million. For the same year, the value of marine and coastal tourism, reached $400,423 million (UNCTAD, 2026).

8 The scope of application starts when HNS enter the ship's equipment (e.g., the manifold) or pass its rail on loading. It ends when HNS cease to be part of the ship's equipment or pass its rail on discharge (article 1(9) of the Convention; IOPC Funds, 2014).

9 Article 1(5) of the Convention defines HNS by reference to lists of substances identified in existing international conventions and codes on maritime safety and pollution prevention. To verify whether a cargo falls within the Convention's scope, the online HNS Finder tool is available at https://www.hnsconvention.org/hns-finder/.

10 Article 1(6)(a)-(d); see also the IOPC Funds explanatory note (IOPC Funds, 2014).

11 According to article 4(3)(a), the 2010 HNS Convention does not apply to "pollution damage as defined in the [CLC], whether or not compensation is payable in respect of it under that Convention".

12 Ibid. See also De la Rue and Anderson, 2009, and the IOPC Funds explanatory note (IOPC Funds, 2014).

In terms of geographical scope, article 3 of the 2010 HNS Convention provides that the Convention covers: (i) any damage caused in the territory or territorial sea of a State Party, as well as (ii) *pollution* damage caused in the exclusive economic zone, and (iii) preventive measures, wherever taken. This is relevant for coastal States that import or export HNS or have shipping lanes near their coastlines. The Convention also covers (iv) non-pollution damage – such as loss of life and personal injury – caused by HNS carried on board a ship flying the flag of a State Party outside the territory or territorial sea of any State. Thus, in case of loss of life or injury sustained on the high seas by the crew of an HNS-carrying vessel flying the flag of a Contracting State, compensation in line with the provisions of the Convention would be available.

Liability of the shipowner (first tier)

The first tier establishes the shipowner's strict liability, subject to defined financial limits and exceptions

Similar to the CLC-IOPC Funds regime, the 2010 HNS Convention adopts a two-tiered compensation system, with liability shared between the registered shipowner and cargo interests, more specifically, HNS receivers in Contracting States.[13] The first tier establishes the strict and channelled liability of the registered shipowner for damage covered by the regime. The shipowner is liable regardless of fault. Compensation claims may be brought only against the shipowner, excluding the liability of other parties and, once a limitation fund has been constituted (article 9), recourse against the shipowner's other assets.[14] Some exceptions to liability apply, notably in cases where damage is due to reasons beyond the shipowner's control.[15] The shipowner may limit its financial liability to an amount ranging between 10 million and 100 million Special Drawing Rights (SDRs),[16] depending on the vessel's tonnage, although the limit increases where the incident involves packaged HNS.[17]

To ensure the effectiveness of this system, shipowners are required to maintain compulsory insurance or other financial security covering their potential liability. Ships must carry certificates evidencing such cover, and claimants are granted a direct right of action against the insurer (article 12, specifically 12(8)). Enforcement of the compulsory insurance requirement is a matter for both the flag State, which "shall not permit a ship under its flag […] to trade unless a certificate has been issued […]" as well as the port State, which "shall ensure that insurance or other security […] is in force in respect of any ship, wherever registered, entering or leaving a port in its territory, or arriving at or leaving an offshore facility in its territorial sea" (articles 12(10) and (11)).

According to the International Group of Protection and Indemnity Clubs, around 65,000 vessels currently carry or may carry HNS cargoes (IMO, 2026c), including many flying the flag of non-Contracting States. As insurance certification under the 2010 HNS Convention will be required to call at ports of Contracting States, shipowners should secure the necessary coverage before the Convention enters into force. Otherwise, they may risk losing access to major ports and chemical trade hubs in North-East and Baltic Europe and Atlantic Canada.

[13] Receivers in Contracting States of HNS cargo above certain thresholds contribute to the HNS Fund. The 2010 HNS Convention does not impose liability on the owner of the HNS involved in the incident.
[14] Articles 7 and 10; see also UNCTAD, 2012 and IOPC Funds, 2014.
[15] See article 7(2), providing an exhaustive list of exceptions to liability, including an "act of war, hostilities, civil war, insurrection or a natural phenomenon of an exceptional, inevitable and irresistible character", as well as a failure of the shipper to declare dangerous cargo.
[16] Article 9. The SDR is a basket currency updated daily by the International Monetary Fund; 100 million SDRs correspond to approximately $135 million (based on the exchange rate on 28 October 2026).
[17] Where damage is caused by packaged HNS, by both bulk and packaged HNS, or where it cannot be determined whether the damage was caused by bulk or packaged HNS, the relevant limits rise to 11.5 and 115 million SDRs, respectively (article 9(b)).

