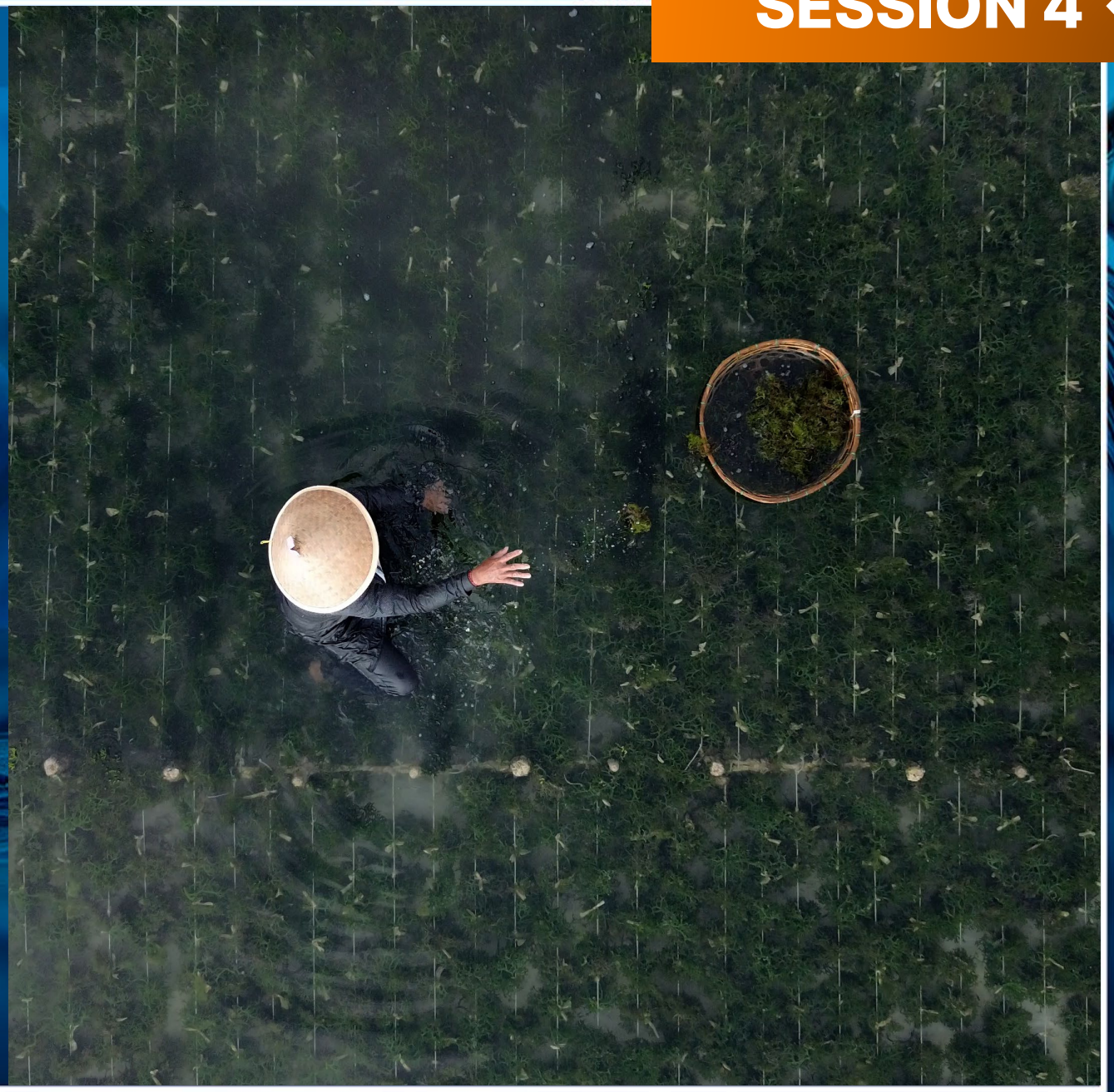
SESSION 4

5th United Nations Ocean Forum

Trade policies and tools for innovative marine-based and low-carbon products by SMEs (including foods, nutraceuticals, cosmetics, and non-plastic substitutes)

