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# Binding the flows: Why trade is central for a global plastics treaty

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## Letter to the Editor

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### Abstract

As governments prepare for the decisive round of negotiations for the global plastics treaty in August 2025, trade remains a largely overlooked yet indispensable element in shaping an effective and equitable agreement. We argue that trade, spanning plastic feedstocks, resins, products, and waste, forms the connective tissue of the plastics economy and that it must be embedded in the treaty's architecture. Drawing on global trade data, country cases, and precedent from multilateral environmental agreements, we demonstrate how trade both drives plastic pollution and can serve as a lever for circularity and sustainability. We outline the asymmetries in global plastics trade and their implications for equity and implementation, especially for small and import-dependent states. The article proposes a suite of actionable recommendations for INC-5.2, including trade-related transparency, WTO-aligned treaty provisions, and dedicated capacity-building support. By integrating trade governance into the plastics treaty, negotiators can build an agreement that is both environmentally ambitious and structurally sound.

### Impact statement

Plastic pollution is a global problem, yet the UN negotiations for a global plastics treaty overlook the very system that moves plastics across borders: trade. Our letter highlights this blind spot and explains why bringing trade rules into the treaty is essential for real-world impact. Trade acts as the bloodstream of the plastics economy, carrying feedstocks, finished goods and waste from factory floors to distant shorelines. Without safeguards, this flow shifts environmental burdens onto countries least able to manage them and undercuts efforts to redesign products or scale recycling. Embedding smart trade provisions – transparent reporting, consistent product codes and support for customs and port authorities in tracking plastics products and waste trade flows – would close loopholes, spur investment in circular materials and ensure that all nations play by the same rules. By reframing trade from a side (dialogue) issue to a core solution, our analysis and recommendations offer negotiators a practical path to reduce pollution, level the playing field for smaller economies and unlock new markets for safer alternatives. Integrating trade governance turns the treaty from aspiration into enforceable action – benefiting communities and ecosystems worldwide.

## Introduction

As the global plastics treaty enters its final negotiation phase, one issue - trade - remains largely unaddressed. Negotiations for the global treaty to end plastic pollution (the plastics treaty) will enter a pivotal phase at the Intergovernmental Negotiating Committee, INC-5.2, in Geneva in August 2025, and governments face critical choices. Will the treaty establish binding commitments across the full plastics lifecycle – from production and design to waste management – or focus only on downstream measures? Will it include legally binding lists of chemicals of concern and problematic products? Will countries be required to report plastic production, trade and pollution consistently and transparently?

Trade is the invisible engine of the plastics economy. From fossil fuel feedstocks and plastic resins to final goods and post-use waste, plastics cross borders at every stage of their lifecycle. In 2021 alone, global trade in plastics reached at least $1.2 trillion, roughly 5% of total world trade, including primary polymers, additives, packaging, synthetic textiles and waste. Finished plastic goods alone accounted for $510 billion, while trade in resins and pellets reached $384 billion (Deere Birkbeck et al., 2023). Major economies such as China, the United States and Germany dominate both exports and imports (UNCTAD, 2020). Meanwhile, many smaller and lower-income countries that produce no plastic of their own import products in plastic containers or packaging and receive plastic waste, yet often lack the infrastructure to manage it safely (UNEP,

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2021). For example, textiles comprising synthetic, semi-synthetic, and non-synthetic fibers are often exported to Africa labeled as second-hand clothing, but 40% end up as waste in landfills or the ocean (Ginatta and Isler, 2024).

The transboundary nature of plastics creates a globally entangled system: decisions about what is produced, consumed and discarded in one country reverberate across others. Yet trade has remained a marginal topic in treaty deliberations (TESS, 2023). This omission jeopardizes implementation and equity. Without integrating trade into the treaty's architecture, negotiators risk building an agreement that regulates plastics in theory but not in practice.

