Welcome to the WTO! WTO Director-General @NgoziOkonjo-Iweala announced her four Deputy Directors-General.

More about these appointments here:
wtorg/english/news_e...

To #BuildBackBetter, the world needs updated information on how #COVID19 is impacting our economies, societies and environment.

@UNCTAD's new portal provides data and analysis for over 25 indicators. bit.ly/3uj0fQq

Impact of the COVID-19 pandemic on trade and development

Recovering, but unevenly

#UNCTAD 31 March 2021

80 per cent of world trade is transported by sea

International Labour Organization @ILO - 24 Sep 2020

Nearly 40,000 seafarers continue to be stranded at sea as a result of the current COVID-19 pandemic. Their human rights are in need of urgent action.

World Health Organization (WHO) @WHO - 3h

COVID-19 has highlighted the urgency for countries to cooperate and better prepare for future pandemics.

The WHO Hub for Pandemic & Epidemic Intelligence will be a global center using data to detect & monitor risks worldwide.
“Hoffmann Shipping”:

- Owner: German
- Flag: Antigua and Barbuda
- Freight agent: Netherlands
- Seafarers: Poland
- Crewing agent: Cyprus
- Cargo: Turkey
- to Canada
- Fuel: Spain
- Insurance: United Kingdom
- Shipyards: Portugal
- Captains’ favourite drink: Ireland
UNCTAD

Think: Research and Analysis

Debate: Consensus building

Deliver: Technical assistance
<table>
<thead>
<tr>
<th>Research</th>
<th>Consensus Building</th>
<th>Technical Assistance and Capacity Building</th>
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<tr>
<td>Review of Maritime Transport</td>
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<td>Liner Shipping Connectivity Index</td>
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## UNCTAD TRADE LOGISTICS

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Presentation of the REVIEW OF MARITIME TRANSPORT 2023
Towards a green and just transition
THE STORY SO FAR
Share (per cent) of transport and inventory holding expenditure within total logistics expenditure, United States

Source: UNCTAD, based on data from CSCMP Annual State of Logistics Report.
Presented in Issues Note on Geography of Trade, TDB
World Seaborne Trade Average Haul Miles

Source: Clarksons Research
Seaborne trade: share of developing countries

<table>
<thead>
<tr>
<th>Year</th>
<th>Loaded</th>
<th>Unloaded</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>63%</td>
<td>18%</td>
</tr>
<tr>
<td>1980</td>
<td>58%</td>
<td>26%</td>
</tr>
<tr>
<td>1990</td>
<td>51%</td>
<td>29%</td>
</tr>
<tr>
<td>2000</td>
<td>53%</td>
<td>37%</td>
</tr>
<tr>
<td>2010</td>
<td>60%</td>
<td>56%</td>
</tr>
<tr>
<td>2020</td>
<td>60%</td>
<td>70%</td>
</tr>
</tbody>
</table>

Share of developing countries in seaborne trade (tonnes)

Source: Review of Maritime Transport
SCFI Comprehensive Container Freight Rate Index, $ per container per shipment (left axis)

Clarksons Average Containership Earnings, $ per ship per day (right axis)

Source: UNCTAD, based on data from Clarksons Shipping Intelligence Network
SIMULATED IMPACT OF CONTAINER FREIGHT RATE SURGES
Hardest hit will be SIDS

Simulation assumption:
Sustained increase in container freight rates

Simulation results:
Increase in global import price levels

Increase in consumer price levels by country groupings

+243% → +11%

LLDC: +0.6%
World: +1.5%
LDC: +2.2%
SIDS: +7.5%
SIMULATED IMPACT OF CONTAINER FREIGHT RATE SURGES
Hardest hit will be SIDS

Simulation assumption:
Sustained increase in container freight rates

Figure 3.9 Simulated impacts of the container freight rate surge on consumer price levels, by country and by product

Source: UNCTAD calculations based on the WIOD (accessed 7–8 June 2021) developed by Timmer et al., 2015, Clarksons Research, Shipping Intelligence Network (accessed 2 September 2021), UNCTADstat (accessed 24 June 2021), and the Centre d’Études Prospectives and d’Informations Internationales, Gravity Database (accessed 21 May 2021).