3 March 2025
3–4:30 p.m.

UN trade & development
UNCTAD



04 March 2025

Leaving the shore

Marine-based substitutes and alternatives to plastics

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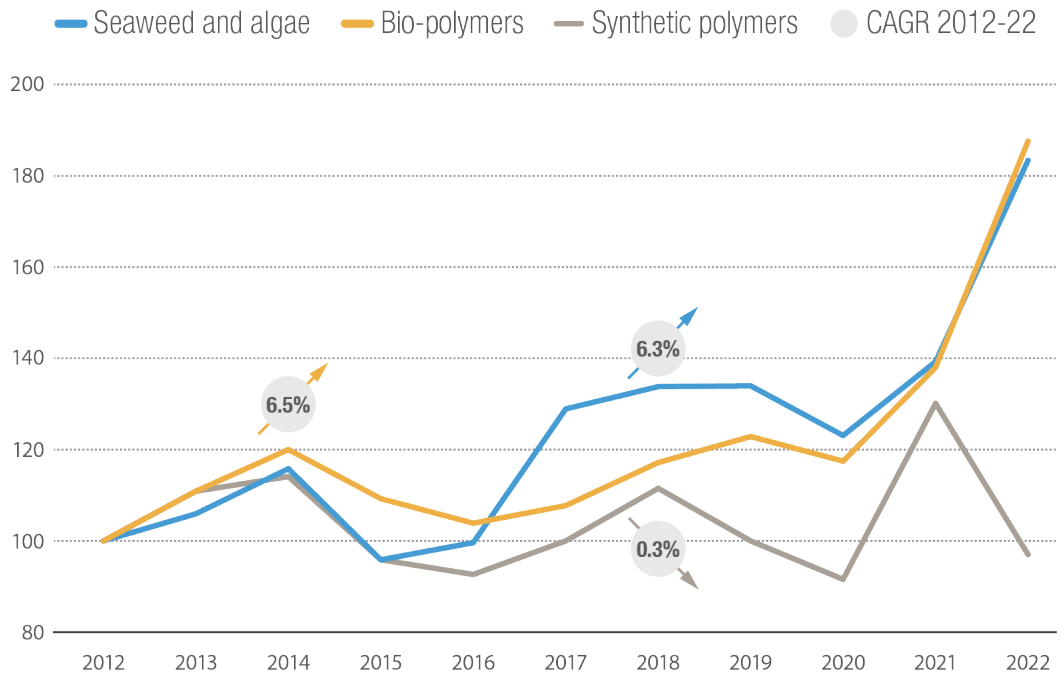
Background

- Oceans as a source of materials to tackle plastic pollution through substitution
- Marine derived materials with potential for replacing fossil fuel-based plastics (e.g. PE, PP), either directly or indirectly:
  - Seaweed and algae
  - Marine minerals (e.g. silica sand, clays)
  - Crustacean and mollusc shells, cuttlebone and coral
  - Fish waste
  - Marine invertebrates (e.g. jellyfish)
  - Biological polymers (e.g. carrageenan)
- Biodegradability, good functionality (e.g. strength), relatively low environmental footprint, high development potential
- Mixed methods approach: Desk research, stakeholder interviews, life cycle analysis