## Unequal flows: Trade, power and the plastics economy

National positions at the treaty negotiations often reflect underlying structural roles in the global plastics economy. Countries like Saudi Arabia and the United States, which export large volumes of resins and petrochemical feedstocks, tend to resist binding production caps. Meanwhile, smaller and lower-income countries, many of which import plastic goods and waste, call for stronger transparency, financial support and enforceable controls.

As Table 1 shows, finished plastic goods and resins dominate global trade by both value and volume, highlighting the scale of transboundary flows that make national policies insufficient on their own. These differing positions are further shaped by countries' specific trade profiles. Table 2 illustrates that some countries focus their economies on the production of feedstocks, others on finished goods, while many developing nations remain import-dependent, which makes them prone to higher exposure to unmanaged plastic waste. Table 3 shows the top 10 global importers and exporters of plastics and illustrates that they differ widely in the type and scale of plastic trade. Countries' roles in the plastics value chain determine their national interests and negotiating positions. Without careful attention to these dynamics, treaty outcomes may deepen existing asymmetries rather than correct them.

Several countries have enacted trade-related restrictions on plastics, illustrating the need for coordinated action. National bans on single-use plastic items and plastic waste imports have been impactful, but without harmonized definitions, standards and enforcement, trade flows have simply shifted (Deere Birkbeck et al., 2023). For example, China's 2018 "National Sword" policy banned the import of plastic waste, triggering a ripple effect across global waste flows as plastic waste was diverted to Southeast Asia and overwhelmed local infrastructure (UNEP, 2018).

Malaysia, India and Kenya have followed with their own import bans or restrictions, often in response to the environmental and infrastructural strain of redirected waste (Schroeder, 2020; UNCTAD, 2020). The European Union has enacted the Single-Use Plastics Directive, which also applies to imported goods, thereby shaping global

**Table 1.** Global plastics trade by product category and value (2021)

| Category | Trade value (USD Billion) | Export volume (Mt) |
|---|---|---|
| Final manufactured plastic goods | 510 | 88 |
| Primary plastics (resins, pellets) | 384 | 172 |
| Intermediate plastic forms | 167 | N/A |
| Intermediate manufactured goods | 119 | N/A |
| Chemical additives | 78 | N/A |
| Feedstocks | 82 | N/A |
| Plastic waste | 3.4 | N/A |
| Empty plastic packaging | 160 | 37 |
| Total estimated trade in plastics | ~1,200 | N/A |

**Table 2.** Key players across the plastics life cycle

| Country/region | Life cycle stage dominance | Notes |
|---|---|---|
| China | Final products, packaging, textiles, synthetic rubber | World's top exporter of plastic products and textiles |
| United States | Import of final goods, export of resins and intermediates | World's top importer of plastics; major petrochemical base |
| Germany | Balanced across life cycle | Strong manufacturing sector; key importer and exporter |
| Saudi Arabia | Feedstocks, primary resins | Major exporter of resins; low imports of finished plastics |
| Japan | Intermediates, resins, final goods | Advanced in electronics and materials |
| South Korea | Intermediates, resins | Strong in petrochemicals and plastic components |
| EU (combined) | Final products, intermediates | Second only to China in combined exports |
| India | Imports resins and packaging, exports plastic goods | Net importer in raw materials, exporter in some final goods |
| Brazil | Imports most plastic categories | Net importer, growing regional supplier |
| Africa (Region) | Net importer across categories | Limited domestic production |

*Source*: https://unctad.org/news/global-plastic-trade-40-bigger-previously-thought-study-finds; https://www.statista.com/statistics/1357841/plastic-waste-export-volume-by-country/.