Note: The impacts of the container freight rate surge on prices are based on a 243 per cent increase in the CCFI between August 2020 and August 2021. The simulated impacts on price levels are long-term impacts, i.e., the simulation assumes that the current container freight rate surge and the corresponding increases in production costs are fully passed to consumers. See technical note 2 for the detail of the methodology.
SCFI Comprehensive Container Freight Rate Index, $ per container per shipment (left axis)

Clarksons Average Containership Earnings, $ per ship per day (right axis)

Source: UNCTAD, based on data from Clarksons Shipping Intelligence Network, up to October 2023
Share (per cent) of transport and inventory holding expenditure within total logistics expenditure, United States, 1980 - 2021

Source: UNCTAD, based on data from CSCMP Annual State of Logistics Report.
Presented in Issues Note on Geography of Trade, TDB
Chart prepared by JP Rodrigue
Seaborne trade: share of developing countries

![Bar chart showing the share of seaborne trade for developing countries from 1970 to 2021, with bars for loaded and unloaded goods. The trend shows an increase over time.]
Seaborne trade: share of developing countries

The diagram illustrates the share of seaborne trade for developing countries from 1970 to 2021. The data shows an upward trend with both loaded and unloaded trade increasing over the years.
Presentation of the
REVIEW OF MARITIME
TRANSPORT 2023
Towards a green and just transition
1) The Energy Transition

2) Demand, Supply, and Markets

3) Ports and Maritime Connectivity

4) Challenges – and Opportunities
1) The Energy Transition

2) Demand, Supply, and Markets

3) Ports and Maritime Connectivity

4) Challenges – and Opportunities
Total CO2 emissions by vessel types, tons, January 2012—March 2023

Source: UNCTAD, based on data provided by Marine Benchmark, July 2023.
Note: RORO means roll-on/roll-off vehicle carrier.
World fleet, three main vessel types, monthly CO2 emissions per ton-mile, January 2012–March 2023

(Gram/ton*nautical mile)

Source: UNCTAD, based on data provided by Marine Benchmark, July 2023.

Chapter 3 Decarbonizing shipping Review of Maritime Transport 2023
Chapter 4  Key performance indicators for ports and the shipping fleet

CO2 emission intensity of container ships by ship size, grams per ton-mile, 2021

<table>
<thead>
<tr>
<th>Feeder</th>
<th>0 - 999 teu</th>
<th>1,000 - 1,999 teu</th>
<th>2,000 - 2,999 teu</th>
<th>3,000 - 4,999 teu</th>
<th>5,000 - 7,999 teu</th>
<th>8,000 - 11,999 teu</th>
<th>12,000 - 14,999 teu</th>
<th>14,500 - 19,999 teu</th>
<th>20,000 + teu</th>
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</thead>
<tbody>
<tr>
<td>Intermediate</td>
<td>0 - 999 teu</td>
<td>1,000 - 1,999 teu</td>
<td>2,000 - 2,999 teu</td>
<td>3,000 - 4,999 teu</td>
<td>5,000 - 7,999 teu</td>
<td>8,000 - 11,999 teu</td>
<td>12,000 - 14,999 teu</td>
<td>14,500 - 19,999 teu</td>
<td>20,000 + teu</td>
</tr>
<tr>
<td>Neo-Panamax</td>
<td>0 - 999 teu</td>
<td>1,000 - 1,999 teu</td>
<td>2,000 - 2,999 teu</td>
<td>3,000 - 4,999 teu</td>
<td>5,000 - 7,999 teu</td>
<td>8,000 - 11,999 teu</td>
<td>12,000 - 14,999 teu</td>
<td>14,500 - 19,999 teu</td>
<td>20,000 + teu</td>
</tr>
<tr>
<td>Post-Panamax</td>
<td>0 - 999 teu</td>
<td>1,000 - 1,999 teu</td>
<td>2,000 - 2,999 teu</td>
<td>3,000 - 4,999 teu</td>
<td>5,000 - 7,999 teu</td>
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<td>14,500 - 19,999 teu</td>
<td>20,000 + teu</td>
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Cumulative change from January 2012 in CO2 emission intensity, and contribution of ship size change of container ships, grams per ton-mile
1) The Energy Transition

2) Demand, Supply, and Markets

3) Ports and Maritime Connectivity

4) Challenges – and Opportunities
International maritime trade, 2003–2024
(Million tons loaded)

Source: UNCTAD secretariat, based on Clarksons Research, Shipping Intelligence Network time series (July 2023).