International Hazardous and Noxious Substances Fund (second tier)

The first tier of liability is complemented by a second tier, under which compensation is available from the International Hazardous and Noxious Substances Fund (HNS Fund). Similar to the IOPC Funds, the HNS Fund is financed by contributions levied on persons and entities that, in a calendar year, received cargoes after sea transport in a Contracting State in quantities above the thresholds laid down in the 2010 HNS Convention.[18]

The function of the HNS Fund is to compensate damage in connection with the carriage of HNS substances by sea to the extent that the damage is not adequately compensated by the shipowner. This includes three sets of cases: (i) where no liability arises for the shipowner under the provisions of the Convention (i.e., one of the exceptions to shipowner liability applies); (ii) the owner liable for the damage is financially incapable of meeting its obligations in full and financial security or insurance is inadequate; or (iii) the damage exceeds the owner's liability as provided in the Convention (article 14(1)). The overall maximum compensation available from the HNS Fund in respect of any one incident is 250 million SDR, including the sum paid by the shipowner or its insurer.[19] Compensation for damage arising from "an act of war, hostilities, civil war or insurrection or damage from HNS discharged from a warship or ship on Government non-commercial service" is exceptionally not borne by the HNS Fund in accordance with article 14(3), a fact of increasing significance, considering heightened geopolitical instability. As a result, related damage is not compensated under the Convention.[20]

The HNS Fund, when fully operational, will have four accounts: (i) a general account, for chemicals in bulk and other HNS substances, (ii) an oil account, (iii) an LNG account and (iv) an LPG account (article 16). Each account will meet the cost of compensation payments arising from damage caused by substances contributing to that account.[21]

The Convention also imposes detailed reporting obligations on receivers of HNS cargo in Contracting States, above certain thresholds, with non-compliance potentially leading to the suspension of compensation payments, except for death and personal injury claims.[22]

The HNS Fund provides a second tier of compensation financed by contributions from cargo receivers in Contracting States

Benefits of ratifying the 2010 HNS Convention

Collectively, these provisions create a predictable, internationally funded mechanism for prompt and adequate compensation for HNS-related damage. The strict liability of the shipowner facilitates the satisfaction of claims and reinforces the "polluter pays" principle (ITOPF et al., 2016). Combined with mandatory liability insurance and a right of direct action against the insurer, it also strengthens the practical enforceability of claims (UNCTAD, 2012; De la Rue and Anderson, 2009).

The second tier of compensation – the HNS Fund – provides substantial financial compensation of up to 250 million SDR per incident. This is significantly higher than compensation available to claimants

[18] The relevant thresholds vary depending on the substance carried (articles 18,19, 19(1)(a) and 19(1bis); see IOPC Funds, 2014.

[19] Article 14(5). In case of "damage resulting from a natural phenomenon of an exceptional, inevitable and irresistible character", where the shipowner is exempt from liability, the HNS Fund covers up to 250 million SDR per incident.

[20] Articles 7(2)(a) and 14(3)(a). The rise in war-loss incidents after 2021 (DNV, 2025) suggests greater exposure to conflict-related risks, including in the carriage of HNS cargoes.

[21] Although contributions are paid only by the receivers of cargo shipped in bulk, damage caused by packaged goods is also compensated by the HNS Fund. See the IOPC Funds explanatory note (IOPC Funds, 2014), paras. 4(i) and 40.

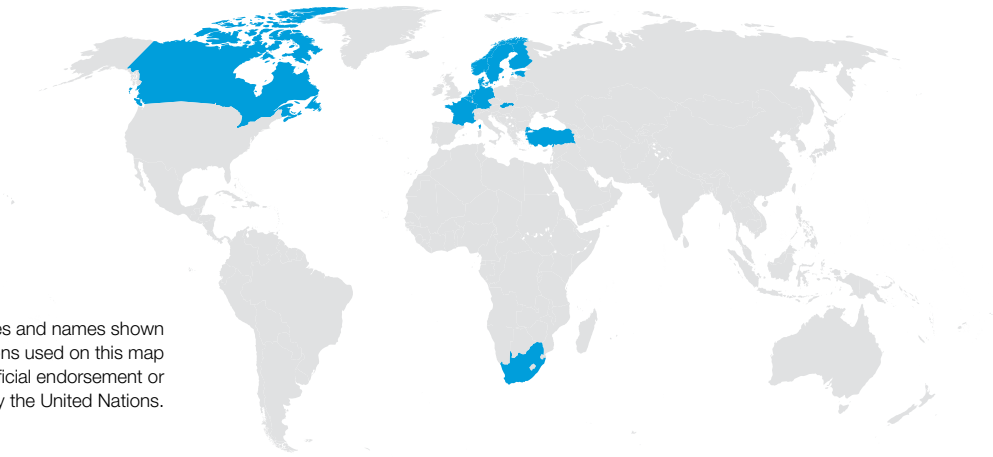
[22] Articles 21 and 21 bis. A set of guidelines and explanatory documents to facilitate reporting is available at https://www.hnsconvention.org/hns-reporting/.

Accession to the 2010 HNS Convention would be particularly beneficial for coastal developing States with few or no imports of HNS substances

under national law or any otherwise applicable limitation of liability regime, such as the Convention on Limitation of Liability for Maritime Claims (LLMC) 1976, as amended.[23] Importantly, compensation is available from the Fund irrespective of the vessel's flag, cargo ownership or the location of the incident as long as the damage is suffered in a Contracting State.[24] Thus, compensation is available to claimants having suffered damage in a Contracting State irrespective of whether that State imports sufficient HNS cargo to require any financial contributions to the HNS Fund.

For many coastal developing States with few or no imports of HNS substances, accession to the 2010 HNS Convention would therefore be particularly beneficial, providing affected claimants with access to significant financial compensation, without entailing substantial financial burdens for (receivers in) the State concerned.[25] Given the relatively low level of ratification (map V.1), widespread accession to the Convention is strongly encouraged, together with technical assistance and capacity-building support for developing States to facilitate its implementation, application and enforcement.

Map V.1
States Parties to the 2010 HNS Convention
(As of 30 October 2026)



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Source: IMO, 2026a; IOPC Funds, 2026. States Parties to the 2010 HNS Convention include Belgium, Canada, Denmark, Estonia, Finland, France, Germany, the Kingdom of the Netherlands, Norway, Slovakia, South Africa, Sweden and Türkiye.