**Table 3.** Top 10 global importers and exporters of plastics (2023) (Based on HS Chapters 39 and 40 for plastics and rubber products; approximate trade values)

| Rank | Top exporters | Export value (USD billion) | Top importers | Import value (USD billion) |
|---|---|---|---|---|
| 1 | China | 32.3 | United States | 72.3 |
| 2 | Germany | 26.8 | China | 44.5 |
| 3 | United States | 23.5 | Germany | 38.7 |
| 4 | South Korea | 19.2 | France | 17.4 |
| 5 | Japan | 16.1 | United Kingdom | 14.6 |
| 6 | Saudi Arabia | 14.7 | Mexico | 12.9 |
| 7 | Belgium | 13.9 | Netherlands | 12.4 |
| 8 | Netherlands | 13.1 | Canada | 11.3 |
| 9 | Italy | 11.4 | India | 10.7 |
| 10 | France | 10.8 | Brazil | 9.6 |

*Source*: https://www.worldstopexports.com/plastic-item-exports-country/; https://trendeconomy.com/data/commodity_h2/39.

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trade norms (European Commission, 2019). Governance measures have become increasingly divergent across countries and contexts, putting strain especially on smaller states whose markets do not have the power and capacity of larger nations. This underscores the need for a harmonized global treaty framework.

Trade rules were designed well before plastics were identified as a problem, and the WTO provisions under the Technical Barriers to Trade (TBT) and Sanitary and Phytosanitary (SPS) Agreements can be invoked to challenge national plastic restrictions (WTO, 2024). A global plastics treaty without a clear trade interface risks legal disputes that could undermine environmental ambition (Deere Birkbeck et al., 2023).

## Harnessing trade for circularity

Properly designed trade measures can support the treaty's objectives. Tools such as green tariff classifications, trade facilitation for environmentally sound technologies and structured trade-related notifications under the WTO could support treaty implementation and innovation.

Examples abound of how trade can be a force for good. The European Union has lowered tariffs on certain recycled polymers and packaging alternatives, and its Ecolabel sets criteria that apply equally to imports. Kenya and India have enacted import bans on plastic bags and waste to reduce pollution burdens. South Korea and France extend producer responsibility schemes to imported goods, leveling the regulatory playing field. The World Customs Organization is revising customs codes to improve tracking of recycled and problematic plastics, and WTO's Aid for Trade program has supported recycling infrastructure in countries like Rwanda and Ghana. Positive trade instruments are already in use and could be scaled globally through the plastics treaty.

## Ensuring equity for small states

Trade-related measures place burdens on small states that contribute little to global plastic production. Many small states are net importers of plastic goods and recipients of unwanted or misclassified waste. Yet, they lack the infrastructure to monitor trade flows, to enforce product standards or to process imported plastic waste (UNCTAD, 2020; UNEP, 2021). For example, Pacific Island countries such as Vanuatu and Samoa have taken strong domestic steps to ban single-use plastics, but face challenges in regulating imported goods or participating in global standard-setting without technical support (SPREP, 2019; UNEP, 2021). Similarly, Rwanda and the Maldives have led with bold national bans but rely on international partnerships to build recycling capacity and track trade data (REMA, 2020).

To address this imbalance, the plastics treaty must incorporate differentiated responsibilities and robust capacity-building mechanisms. Aid for Trade programs, modeled on successful WTO initiatives, can provide technical assistance and training (WTO, 2022). A dedicated fund for sustainable trade transition, akin to the Montreal Protocol's Multilateral Fund, could support small states in aligning national policies with treaty obligations, implementing customs reforms and accessing clean production and recycling technologies (Multilateral Fund Secretariat, 2024).

Without such support, trade rules may entrench inequality by penalizing the countries least responsible for the problem and least equipped to adapt. With it, trade can become a tool of transformation, empowering small states to lead on implementation and shape global solutions.

## Learning from environmental agreements

Several Multilateral Environmental Agreements (MEAs) make use of trade measures that could provide models for the plastics treaty. The Montreal Protocol banned trade in ozone-depleting substances with non-Parties, thus incentivizing compliance and promoting universal participation. The Multilateral Fund supported technology transfer and financial assistance to developing countries and countries with economies in transition. Its structure is a model for balancing environmental integrity and trade equity.

