ADB Green Ports & Maritime Decarbonization Initiative

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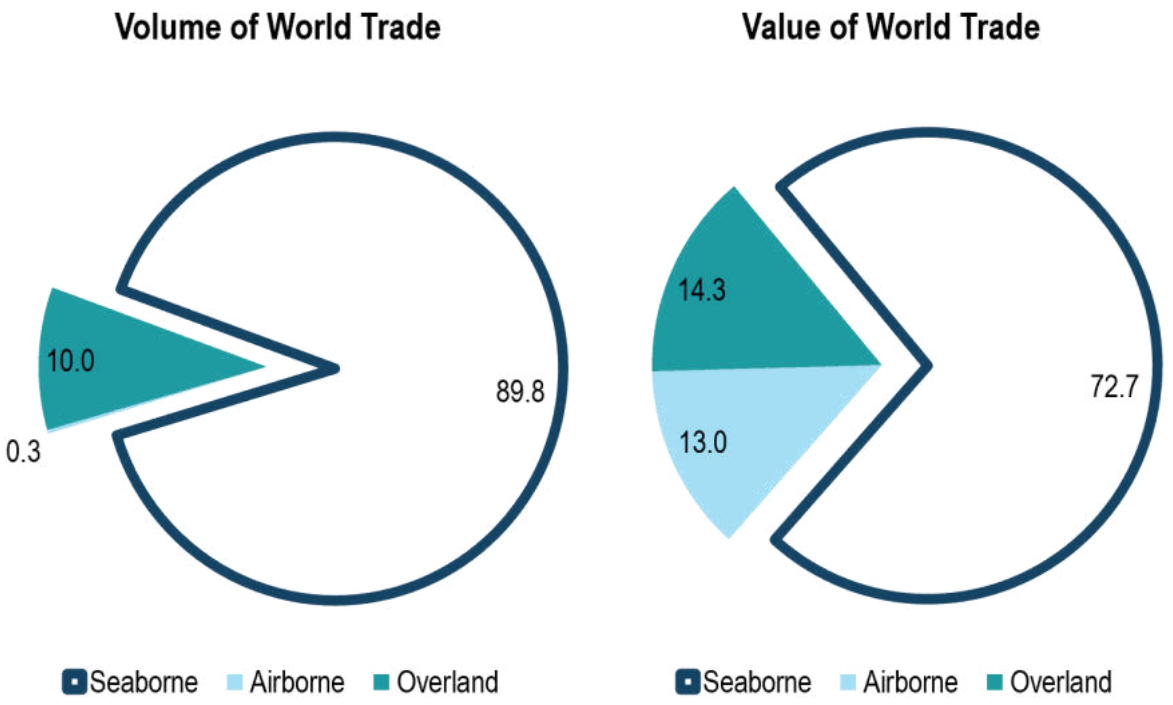
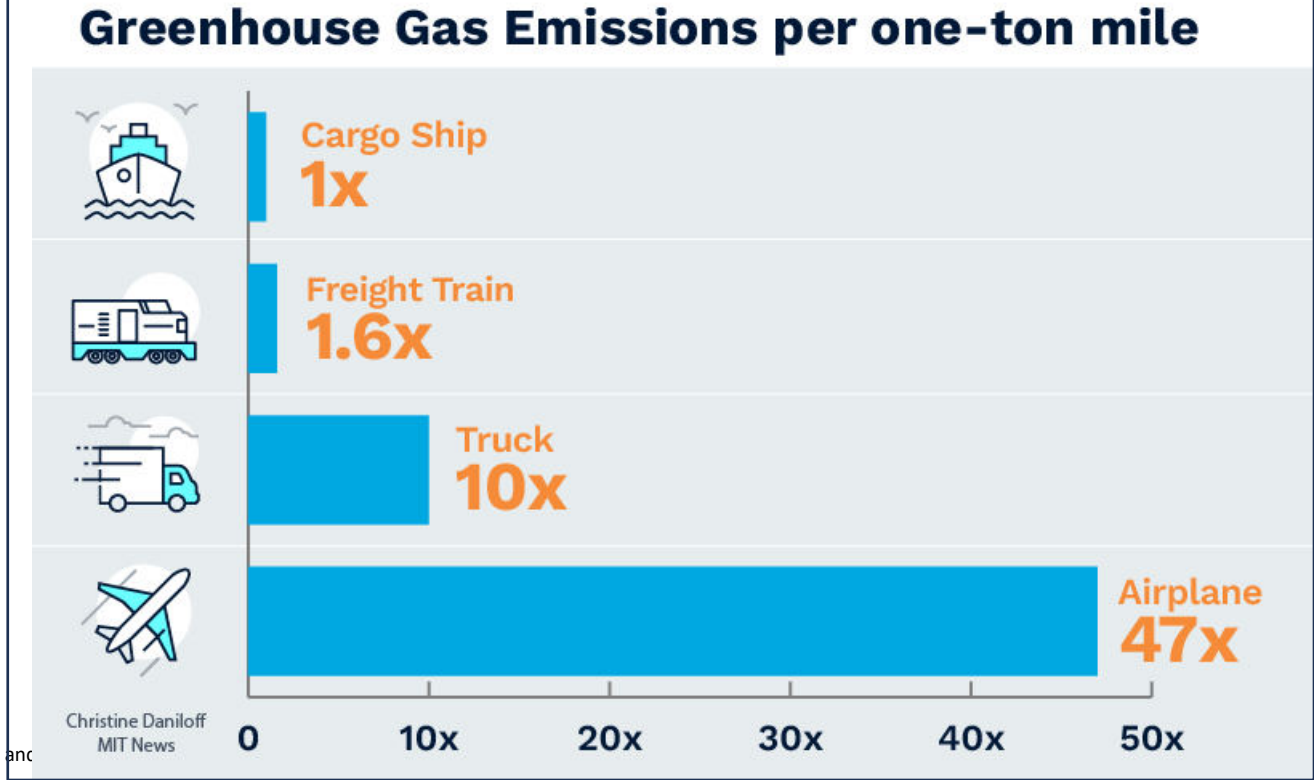
Maritime Transport & Global Trade