Note: Denmark has entered a reservation to exclude the application in Greenland. The map does not identify all island and overseas territories of Contracting States.

[23] By way of comparison, compensation under the HNS Convention regime would be available up to an overall limit of 250 million SDR per incident, irrespective of ship size or gross tonnage. In contrast, under the LLMC 1976, as amended in 1996, the applicable limits of shipowner liability, as last revised, are lower and depend on ship size or gross tonnage. For ships up to 2,000 gross tons, liability would not exceed 3.02 million SDR for claims relating to loss of life or personal injury on ships and 1.51 million SDR for property claims. For larger vessels, relevant limits are higher but remain significantly below those available under the HNS Convention regime (IMO, 2015).

[24] As noted above, the Convention further provides compensation for damage, other than environmental, caused outside the territory or territorial sea of a State if the damage was caused by HNS carried on board a ship registered in a Contracting State.

[25] Although all States are required to provide data on their bulk imports of HNS, both prior and subsequent to becoming Parties to the Convention.

3. Risks connected with the use of alternative fuels

The 2010 HNS Convention closes an important regulatory gap regarding the carriage, as cargo, of chemicals used as alternative fuels. The regime applies to incidents involving transport by sea of substances such as methanol, ammonia, LNG, LPG, blended fuels and most types of petrochemical products, including kerosene and light diesel oil,[26] but only when such substances are transported as cargo.

The Convention does not address risks from the use of alternative fuels for the propulsion/operation of ships. As highlighted in the *Review of Maritime Transport 2025* (UNCTAD, 2025, chapter V, section A.4), some alternative fuels used for ship operation or propulsion may be covered by the 2001 International Convention on Civil Liability for Bunker Oil Pollution Damage (Bunkers Convention),[27] which defines "bunker oil" as "any hydrocarbon mineral oil used or intended to be used for the operation or propulsion of ships" (article 1(5)). While this definition could potentially encompass certain hybrid fuels, it excludes alternative fuels such as LNG, ammonia, methanol or hydrogen. Moreover, none of the existing international conventions provide compensation in case of death or personal injury arising from an incident involving fuels used for ship operation or propulsion.

Several States have expressed concerns about a relevant regulatory gap (IMO, 2025). This prompted the IMO Legal Committee, at its 112th session, to include a specific output to explore the «suitability of IMO liability and compensation regimes with respect to alternative fuels» (ibid.). An informal group of interested member States and industry organizations, supported by a detailed discussion paper submitted by the Comité Maritime International (IMO, 2026d), presented an analysis to the 113th session of the IMO Legal Committee identifying regulatory gaps, key features of a liability and compensation regime for damage arising from alternative fuels, and possible legal options for a way forward (IMO, 2026e). The Committee further agreed to work on developing or amending a liability regime for alternative fuels and technologies used for ship operation and propulsion through an intersessional correspondence group coordinated by Canada (IMO, 2026f, para. 14.5). All United Nations Member States are strongly encouraged to engage constructively in related deliberations.

Alongside discussions on liability and compensation, efforts are underway to develop a comprehensive safety regulatory framework to support the uptake of alternative fuels, with a clear focus on addressing operational risks and strengthening health and safety standards at both the technical and crewing levels. At its 111th session, the IMO Maritime Safety Committee approved interim guidelines for the safe use of hydrogen and ammonia as marine fuels, alongside dedicated training guidance for seafarers serving on vessels using ammonia and methyl and ethyl alcohol fuels (IMO, 2026g).

The importance of addressing remaining regulatory and safety challenges and gaps is underscored by the anticipated increase in the use of alternative fuels (chapter I, section B.2. and chapter II, section A.5), driven by efforts to reduce greenhouse gas emissions and achieve the targets of the revised IMO Strategy on the Reduction of GHG Emissions from Ships (IMO, 2023a). This expansion is likely to be accompanied by the potential for increased risks to human health, fisheries and the environment, as these fuels differ significantly from persistent oil in their chemical properties and behaviour (ITOPF, 2024 and 2026).

While the HNS Convention closes an important regulatory gap, it does not address risks connected with the use of alternative fuels for ship propulsion and operation

[26] The CLC-IOPC Funds regime only applies to spills of persistent hydrocarbon mineral oil from tankers.

[27] The Bunkers Convention applies in case of pollution damage arising from bunker oil spills from ships other than tankers (which are covered by the CLC-IOPC Funds regime). It has been in force since 2008 and, as of 30 October 2026, has 111 Contracting States (IMO, 2026a). For background, see also UNCTAD, 2012 and 2023a, chapter V, section C.1).

B. Good governance in ship registration: A key tool against fraudulent registries and registration of ships

At its 113th session in April 2026, the IMO Legal Committee adopted the Guidelines on the Registration of Ships to be published as a circular (IMO, 2026f, annex 1; IMO, 2026h). The significance of this development must be understood against the backdrop of an important regulatory gap. At present, no binding international legal regime governs the registration of ships. The United Nations Convention on Conditions for Registration of Ships was adopted in 1986, under the auspices of UNCTAD,[28] with the stated objective of "ensuring or [...] strengthening the genuine link between a State and ships flying its flag", and facilitating the effective exercise of flag State jurisdiction and control "with regard to identification and accountability of shipowners and operators as well as with regard to administrative, technical, economic and social matters" (article 1). The Convention failed to attract the required number of ratifications, however, and never entered into force (IMO, 2024).