Trade trends and barriers

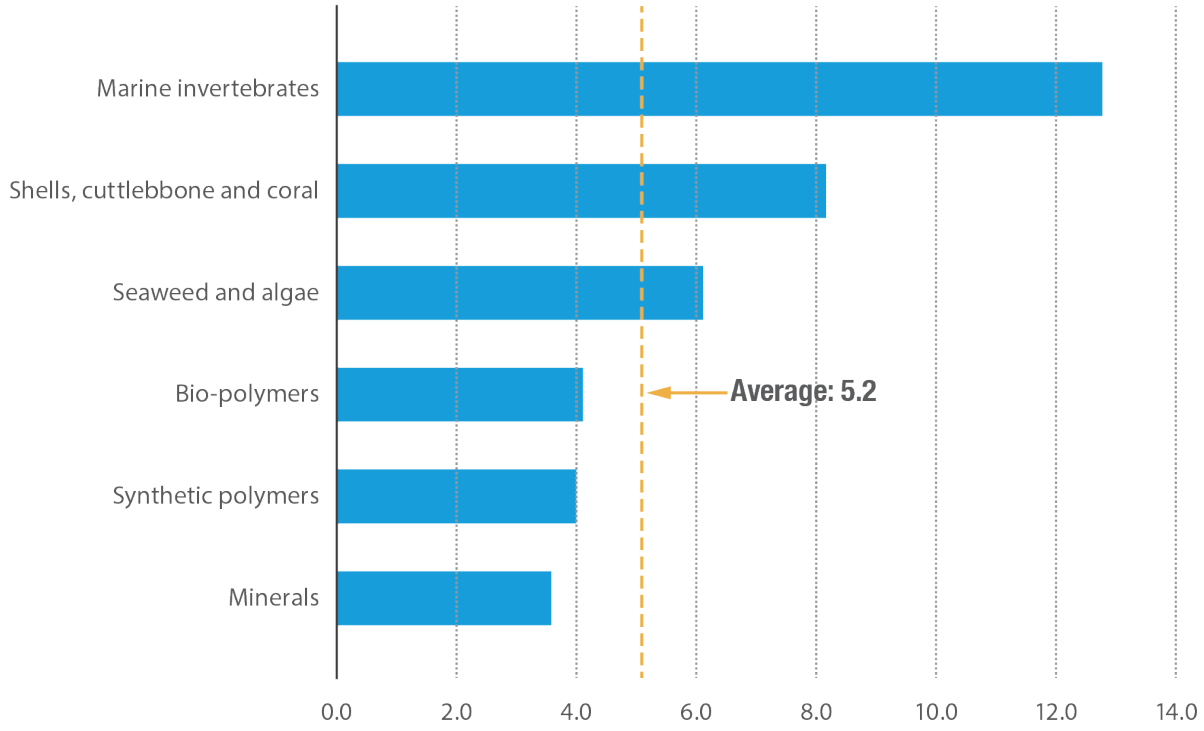
Global exports of marine biopolymers and seaweed vs. synthetic polymers



Source: UN Trade and Development.

Note: Base year: 2012=100. Bio-polymers include agar-agar, carrageenan and alginates.

Average MFN tariffs applied to marine substitutes vs. synthetic polymers



Source: UN Trade and Development.

Notes: Does not include preferential rates applied as part of trade agreements (FTA, regional trade agreement, etc.)

Lively entrepreneurial ecosystems

Seashell-derived tiles from South Korea. Credits: Newtab-22 studio

Sea glass made from microalgae-derived silica. Credits: Elisava

Off-bottom Eucheuma seaweed farms in Kilwa, Masoko, United Republic of Tanzania. Credits: Maliha Sumar, 2024

Seaweed fermentation to produce PHAs. Credits: Uluu, 2024

Vivomer (PHA-based) alternative plastics, home compostable.

Algae-based garment made from locally sourced algae. Credits: Runa Ray, 2024

Recommendations

1. Facilitate trade and enable innovation in marine substitutes industries:
   - Regulatory harmonization, e.g. through the INC Global Plastics Treaty
   - Market incentives

2. Strengthen work on marine substitutes in areas of mutual interest to developed and developing countries
   - Research and analysis
   - Consensus building
   - Technical assistance, for human resources and productive capacity