90% of global trade volume is seaborne



Shipping is the most efficient mode of cargo transport

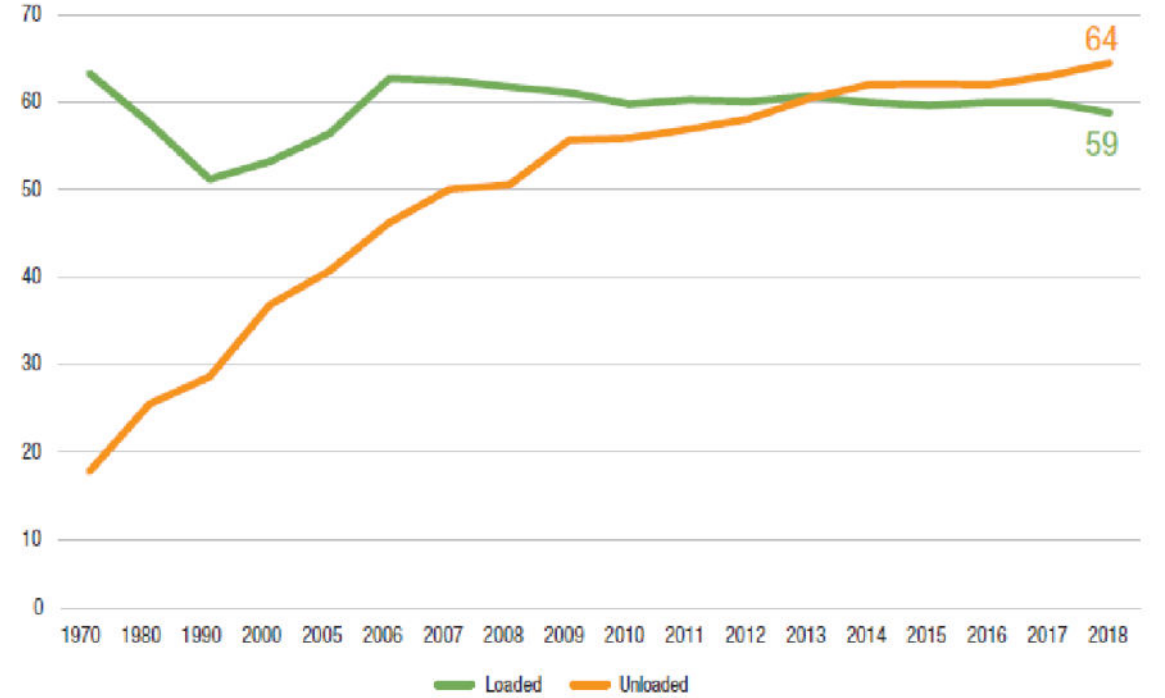


Theo Notteboom, Athanasios Pallis and Jean-Paul Rodrigue (2022) Port Economics, Management and Policy

Maritime Transport & Global Trade

60% of goods loaded/unloaded in **Developing Country** Ports

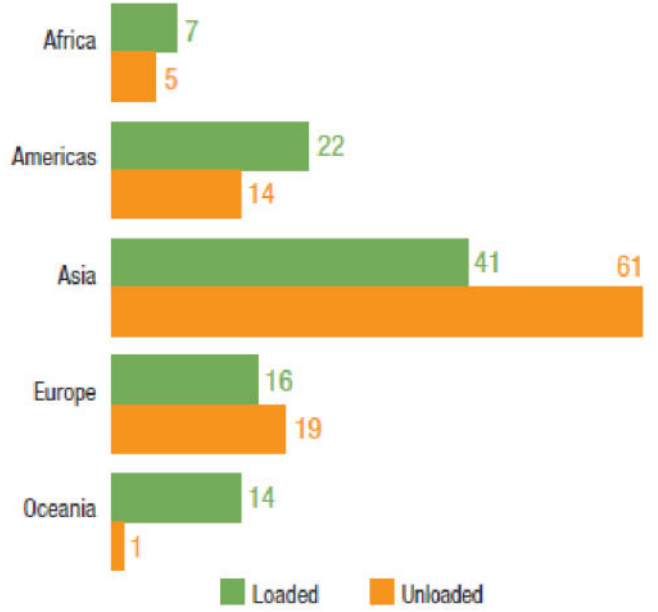
Figure 1.3 (a) Participation of developing countries in international maritime trade, selected years
(Percentage share in total tonnage)



Sources: UNCTAD secretariat calculations, based on data from the *Review of Maritime Transport*, various issues, and table 1.4 of this report.

Asia loads/unloads more cargo than any other region

Figure 1.4 International maritime trade by region, 2018
(Percentage share in world tonnage)