As noted in the Guidelines (para. 1), they were developed in response to the Committee's decision at its 112th session to support flag States in improving registration procedures, strengthening due diligence, identifying falsified documents and preventing fraudulent registrations and registries (IMO, 2026f, annex 1 and 2026h). Fraudulent ship registrations and registries are a growing global concern, given far-reaching implications, including for maritime safety and security, pollution, seafarers' welfare and effective ocean governance (UNCTAD, 2024). The topic has increased in importance in recent years given the emergence of a "dark fleet" or "shadow fleet"[29] and "an increase in the frequency of ship-to-ship crude oil transfers in international waters by ships using 'dark operations' in order to circumvent sanctions and high insurance costs" (IMO, 2023d, para. 1).[30]

Fraudulent practices include falsely claiming the flag of a State that does not possess a registry, continuing to fly a flag after deregistration, and submitting falsified records to obtain IMO documentation and ship identification records (IMO, 2026i). By February 2026, the number of ships flying a false flag had increased compared to the previous session of the Committee, with 529 ships falsely flying flags, including those of developing States in many cases (IMO, 2026j).[31]

While concerns about growing incidents of fraudulent ship registration and registries provided impetus for the Guidelines, it is important to note that, for the first time, internationally agreed guidance has introduced common, albeit voluntary, standards on ship registration. The Guidelines may therefore be seen as a

[28] The Convention was adopted on 7 February 1986 and has 15 Contracting States. See https://unctad.org/topic/transport-and-trade-logistics/policy-and-legislation/international-maritime-transport-law/maritime-conventions.

[29] As defined in IMO, 2023b, para. 5.1. See also IMO, 2023c, para. 1.

[30] See https://www.imo.org/en/mediacentre/meetingsummaries/pages/legal-committee,-110th-session.aspx. As noted by the IMO Legal Committee (IMO, 2023b), dark fleet tankers pose a significant risk of incidents, particularly during ship-to-ship transfers, by avoiding regulatory oversight.

[31] According to data in the report, approximately 45 per cent of false flag ships purport to fly the flag of a least developed country.

development that could strengthen efforts towards effective and improved ocean governance and implementation of article 91(1) of UNCLOS, requiring a State to "fix the conditions for the grant of its nationality to ships, for the registration of ships in its territory, and for the right to fly its flag".

The Guidelines may be particularly useful for developing States operating smaller, expanding or newly established registries. From 2021 to 2026, the number of registered vessels in some developing countries and small island developing States increased significantly.[32] For some other States, such as India, regulatory changes introduced in 2025 might lead to a considerable expansion of their registry in the future.[33] By providing guidance on verification, due diligence and registry management, the Guidelines can support capacity-building and strengthen administrative procedures where financial and human resources are constrained.

The Guidelines are structured to support flag States in managing registration procedures, identifying falsified documentation, and reducing and ultimately eliminating fraudulent registrations (box V.1).



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[32] Such as, for example, in the registries of Benin, Gambia, Guinea, Guinea-Bissau, Naoero and Sao Tome and Principe, where the increase in the absolute number of registered vessels ranges from 300 to 1,867 per cent over the last five years (UNCTAD, 2026).

[33] India's new Merchant Shipping Act, 2025 (No. 24 of 2025) implemented important changes to ship registration by relaxing ownership rules and expanded its scope of application (Shipping and Freight Resource, 2025; Research and Information System for Developing Countries, 2025).

Box V.1
Main provisions of the IMO Guidelines on the Registration of Ships

Section 1 (purpose and scope) clarifies the objective, scope and non-binding nature of the Guidelines.

Section 2 (flag State legislation, governance and control of who can perform registration of ships) emphasizes the need for a comprehensive legal and administrative framework governing the establishment, operation and oversight of registries. It recommends eligibility criteria for ships and shipowners, clear procedures for deletion or deregistration, and effective governmental oversight of all entities involved in registration, including private operators acting under formal contractual arrangements. The Guidelines also encourage notification of registry contact points through IMO's Global Integrated Shipping Information System (GISIS).[34]

Section 3 (procedures and quality assurance in ship registration) highlights the importance of documented procedures for provisional and permanent registration, consistent decision-making and internal controls to enhance transparency, accountability and consistency.

Section 4 (due diligence on ownership and ship identification) focuses on due diligence to prevent fraudulent registration and fraudulent registries. Recommended measures include verification of identity and ownership information of the applicant and screening against United Nations and national sanctions lists prior to and following registration. Particular importance is attached to confirming deletion from previous registries, a process greatly facilitated for vessels with flags of countries that have publicly accessible ship registers online.[35] The cross-checking of unique identifiers of the vessel, such as the IMO Ship Identification Number and the Continuous Synopsis Record, are specifically mentioned as good practices, along with the use of security features embedded in nationality documentation and publicly accessible online verification tools. The section emphasizes the need for oversight of recognized organizations acting on behalf of the flag State on matters of surveys, inspections and certifications.

Section 5 (information sources and tools during ship registration) underscores the value of cross-checking information submitted by applicants against official and reputable sources, including GISIS, open sources and commercial databases, to identify inconsistencies and discrepancies.

Section 6 (cooperation and information-sharing) stresses the importance of cooperation and timely information-sharing among States, including flag and port States. It highlights information exchange mechanisms among States and through IMO as practical tools to combat so-called "flag-hopping".