Thank you

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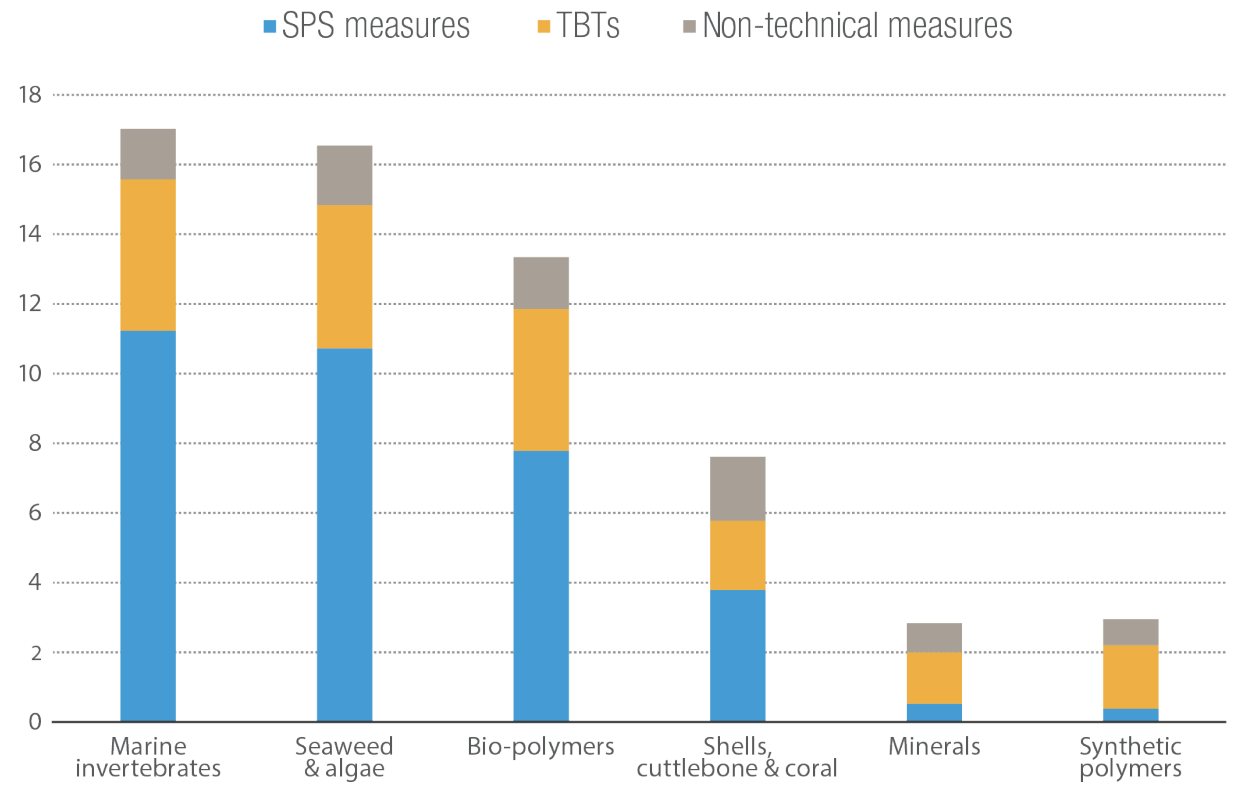
Back up

Non-tariff measures (NTMs)