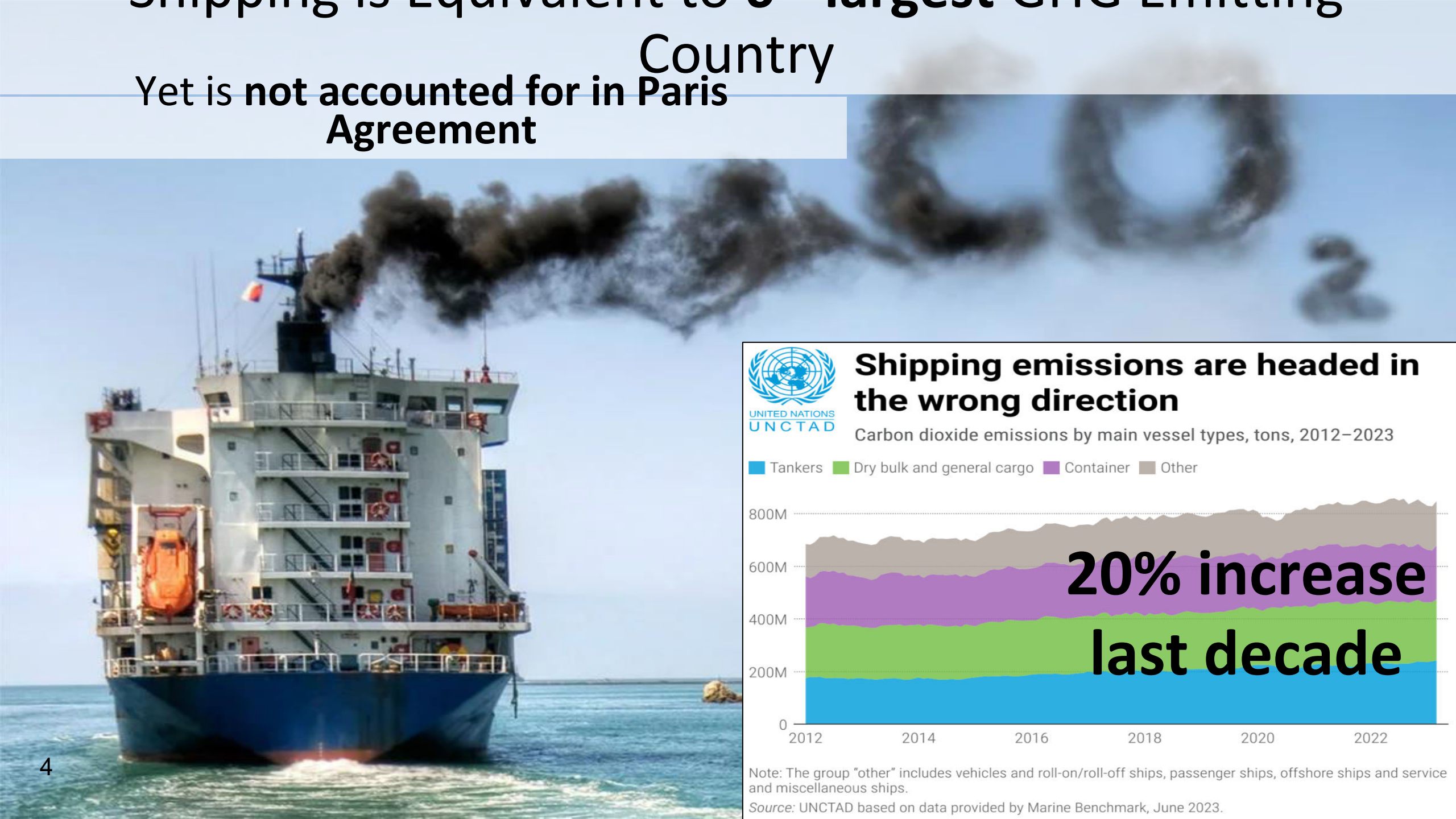


Sources: Compiled by the UNCTAD secretariat based on data supplied by reporting countries, as posted on government and port industry websites, and data provided by specialist sources.