Section 7 (effective implementation of IMO instruments) links registration practices to inspections, monitoring and compliance with national legislation, IMO instruments and international conventions. It emphasizes that registration is only the starting point of flag State responsibility under article 94 of UNCLOS. Oversight of recognized organizations, monitoring of compliance and cooperation with other States to identify vessels requiring enhanced scrutiny are presented as key elements of an effective registration system.

Source: UNCTAD based on IMO, 2026h.

[34] As of 30 October 2026, only 101 national registry contact points had been reported in GISIS, compared to 176 IMO member States (IMO, 2026k).
[35] Such as, for example, Canada, Estonia and Denmark.

The Guidelines contribute to the formulation of a common standard on good practices in managing ship registration procedures. This may facilitate more effective implementation of a flag State's legal obligations to maintain a register and assume jurisdiction over ships flying its flag, as prescribed in article 94(2) of UNCLOS (IMO, 2024). The Guidelines do not address or provide any assistance, however, in relation to the requirement that "there must exist a genuine link between the State and the ship", as stipulated by article 91(1) of UNCLOS.

Further work is expected at the Committee's next session on other measures to prevent relevant unlawful practices not discussed during the 113th session due to time constraints. In parallel, the regulatory scoping exercise on IMO conventions and other instruments aimed at preventing unlawful operations and substandard ships will advance at the Committee's next session, supported by the ongoing work of an intersessional correspondence group coordinated by Germany (IMO, 2026f, paras. 6.13 and 13.9 and annex 2).

C. Other developments

1. Non-mandatory International Code of Safety for Maritime Autonomous Surface Ships entered into effect on 1 July 2026

The IMO Maritime Safety Committee (MSC), at its 111th session in May 2026, following extensive related work since 2017 (IMO, 2026l; UNCTAD, 2025) finalized its work on the goal-based, non-mandatory MASS Code (IMO, 2026g). It was published as a resolution (IMO, 2026m) and entered into effect on 1 July 2026.

The MASS Code provides an international framework governing the autonomous and remote operation of ship functions and systems. It seeks to ensure the safety, security and environmental sustainability of maritime autonomous surface ships (MASS), while supporting technological innovation and harmonized approaches to their design, construction and operation (section 1.1). The term MASS encompasses all ships that "to a varying degree, can operate independently of human interaction" (section 4.19).

The Code applies to "cargo ships to which SOLAS [International Convention for the Safety of Life at Sea,1974, as amended] chapter I applies", i.e., vessels of 500 gross tons and above[36] engaged on international voyages, "including any associated Remote Operations Centre(s) (ROC(s)), which have systems and functions that enable autonomous or remote operations [...]".[37] Certain types of vessels are expressly excluded, notably "cargo high-speed craft to which SOLAS chapter X applies; and warships, naval auxiliaries, and other ships owned or operated by a Contracting Government and used only on Government non-commercial service". Application of the Code extends to cases where a degree of automation is present, "even where persons are on board to handle other functions" (section 2.3).

The MASS Code comprises three parts and 24 chapters, covering all aspects of maritime safety and security. MASS must also comply with SOLAS and other applicable mandatory IMO instruments. As industry observers note (The Maritime Executive, 2026), the

[36] Section 2.1. Application is encouraged for MASS "of less than 500 gross tonnage" (preamble, para. 3).
[37] A ROC is a shore-based or other location from which some or all ship functions can be operated remotely, while a remote operator is a qualified person performing such functions from a ROC (sections 4.31 and 4.32).

Adoption of the non-mandatory MASS Code marks the beginning of an "experience-building phase" with a view to developing a mandatory MASS Code by 2030

Code sets out a long list of equipment requirements specific to unmanned ships. Without crew aboard, unmanned vessels need to be designed differently for safety and emergency responses so that they can operate safely in all conditions, including all "reasonably foreseeable degraded states".[38]

Section 8.7 of the Code requires human oversight and control. It specifically provides that a human master, who might not be on board, must be able to intervene and override any automatic system and remain responsible for the ship. Beyond safety considerations, this has significant implications for seafarers and labour-supplying States, which may need to upskill their maritime workforce and steer a just transition that delivers alternative employment opportunities, as one delegation highlighted during the MSC session (IMO, 2026g, para 5.5).

The adoption of the MASS Code marks the beginning of an "experience-building phase" that will provide a systematic and evidence-based process for reviewing and improving the text of the non-mandatory Code, with a view to developing a mandatory MASS Code, expected to be adopted by 1 July 2030 and to enter into force by 1 January 2032 (IMO, 2026g, para. 5.29). To that end, the MASS Working Group will be re-established at the 112th session of the MSC in December 2026 to develop a relevant framework that will feed into three workstreams. These will focus on data collection, data analysis and the development of amendments to incorporate the provisions of the mandatory MASS Code in SOLAS (IMO, 2026n, annex 3).

The entry into effect of the MASS Code will be followed by its assessment by other IMO bodies, including the Legal Committee. The Committee, by the spring of 2027, will consider the need for amendments to, or interpretations of, treaties under its purview. It will also consider proposals, including guidelines, on implementation of those legal instruments by MASS (IMO, 2026f, para. 8.5 and annex 6).

Given the importance of ensuring the safety of MASS operations, UNCTAD encourages all United Nations Member States, particularly developing countries, to actively participate in all IMO work addressing MASS issues.