Notes: 2023 and 2024 are forecast. “Dry bulk” includes major bulks (iron ore, coal and grain) and minor bulks (metals, minerals, agribulks and softs); “Oil” encompasses crude oil and refined oil products; “Other dry” is an estimation of all other dry trade that is not included in major/minor bulks, for instance, cars and other vehicles, ro-ro and project cargoes, as well as reefer cargoes that don’t go in containers and breakbulk cargoes that are not in the minor bulk category; “Gas” includes LPG, LNG and ammonia.
Seaborne trade growth, tons and ton-miles, 2000 – 2024
(percentage annual change)

Source: UNCTAD secretariat, based on Clarksons Research, Shipping Intelligence Network time series (July 2023).
Note: 2023 and 2024 are forecast.
Distance travelled per ton of maritime cargo, 1999–2024
(Nautical miles)

Source: UNCTAD secretariat, based on Clarksons Research, Shipping Intelligence Network time-series (July 2023).
Notes: 2023 and 2024 are forecast. “Oil” includes crude oil and refined oil products.
World tonnage on order, million dead weight tons and percentage change, 2005–2023

Source: UNCTAD calculations, based on data from Clarksons Research, 2023.

Notes: Propelled seagoing merchant vessels of 100 GT and above. Beginning of year figures.
1) The Energy Transition

2) Demand, Supply, and Markets

3) Ports and Maritime Connectivity

4) Challenges – and Opportunities
Time in port, world median, in days, 2018 S1–2022 S2

- Dry bulk carriers
- Dry breakbulk carriers
- Liquid bulk carriers
- Container ships

Source: UNCTAD, based on data provided by MarineTraffic.
Note: Ships of 1 000 GT and above.
Liner Shipping Connectivity Index

Top 20 of 2023

Source: UNCTAD, based on data provided by MDST
Number of operators and largest ships, average per country, 2006 Q1–2023 Q2

Source: UNCTAD, based on data provided by MDS Transmodal.

Note: Average number of operators is calculated from the country data. For countries with no liner shipping connections, their values are assumed to be zero. Countries with no liner shipping connections for the entire period are excluded from the averages. Largest ship reflects the largest ship being serviced globally.
Average number of operators, regional average, 2006 Q1–2023 Q2

Source: UNCTAD, based on data provided by MDS Transmodal.

Note: Average number of operators is calculated from the country data. For countries with no liner shipping connections, their values are assumed to be zero. Countries with no liner shipping connections for the entire period are excluded from the averages.
Number of active container ports, regional totals, 2006 Q1–2023 Q2

Source: UNCTAD, based on data provided by MDS Transmodal.
Container Port Performance Index values 2022, ports’ regional distributions


Note: Ranked by the Administrative Approach scores. The middle line represents the median, the top and bottom lines of the boxes represent the first and third quartile, and the top and the bottom lines (the whiskers) represent the minimum and the maximum values (excluding outliers).
Average waiting times of container ships at port in hours, monthly, January 2016–July 2023

Source: UNCTAD, based on data provided by Clarksons Research.
Notes: Waiting time estimated based on the time between vessel first entering an anchorage associated with a port group (or port where vessel has not been seen in an anchorage shape), and first entering a berth within a port.
Country Container Port Performance Index values 2022 by implementation status of selected measures under the WTO Trade Facilitation Agreement

**Electronic payment (Article 7.2)**

- **Pending**: Country CPI
- **Implemented**: Country CPI

**Risk management (Article 7.4)**

- **Pending**: Country CPI
- **Implemented**: Country CPI

**Authorized operators (Article 7.7)**

- **Pending**: Country CPI
- **Implemented**: Country CPI

**Border agency cooperation (Article 8)**

- **Pending**: Country CPI
- **Implemented**: Country CPI

*Source: UNCTAD, based on data from the Container Port Performance Index 2022 and the WTO Trade Facilitation Agreement.*