Note: Estimated figures are based on preliminary data or on the last year for which data were available.

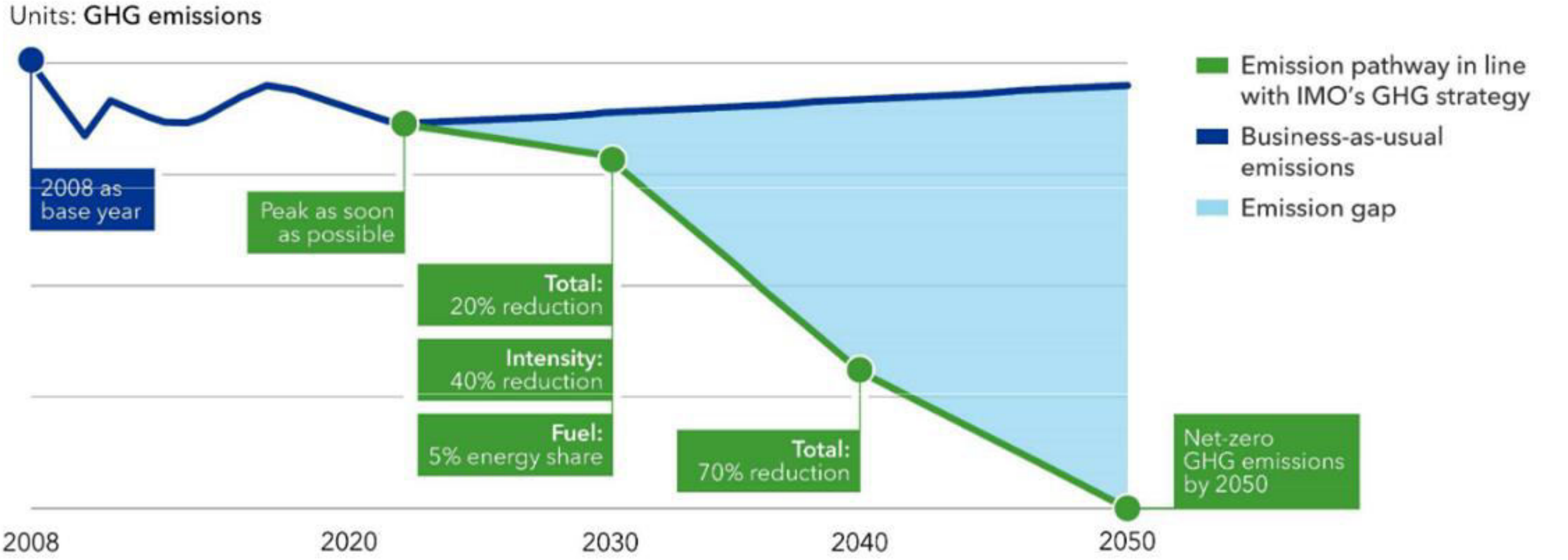
Shipping is Equivalent to 6th largest GHG Emitting Country