2. Entry into force of the Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction

Following the deposit of the sixtieth instrument of ratification, approval, acceptance or accession, the Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction, which was adopted by consensus in June 2023, entered into force on 17 January 2026.[39] The BBNJ Agreement constitutes a historic milestone in the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (ABNJ), for the present and in the long term. It contributes, among other ends, to levelling the playing field in terms of the capacity of developing States to participate in and benefit from key activities in ABNJ.[40]

[38] Such as equipment failures, system malfunctions or other situations in which the vessel can no longer operate within its normal operating limits and must transition to a predefined safe operating mode.

[39] For the text, see https://www.un.org/bbnjagreement/sites/default/files/2024-08/Text%20of%20the%20Agreement%20in%20English.pdf. As of 31 October 2026, the Agreement had 105 Contracting States. For the status of ratification, see https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXI-10&chapter=21&clang=_en.

[40] According to article 1(2), these include the high seas and the international seabed area (see also articles 86 and 1(1) of UNCLOS), which cover approximately two thirds of the ocean.

The Agreement covers four main issues: (i) marine genetic resources (MGRs), including the fair and equitable sharing of benefits, (ii) measures such as area-based management tools, including marine protected areas, (iii) environmental impact assessments, and (iv) capacity-building and the transfer of marine technology. It also addresses cross-cutting issues such as financial resources and mechanisms to support the implementation of the Agreement (DOALOS, 2024).

The Agreement's entry into force is of particular importance for developing States (UNCTAD, 2023b). Part II establishes a framework for the fair and equitable sharing of benefits from activities with respect to MGRs of ABNJ and digital sequence information on such MGRs. With the annual value of products developed based on MGRs found in ABNJ estimated at between $400 million and $650 million (Oldham et al., 2025), these provisions offer opportunities for developing States, including small island developing States and least developed countries as well as landlocked countries. The last, while not having direct access to the sea, are entitled to high seas freedoms and to participate in the use and benefits of resources from the ocean, including in relation to activities in the international seabed area, which is, along with its resources, the common heritage of humankind.[41]

To support the conservation and sustainable use of marine biological diversity, part III of the Agreement establishes procedures for the establishment and implementation of area-based management tools, including marine protected areas, in ABNJ. Part IV operationalizes the environmental impact assessment obligations in UNCLOS for ABNJ. Part V sets out obligations for capacity-building and the transfer of marine technology to enhance the ability of Parties, in particular developing States, to implement and benefit from the Agreement; these efforts are also expected to address disparities in, among other dimensions, participating in ocean activities and accessing ocean-related knowledge, infrastructure and decision-making processes.

The first meeting of the Conference of the Parties (COP) to the Agreement, to be held from 11 to 22 January 2027 (United Nations, 2026a), will consider several key procedural, financial and governance aspects. These include arrangements to enhance cooperation with other relevant legal instruments and frameworks and relevant global, regional, subregional and sectoral bodies.

Interactions with the international legal framework for shipping

BBNJ Agreement implementation may have significant implications for international shipping operations and governance

Although the Agreement does not address shipping as a distinct sector, maritime transport is among the principal human activities carried out in ABNJ. Accordingly, implementation of the Agreement may have implications for international shipping operations. UNCTAD details some of these in a forthcoming policy brief that focuses on the interactions of the BBNJ Agreement with the international legal framework governing maritime transport, together with some related policy considerations (UNCTAD, forthcoming).

For example, establishing an area-based management tool and conducting environmental impact assessments in ABNJ could have operational implications for shipping, particularly where routing measures, discharge restrictions or other limitations are considered necessary to achieve conservation objectives.

The BBNJ Agreement stipulates that its interpretation and application shall not undermine relevant legal instruments and frameworks and relevant global, regional, subregional and sectoral bodies (article 5(2)). Parties to the Agreement, however, are required to promote, as appropriate, the objectives of the Agreement when

[41] As highlighted in articles 87,140,148,152 and 254 of UNCLOS.

participating in decision-making under relevant instruments, frameworks and bodies. Relevant instruments and frameworks would include those aimed at ship source pollution prevention and control at the global, regional or subregional levels. These include the existing legal framework developed under IMO auspices, providing, for example, for Particularly Sensitive Sea Areas (IMO, 2006) and Special Areas (IMO, 2002) under the International Convention for the Prevention of Pollution from Ships (MARPOL). In this light, the BBNJ Agreement may act as a reference point for reconciling environmental protection with activities carried out in ABNJ, including in relation to shipping (Chircop, 2026).

Effective enforcement of existing maritime rules is essential to protecting marine biodiversity in line with the objectives of the BBNJ Agreement

Effective implementation of the existing legal framework for protecting the marine environment from shipping activities, and its enforcement by flag, port and coastal States, can contribute to the Agreement's objectives. Widely ratified IMO instruments, such as MARPOL and the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004, already address some pressures on marine biodiversity from shipping, including operational discharges of polluting substances and the transfer of invasive aquatic species through the discharge of ballast water. The entry into force of the BBNJ Agreement underlines the importance of strengthening, where necessary, the effective implementation and enforcement of existing maritime rules by all States.

Contracting States to the BBNJ Agreement, in particular, should also take into consideration the Convention's conservation objectives when contributing to ongoing work to develop and revise legal instruments aimed at ship source pollution prevention and control at the global, regional or subregional levels.[42] This includes, for instance, ongoing work under IMO auspices on measures to address biofouling, underwater radiated noise and the risks associated with the carriage of alternative fuels.[43]

Considering the importance of regulatory consistency with and clarity between maritime legislation and the new Agreement, as highlighted by the private sector (World Economic Forum, 2024) and non-governmental organizations (IMO, 2026o), a proposal was put forward at the IMO Marine Environment Protection Committee for a new output to support the implementation of the Agreement to protect the seas and oceans and marine biodiversity in relation to activities within the IMO mandate (IMO, 2026p).