*Note: Country grouping implementation status based on the WTO TFA articles. Distributions showing port efficiency according to the 2022 Container Port Performance Index of the World Bank and SIAP Global using the Administrative Approach scores. The middle line represents the median, the top and bottom lines of the boxes represent the first and third quartile, and the top and bottom lines (whiskers) represent the minimum and the maximum values (excluding outliers).*
TWO KEY DEVELOPMENTS

1. The 2020-2022 supply chain crisis motivated further digitalization.

2. Exponential technological progress in AI
THREE STAGES OF DIGITALIZATION

1. **Optimization**  
Maximizing efficiency and reliability in existing processes

2. **Extension**  
Moving beyond efficiency to capture new sources of value

3. **Transformation**  
Reinventing logistics, trade and business models, based on data-driven revenue streams

Source and further reading:  
[https://t.co/vbHAdYaSWf](https://t.co/vbHAdYaSWf)
“Port Call Optimization is about optimizing speed, draught and port stay, leading to lower costs, cleaner environment, more reliability and safety for Shipping, Terminals and Ports”.

https://portcalloptimization.org/
2: EXTENSION

“Action opportunities”

Further reading: http://globalmaritimeforum.org
Human-like A.I. will emerge in 5 to 10 years, say experts

A survey conducted at the Joint Multi-Conference on Human-Level Artificial Intelligence shows that 37% of respondents believe human-like artificial intelligence will be achieved within five to 10 years.

**STEPHEN JOHNSON** 26 September, 2018

Further reading: https://www.linkedin.com/pulse/what-read-times-chatgpt-jan-hoffmann/
WHAT IS THE IMPACT OF ARTIFICIAL INTELLIGENCE (AI) ON THE FUTURE OF INTERNATIONAL TRANSPORT AND LOGISTICS?

AI is expected to have a significant impact on the future of international transport and logistics in various ways.

7 key areas where AI can transform the industry
1. **Optimized** routes and scheduling

AI algorithms can analyze massive amounts of data to find the most efficient routes, considering factors such as fuel consumption, distance, traffic, and weather conditions. This will enable quicker, more cost-effective deliveries and reduce overall carbon emissions.
2. **Autonomous vehicles and drones**

Self-driving trucks, ships, and drones powered by AI will play a major role in transporting goods internationally. Autonomous vehicles can operate 24/7 with minimal human intervention, improving productivity and reducing labor costs. They can also lead to increased safety by reducing the likelihood of accidents caused by human error.
3. Demand **forecasting** and inventory management

AI-driven systems can analyze historical data, market trends, and other factors to predict demand and optimize inventory levels.

This enables businesses to reduce stockouts, overstocks, and warehousing costs, improving overall supply chain efficiency.
4. Enhanced customs clearance

AI-powered systems can facilitate faster, more accurate customs clearance by automatically classifying goods, calculating duties, and identifying potential risks or violations.

This can reduce the time spent in customs, leading to faster deliveries and reduced costs.
5. **Smart** ports and warehouses

AI can optimize port and warehouse operations by automating tasks such as container stacking, loading, and unloading.

Robotic systems powered by AI can perform these tasks more efficiently, reducing dwell times and improving overall throughput.
6. Improved supply chain visibility

AI can provide real-time updates on the status of shipments, allowing businesses to track their goods and make data-driven decisions.

This increased visibility can help prevent delays and improve customer satisfaction.
7. Enhanced security

AI can analyze patterns and detect potential threats to the supply chain, such as cyberattacks or cargo theft.

By identifying these risks early, businesses can take preventative measures to protect their assets.
8. AI can also help prepare ppt presentation for the CSA 😊

Source: https://chat.openai.com/?model=gpt-4
Der technologische Fortschritt wird nie so langsam sein wie heute.
WHO LEADS THE IT REFORMS IN YOUR COMPANY?