Yet is **not accounted for in Paris Agreement**



Maritime Transport & Climate Policy

IMO GHG Strategy **Net Zero by 2050**



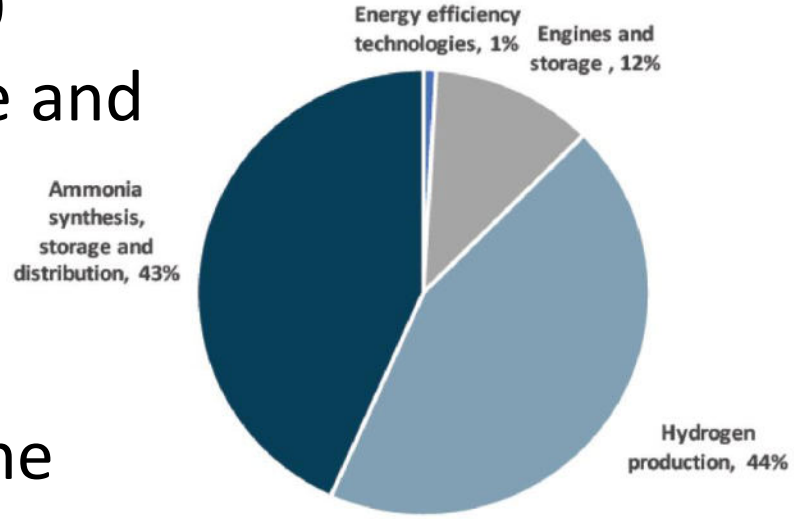
Total: Well-to-wake GHG emissions; **Intensity:** CO_2 emitted per transport work; **Fuel:** Uptake of zero or near-zero GHG technologies, fuels and/or energy sources

Financing Challenges

- > **$1.9 trillion** will be needed to reach net zero by 2050
  - 87% of which is needed in land-based infrastructure and fuel production facilities

- **Upfront expense** and a **new type of investment**
  - May not be readily supported by traditional maritime financing instruments.

- Need to **accelerate pathways for zero-carbon bunker fuels**
  - to enable industry to make confident long-term investments
  - to enable DMCs to adapt port infrastructure to climate change.