To support States in the accession to and implementation of the Agreement, the United Nations Division for Ocean Affairs and the Law of the Sea of the United Nations Office of Legal Affairs is producing publicly available capacity-building and technical assistance tools and materials. These include a toolkit to help States assess capacity needs and priorities related to becoming Parties to and/or implementing the Agreement.[44]

Financial resources and mechanism

To provide necessary support to Parties to the Agreement, the BBNJ Agreement provides for a financial mechanism[45] consisting of:

- A voluntary trust fund established to facilitate the participation of representatives of developing States Parties, in particular least developed countries, landlocked developing countries and small island developing States, in meetings of bodies established under the Agreement;
- A special fund, financed by: (i) annual contributions of developed States

[42] As highlighted in article 8(2).
[43] See more on this issue in chapter V, section A.3 of the current report.
[44] All materials are available at https://www.un.org/bbnjagreement/en/capacity-building-and-technical-assistance/tools-and-materials.
[45] Articles 52(4) and 14(6) and (7).

Parties (article 14(6)), (ii) payments resulting from the utilization of MGRs of ABNJ and digital sequence information on such resources (article 14(7)), (iii) additional contributions from Parties and private entities wishing to provide financial resources to support conservation and sustainable use of marine biological diversity of ABNJ; and

- The Global Environment Facility (GEF) trust fund.

The special fund and GEF trust fund will finance capacity-building projects under the Agreement, assist developing States Parties in implementing it, support conservation and sustainable use programmes by Indigenous Peoples and local communities, support public consultations at the national, subregional and regional levels, and fund any other activities as decided by the COP (article 52(6)). While the operationalization of the special fund remains to be agreed by the COP (United Nations, 2026b), the GEF trust fund allocated $34 million for early action and ratification support of the BBNJ Agreement during the eighth GEF replenishment cycle from 2022 to 2026, with another $75 million expected to directly support the Agreement in the ninth cycle from July 2026 to June 2030 (GEF, 2026).

Considering the Agreement's important benefits for developing countries and the wide range of issues to be tackled by the first COP, accession to the Agreement and proactive participation in relevant discussions are strongly encouraged. Given the implications for global shipping and port, coastal and flag States, early opportunities should be identified for capacity-building that supports the effective and consistent implementation of maritime legislative frameworks in line with the Agreement. UNCTAD will continue to support developing countries through its analytical work, advisory services and assistance.

3. Entry into force of the United Nations Convention on the International Effects of Judicial Sales of Ships

The United Nations Convention on the International Effects of Judicial Sales of Ships,[46] negotiated under the auspices of the United Nations Commission on International Trade Law (UNCITRAL) and adopted by the United Nations General Assembly on 7 December 2022 (UNCTAD, 2023a), entered into force on 17 February 2026. The Beijing Convention governs the international effects of a judicial sale of a ship that confers clean title on the purchaser (article 1), representing a significant step towards harmonizing maritime law on the cross-border recognition of judicial sales of ships. A "judicial sale" under the Convention signifies a sale ordered, approved or confirmed by a court and carried out under its supervision, typically for the enforcement of claims against a vessel, following the arrest of the ship (UNCITRAL, 2023).

The Beijing Convention harmonizes information-sharing and cross-border recognition of judicial sales of ships

The Beijing Convention establishes uniform rules to promote the dissemination of information on prospective judicial sales and to facilitate the cross-border recognition of judicial sales of ships sold free and clear of any mortgage or hypothèque and of any charge, including for ship registration purposes. A partial overlap exists between the new instrument and articles 11 and 12 of the International Convention on Maritime Liens and Mortgages, 1993,[47] adopted under the auspices of UNCTAD and IMO. The latter also addresses the notices and effect of forced sales of ships; relevant provisions complement each other.

Under article 3(1), the Beijing Convention applies where judicial proceedings are conducted in a State Party, and the ship is physically located in that State at the time

[46] For the text and status of ratification, see https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=X-21&chapter=10&clang=_en. See also UNCITRAL,2023, for the text in English and an explanatory note.

[47] The Convention entered into force on 5 September 2004 and has 21 Contracting States. See https://treaties.un.org/pages/viewdetails.aspx?src=treaty&mtdsg_no=xi-d-4&chapter=11&clang=_en.

of the sale.[48] It establishes an information-sharing system based on two publicly accessible elements: prior notification of a judicial sale and the issuance of a certificate of judicial sale.

Before the judicial sale is concluded, a notice of judicial sale containing predetermined minimum information must be provided to designated interested parties, including the registry of the ship, creditors and other relevant stakeholders. It must be published in the press and by the designated repository (article 4). Such notice is a prerequisite for the court or other public authority that conducted the judicial sale to issue a certificate of judicial sale to the purchaser upon completion of the sale.

The certificate confirms that the purchaser acquires a "clean title" to the vessel and ensures recognition of the legal effects of the judicial sale in all other States Parties, including protection from arrest of the ship for claims arising prior to the judicial sale (articles 5 and 6). Notices and certificates are made available through a dedicated module of the GISIS IMO system (article 11; IMO, 2026q), which serves as the Convention's official repository.