- The CEO
- The CTO
- Covid-19
TRANSPORT IN TIMES OF COVID19

A 10-point action plan

The concrete measures proposed in this policy brief help to facilitate transport and trade and to protect the population from COVID-19.
• The negotiation, ratification and implementation of conventions take time
• Need to commit to **whatever** is the best [future] technological solution
In the future the concept of “copies” versus “originals” as per Article 10.2 TFA will become obsolete as processes focus on data rather than on documents.
A DYNAMIC DIMENSION IN THE TFA

- In the long term, Article 10.1 will gain in importance, it does not prescribe any specific technological solution.
A DYNAMIC DIMENSION IN THE TFA

- In the long term, Article 10.1 will gain in importance, it does not prescribe any specific technological solution.

- Progressively, various provisions will become antiquated or obsolete and we will just want to *minimize* “the incidence and complexity of import, export, and transit formalities”; continuously “*review*” requirements; keep “*reducing* the time and cost of compliance for traders and operators”; and always choose “the *least* trade restrictive measure” (10.1 TFA)
1) The Energy Transition

2) Demand, Supply, and Markets

3) Ports and Maritime Connectivity

4) Challenges – and Opportunities
Who pays today?

- Coastal populations in Bangladesh whose lands are flooded
- Investors in the Bahamas whose properties are devastated by more frequent hurricanes
- Farmers in Mali whose crops fail after another dry season
- Families on Pacific islands whose homes are disappearing
- Swiss ski resorts left without snow
The polluter should pay.
And the polluter should be given three options:

1. **Don’t pollute / pollute less:**
   Go slower, use clean fuel, near-source, …

2. **Clean up and help adapt:**
   Filter, build flood walls, invest in ports, construct hurricane resilient cranes, …

3. **Compensate:**
   Help those who are negatively affected
“MARKET BASED MEASURES” = “ECONOMIC MEASURES”

Called “MBMs”: Measures that place a price on greenhouse gas (GHG) emissions. This can, for example, be a levy, or a market price under a carbon trading scheme.
12. One possible source of autonomous sustainable financing is the "internalisation of costs". That means wherever it is administratively feasible it should be made sure that the "polluter" pays either for the prevention, clean-up or compensation for costs that are caused by his economic activity. If this can be assured the potential "polluter" will usually choose the cheapest mix of prevention, clean-up and/or compensation. Whenever others (e.g. individuals, donors, countries, companies) pay for the prevention, clean-up or compensation, then the potential polluter will rely on this "payment" as much as possible. If, for example, the public pays for "compensation" companies can free ride and will have less incentives to invest in "prevention" or "clean-up"; or if the public arranges the "clean-up" companies will need to pay fewer insurance premiums to cover potential "compensation". It must be stressed that the total costs will usually be minimised if each company had to choose the cheapest mix of mechanisms herself.
A LEVY ON CO2?

Marshall Islands demands $100 tax on shipping emissions

A levy on greenhouse gas emissions would be the firstmarker-based measure ever imposed on the shipping industry.
11 Mar 2021

The Marshall Islands and Solomon Islands have made a landmark proposal to the International Maritime Organization to charge by 2025 shipping companies $100 per tonne of CO2 equivalent their vessels emit.

Lloyd’s List

BHP

CMA CGM

A proposal for an IMO-led global shipping industry de-carbonisation programme

The global shipping industry has submitted a proposal to the International Maritime Organization to phase out the use of fossil fuels on ships by 2050.

International Chamber of Shipping

SHIP TECHNOLOGY

The first time the International Chamber of Shipping (ICS) and Inter-cargo proposed a levy based on mandatory contributions for each tonne of CO2.

A global price on carbon combined with dedicated and broad-based “buy down” programs that effectively level the playing field, making carbon-free and near-zero GHG ships the least expensive option, will save billions of dollars in fuel and allow millions of tons of GHG emissions to be avoided.

Reuters

Global Carbon Price

World Shipping Council

SHIPPING TECHNOLOGY

The money collected would go into a climate fund that would be used to help build renewable infrastructure in ports around the world to supply cleaner fuels such as hydrogen and ammonia, according to the proposal.