The Convention on International Trade in Endangered Species (CITES) offers a model of tiered trade controls based on environmental risk. Its global permit system ensures traceability and accountability in cross-border trade. A similar approach could be designed for certain categories of plastics, particularly for those considered problematic or avoidable.

Amendments to the Basel Convention, effective January 2021, created three plastic-waste categories – clean recyclables, hazardous waste and mixed/contaminated waste – and extended the Prior Informed Consent (PIC) procedure to nearly all shipments. Exporters now need approval from importing countries party to the convention, closing loopholes that had allowed unchecked exports of low-grade plastics to developing countries. Challenges persist, however, as the United States is not party to the Convention and has relied on a separate OECD (Organisation for Economic Cooperation and Development) agreement for waste trade (Khan, 2019; epa.gov).

These MEAs demonstrate both the potential and limitations of trade-based controls. They reinforce the value of harmonized standards, institutional coordination and stronger enforcement. Most importantly, they show that trade measures, when thoughtfully integrated, can reinforce rather than inhibit environmental protection.

## Aligning treaty and global trade rules

An effective plastics treaty would hinge on the transparency of plastics trade flows. At present, outdated Harmonized System (HS) codes blur the distinction between primary and recycled polymers, conceal chemical additives and overlook embedded plastics in traded goods such as packaging. The World Customs Organization's 2027 revision of the HS is therefore critical: by expanding plastic product classifications and codes, it could enable more granular tracking of trade flows across the plastic life cycle – essential for monitoring compliance with the treaty provisions.

The WTO Dialogue on Plastic Pollution (DPP) has identified eight focus areas in its workplan: (1) engaging in the INC negotiations to support the future plastics agreement implementation; (2) enhancing transparency in plastic trade flows; (3) providing technical assistance and capacity-building; (4) increasing transparency of members' trade-related plastic measures (TrPMs); (5) promoting best practices for TrPMs; (6) fostering trade in recycled and recyclable materials to advance circularity; (7) achieving greater harmonization to identify single-use plastic goods; and (8) improving access to technologies and services for environmentally sustainable waste management and substitutes (WTO, 2025). The WTO can translate these themes into concrete support for the INC process, particularly by (i) steering HS reform, (ii) mapping credible international standards for plastic products, non-plastic substitutes and related chemicals and (iii) facilitating technology transfer and capacity-building.

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Trade governance systems were not designed with plastics in mind. Institutions such as the WTO and the Basel Convention are still adapting, while national trade-related plastics measures continue to proliferate without harmonized definitions or enforcement, provoking trade tensions. Integrating a trade coordination mechanism in the treaty, such as establishing a standing INC–WTO coordination group or formal consultation process, would give negotiators a forum to vet new measures and help identify safe spaces for environmentally justified trade restrictions that are aligned with global rules.

In this dual-track approach – long advocated by Deere Birkbeck and TESS – the plastics treaty sets binding environmental targets while the WTO supplies the procedural and statistical infrastructure that makes them enforceable.

## Recommendations for INC-5.2

1. Include a dedicated article on trade and sustainable markets.
2. Establish a working group with the WTO and WCO to align trade and environmental rules.
3. Mandate transparent tracking of plastic trade flows.
4. Create a financial mechanism to support trade-related transition for developing countries.
5. Ensure all trade-related measures are designed to be WTO-consistent while retaining strong environmental ambition.

## Conclusion: Creating a coherent treaty

To be effective, the global plastics treaty must address the real-world architecture of the plastics economy, where trade is the connective tissue. At INC-5.2, negotiators must seize the opportunity to design a treaty that is both environmentally ambitious and structurally sound. Trade must be reimagined as a tool for transformation. If trade is the connective tissue of the plastics crisis, it must also be part of the cure.

**Open peer review.** To view the open peer review materials for this article, please visit http://doi.org/10.1017/plc.2025.10008.

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