The certificate confirms that the purchaser acquires a "clean title" to the vessel and ensures recognition of the legal effects of the judicial sale in other States Parties

The Convention's entry into force has been welcomed by IMO, the International Chamber of Shipping and the Baltic and International Maritime Council (IMO, 2026r; ICS, 2026; BIMCO, 2026), reflecting its expected contribution to greater legal certainty within a complex and fragmented legal environment. This is anticipated to benefit a broad range of stakeholders, including shipowners, creditors, ship financiers, purchasers, ship registries and, ultimately, global trade.

Achieving the Beijing Convention's objectives of legal certainty, predictability and effective enforcement of maritime claims will require widespread ratification. Although more than 30 States, including major maritime and registry jurisdictions, have signed the Convention, it has so far attracted only five ratifications.[49] All United Nations Member States are encouraged to consider acceding to the Convention to promote its widespread application and effectiveness.

4. Adoption of the United Nations Convention on Negotiable Cargo Documents

The United Nations Convention on Negotiable Cargo Documents, developed under the auspices of UNCITRAL,[50] was adopted by the United Nations General Assembly in December 2025. It will be open for signature in Accra, Ghana, on 26 October 2026.[51] The Convention requires 10 ratifications for entry into force.

The Convention establishes a uniform legal framework for the issuance and use of negotiable cargo documents (NCDs). This is a new type of transferable document of title, in paper or electronic form, representing goods in transit, regardless of the transport mode. The Convention sets out clear rules on issuance, use, legal effects, and the rights and liabilities of holders with the aim of facilitating trade finance, enabling the sale of goods in transit, promoting multimodal transport, and supporting trade digitalization. Like a marine bill of lading, an NCD can serve as a transferable document of title and provide independent documentary security for goods in transit.

[48] The Convention does not apply to warships or naval auxiliaries or "vessels owned or operated by a State and used, immediately prior to the time of judicial sale, only on government non-commercial service" (article 3(2)).
[49] For the status of ratification, see https://uncitral.un.org/en/judicialsaleofships/status.
[50] All documentation relating to the preparatory work under the auspices of UNCITRAL Working Group VI (2022–2025) is available at https://uncitral.un.org/en/working_groups/6/negotiablecargodocuments.
[51] The text and an explanatory note are available at https://uncitral.un.org/en/ncdconvention.

Unlike a marine bill of lading, however, the NCD is not a transport document but an entirely new type of document, conceptually distinct from a unimodal or multimodal transport document that "evidences or contains the transport contract" (articles 2(5) and (7)). In contrast to existing international transport conventions, which establish mandatory cargo liability regimes, the new Convention regulates an NCD as a "document of title" (and addresses assignment of rights to the holder) and as a "receipt" but does not regulate the underlying unimodal or multimodal transport contract or the liability of the carrier (articles 1(1) and (3)).

As highlighted by UNCTAD throughout the preparatory work for the NCD Convention, given that no international convention is in force to provide for mandatory minimum standards of carrier liability for multimodal transport,[52] cargo claimants under a multimodal transport contract covered by an NCD could be exposed to a unilateral exclusion of carrier liability contained in the carrier's standard terms of contract. In these cases, if goods are lost or damaged during transit, the holder of the NCD[53] could be left empty-handed. This state of affairs undermines a key objective of the Convention: to enable the performance of sales of goods in transit and the raising of finance against the security inherent in a document of title, which ultimately facilitates international multimodal transport and trade.

Relevant concerns were detailed in comments submitted to the UNCITRAL Commission in 2025 (UNCITRAL, 2025), together with a proposal to consider including a new provision in the draft Convention to provide for the statutory application of liability in line with the UNCTAD/ICC Rules on Multimodal Transport Documents (UNCTAD, 1992), as a fallback where no mandatory international or national cargo liability regime would otherwise apply to the claim in question.

The final text of the Convention, however, does not address carrier liability for cargo loss or damage and contains no guardrails to protect cargo claimants against potentially unfair contract terms in the transport document issued by the carrier.

States considering adoption of the Convention should review their national legal frameworks to assess whether adequate rules are in place to ensure that shippers and consignees benefit from mandatory minimum standards of carrier liability in disputes potentially arising under multimodal or unimodal transport contracts involving an NCD. In the absence of such protection under existing law, regulatory action to complement the national legal framework may need to be considered, in parallel with ratification, so that transactions involving NCDs accord with the legitimate commercial and security interests of cargo interests and banks.

States considering ratifying the NCD Convention should review their national legal frameworks to ensure that cargo claimants benefit from mandatory minimum standards of carrier liability

[52] The United Nations Convention on International Multimodal Transport of Goods, 1980, adopted under the auspices of UNCTAD, never entered into force as it did not attract the required number of ratifications (40). For some background and the results of a survey, see UNCTAD, 2003. For the text, see https://unctad.org/system/files/official-document/tdmtconf17_en.pdf.

[53] Including: (i) the final consignee under a string of cost insurance freight contracts, having paid its seller in full, (ii) a seller whose buyer does not pay or rejects the document, (iii) a bank that holds an NCD as a security but does not get reimbursed under the letter of credit, or (iv) a subrogated cargo insurer.

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Review of maritime transport **2026**

ISBN 978-92-1-158791-3

Printed at United Nations, Geneva
2617929 **(E)** – November 2026 – 915

UNCTAD/RMT/2026

United Nations publication
Sales No. E.26.II.D.32