What shipping needs is a truly global market-based measure like this that will reduce the price gap between zero carbon fuels and conventional fuels,” ICS Secretary General Cory Piattion said.
7. **Maritime Emissions**: We recognize the critical importance of shipping to our states and to prioritize and support all efforts to advocate for this sector. We call upon further urgent discussion, study and work of the IMO for establishing a mandatory GHG levy on international shipping to ensure that IMO emission measures are fully aligned with a 1.5°C pathway following IPCC AR6. We recognize the need for the shipping transition to next generation vessels and fuels to be equitable and benefit all states. We support that the majority of the levy’s revenues be employed as additional financial support for urgent climate actions, particularly by the vulnerable developing countries. We urge members to consider adopting ambitious targets in domestic maritime emissions for a transition to zero emissions that leaves no one behind.
HOW MUCH IS IT?

229 000 000 * 3.15 * 100 = 72 135 000 000 $ per year total carbon levy
Technological progress will never be as slow as today.
The decarbonization of maritime transport: Delaying the transition is more costly than the transition.
1) The Energy Transition

2) Demand, Supply, and Markets

3) Ports and Maritime Connectivity

4) Challenges – and Opportunities
The starting point

Freight Rate

Demand

Supply

Volume
Decarbonization leads to a slightly higher supply curve
Uncertainty leads to a shift of the supply curve to the left.
Opportunity 1: Developing countries as providers of alternative fuels

“... here is an opportunity. Zero-carbon shipping represents a business and development opportunity for several developing countries. In the past, the bunker fuel market was a very non-inclusive market: countries with large oil reserves could participate, others could not.” (UNCTAD DSG Isabelle Durant)

https://unctad.org/osgstatement/cop26-side-event-seizing-opportunities-developing-countries-providing-zero-carbon
Opportunity 2: With the generated funding, invest in improved trade logistics

SIMULATED IMPACT OF IMPROVING MARITIME TRANSPORT COST DETERMINANTS

Simulation is conducted using the new dataset developed by UNCTAD and the World Bank

Simulation assumption:
Improving structural determinants

Simulation results:
Reduction in maritime import transport costs
- Port infrastructure: -4.1%
- Trade facilitating environment: -3.7%
- Shipping connectivity: -4.4%

https://unctad.org/RMT
Opportunity 3: Decarbonize shipping

The maritime industry has the historical opportunity to be ahead of the curve, as it can shape one global multilateral framework; other industries need to implement many national frameworks, where there is the risk of free riders and no global enforcement.
Presentation of the

REVIEW OF MARITIME TRANSPORT 2023

Towards a green and just transition
ACKNOWLEDGEMENTS

The Review of Maritime Transport 2023 was prepared by UNCTAD under the overall guidance of Shamika N. Sirimanne, Director of the Division on Technology and Logistics of UNCTAD, and under the coordination of Jan Hoffmann, Head of the Trade Logistics Branch, Division on Technology and Logistics. Regina Asaftis, Mark Assaf, Celine Bacrot, Hassiba Benamar, Poul Hansen, Jan Hoffmann, Tomasz Kulaga, Anila Premi, Luisa Rodriguez and Frida Youssif co-authored the report.

The report benefited from substantive contributions by officials from the regional commissions of the United Nations (ECA, ECE, ECLAC, ESCAP, and ESCWA), the TrainForTrade Port Management Programme partners (Port of Antwerp-Bruges, Port of Las Palmas, Port Authority of Valencia) and other partners. Input was provided by Adel Alghaberi, Eliana Barletta, Frada Basok, Juan Manuel Diaz Orejas, Mohamad Fakhreddin, Alejandro Garcia Macias, Nadia Hassam, Azhar Jaimurzina Ducrest, Sooyeob Kim, Robert Tama Lisinge, Magoc Montasdiaoca, Miryam Saada Hazin, Antonella Teodoro, Joachim Verheyen and Lukasz Wyrowski.

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Overall layout, graphics and desktop publishing were undertaken by the Division of Conference Management of the United Nations Office at Geneva.

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THANK YOU!

- http://unctad.org/rmt
- http://stats.unctad.org/Maritime

Contact: rmt@unctad.org