Needed Investment breakdown across vessels and land-based infrastructure

Opportunities

- Future fuels are 2.5x **less energy dense** → Ships will require **more frequent bunkering**
  - **New bunkering hubs** can be developed in DMCs yielding large economic benefits

- Port infrastructure is key to decarbonizing the maritime industry
  - $4 net benefit for each dollar invested in resilience

- Fast-track electrification of port operations and provide shore power access
  - Can be done prior to committing capital to develop additional renewable energy capacity

- 40% of maritime cargo is energy related → ports are at the nexus of energy transition
  - Decarbonization will depend on **development of electrofuels at or near ports**
    - Ports as First Movers (e.g., Green Corridors)

Programmatic Approach

- Ensure a just transition with financial and technical support to vulnerable, shipping-reliant DMCs, e.g., SIDS, that are most affected by energy transition and shipping costs
- Fast-track implementation of electrification and smart/digital solutions at DMC ports for improved efficiency and reduced GHG emissions
- Promote RCI for harmonization of regional green shipping policies that give attention to the needs of vulnerable DMCs – enable a level playing field & minimize uncertainty
- Support development of green corridors (designated routes for sustainable vessels) involving DMCs

Programmatic Approach

- Build partnerships with private sector and industry stakeholders to foster knowledge sharing and collaboration
- Enable DMCs to decarbonize domestic fleets - fishing, interisland, inland waterway vessels
- Ensure workforce is adequately trained in the use of alternative fuels and related shipboard systems
- Address financing gap with a multi-donor Green Ports and Maritime Decarbonization Fund

A Proposed New Fund:
Green Ports and Maritime Decarbonization Fund

In 2023, ADB Commissioned a Study to **Assess the Financing Landscape** for Green Port & Maritime Decarbonization Investments in DMCs

No other financing initiatives are dedicated to Green Ports and Maritime Decarbonisation in Asia and the Pacific.

There are a range of existing funding and financing initiatives active in APAC region.

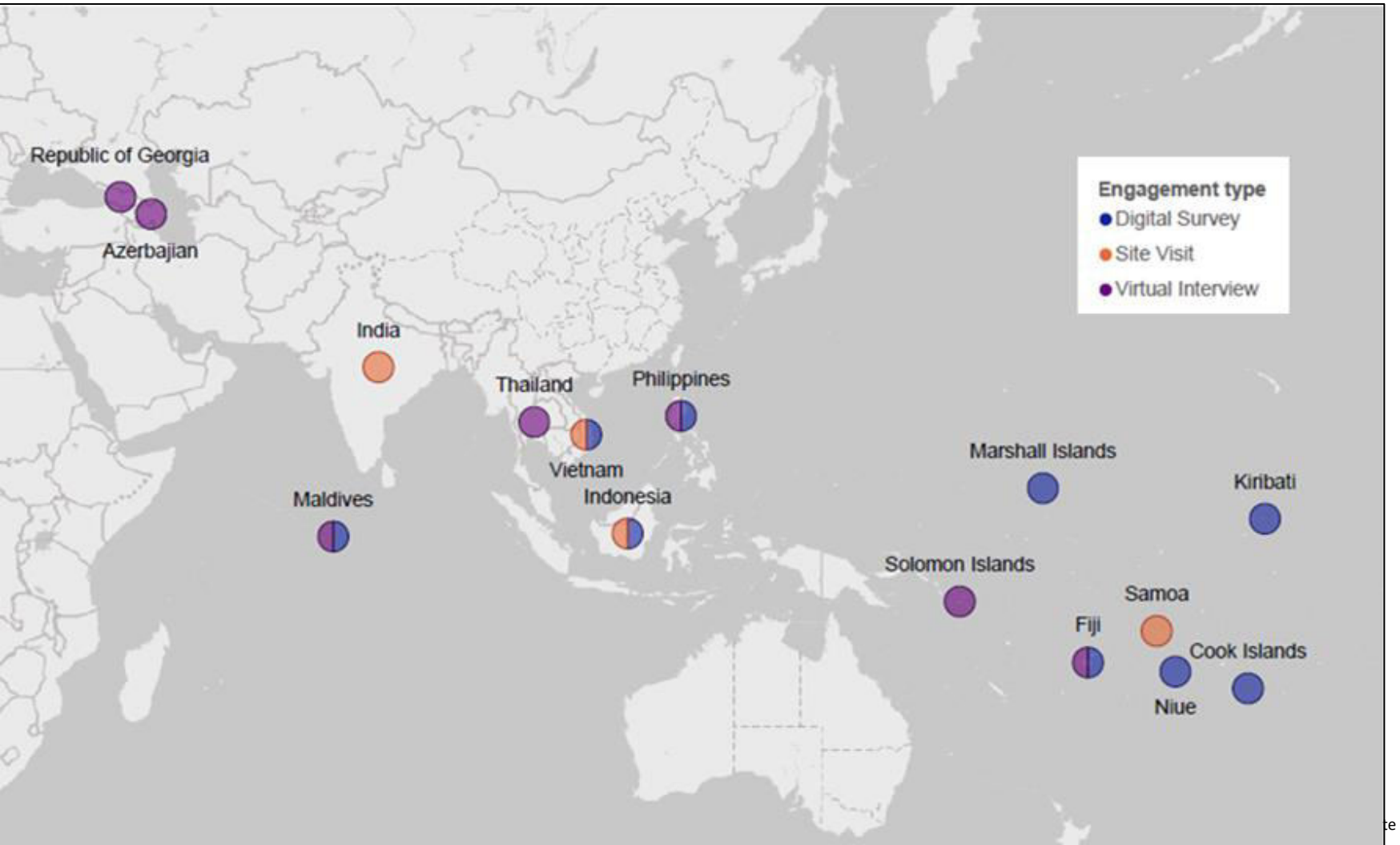
None focus on Green Ports and Maritime Decarbonization.