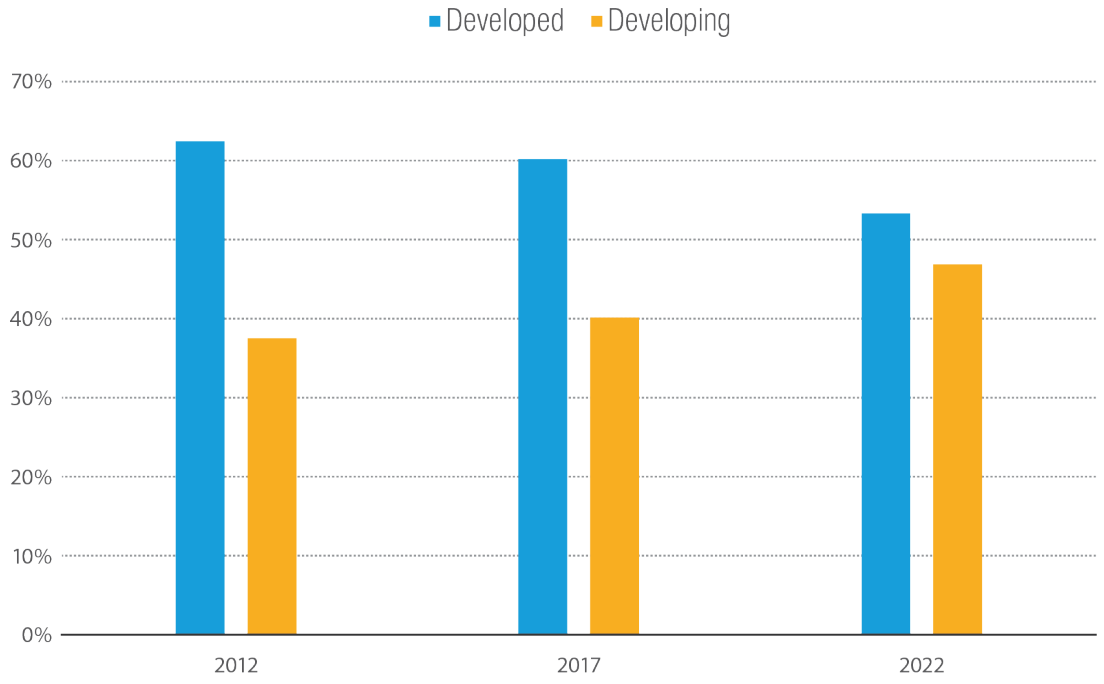
Average number of NTMs applied to marine substitutes vs. synthetic polymers



Source: UN Trade and Development.

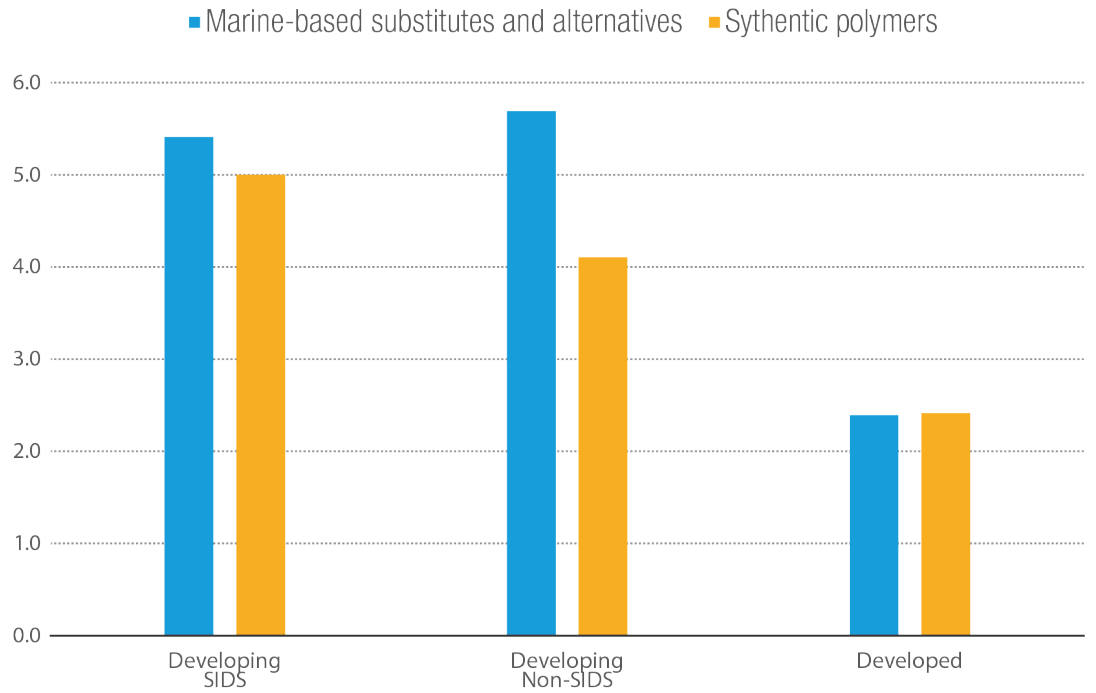
Developing countries

Global exports of MBSAs by development status of exporter (per cent)



Source: UN Trade and Development.

Average MFN tariffs by development status of the importing country



Source: UN Trade and Development.