1st **GPMDF** can be **the pioneer**

Facility name	
ASEAN Catalytic Green Finance Facility	Global Climate Action Partnership
ADB Blue Bonds	Global Energy Efficiency and Renewable Energy Fund
ADB Blue Pacific Finance Hub	Global Environment Facility
ADB Blue SEA Finance Hub	Green Investment Group Asia
ADB Green Climate Fund (ADB GCF)	Greenko Group
ADB Ventures	International Finance Corporation
Asia Green Fund	International Renewable Energy Agency
Asian Clean Energy Fund	Japan International Cooperation Agency Climate Finance
Australian Climate Finance Partnership	Japan Renewable Energy Corporation
Australian Renewable Energy Agency	Korea Green Growth Trust Fund
BIS Asian Green Bond Fund	Lloyd's Register Silk Alliance
China Development Bank	Macquarie Asia Infrastructure Fund 3
Clean Cargo Initiative	New Energy Nexus
Clean Energy Finance Corporation Australia	Ocean Resilience and Climate Adaptation (ORCA) Financing Partnership Facility & ORCA Trust Fund
Clean Energy Financing Partnership Facility	Pacific Blue Shipping Partnership
Climate and Clean Air Coalition	Pacific Ports Clean Air Collaborative
Climate Investment Funds (CIF)	PROBLUE
Climate Investor One	Renewable Energy and Energy Efficiency Partnership
ClimateWorks Foundation	Singapore Green Plan 2030
Eco-Ports Network	Taiwan International Cooperation and Development Fund
EIB Global	The Adaptation Fund
Equis Development Pte. Ltd.	World Ports Climate Initiative Program
Global Center on Adaptation (GCD)	Tropical Asia Forest Fund 2

A Proposed New Fund: Green Ports and Maritime Decarbonization Fund

Stakeholder Engagement



24 ports: digital survey

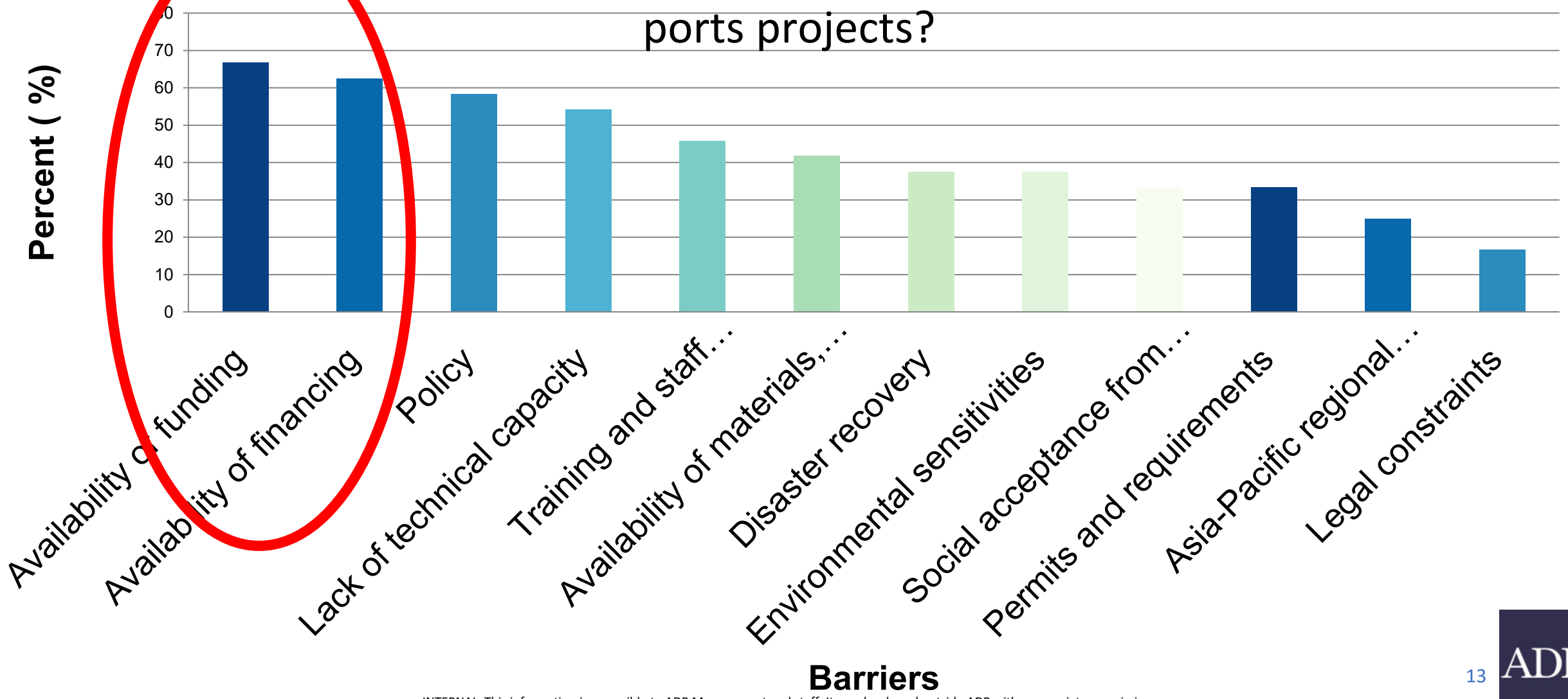
8 ports: virtual interviews

4 ports: site visits

14 financing facilities/funds/ programs interviewed

Current Funding Gap > $10B / 5yr

What do you think the main barriers are for the implementation of future green ports projects?



A Proposed New Fund:
Green Ports and Maritime Decarbonization Fund

Target Fund Launch at **UNFCCC COP 29**

United Nations Climate Change COP 29 November 2024 UNFCCC

Proposed GPMDF Modalities

- GPMDF should provide both **sovereign** and **non-sovereign** financial support, but with a **focus on non-sovereign**, to address the unfulfilled need in the ports sector.

GPMDF may offer different financing modalities

The general categorization of financial support modalities would be:

- Loan
- Equity
- Grant, including technical support (TA)
- Guarantee

Potential GPMDF Project Types

Financial support level	Green port topic	Intervention
Upstream	**Governance**	Support for development of a national level green port policy
		Support for development of a port / terminal level green port policy and strategy
Midstream	**Energy Efficiency, Clean energy and fuels and climate resilience**	Feasibility studies and design for an energy efficiency, climate resilience and clean energy and fuels related project

Potential GPMDF Project Types

Financial support level	Green port topic	Intervention
Downstream	**Energy Efficiency**	Smart energy management
		Retrofit and energy-efficient equipment
		LED lighting conversion
	Clean energy and fuels	Shore power
		Solar and wind
		Battery-Energy Storage Systems
		Zero-emission equipment and vehicles
		Alternative fuel bunkering
	Climate Resilience	Adaptation (Structural and non-structural)

Thank you

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