

TECHNICAL OUTCOMES ATTACHED TO THE MINISTERIAL STATEMENT

TECHNICAL OUTCOME A

ANALYTICAL SUMMARY OF STATISTICAL APPROACHES TO ESTIMATE TRADE FLOWS OF EMBEDDED PLASTICS, PACKAGING AND SINGLE-USE PRODUCTS DISCUSSED IN THE DPP

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1 INTRODUCTION

1.1. The World Trade Organization (WTO) Dialogue on Plastic Pollution and Environmentally Sustainable Plastics Trade (DPP), co-sponsored by 83 WTO Members², has discussed how to improve gathering of data on trade flows and supply chains, "including by utilizing the Harmonized Commodity Description and Coding System (HS Convention) of the World Customs Organization or other trade instruments or standards, such as UN/CEFACT, and the flow of information about the chemical and material characteristics of plastic products traded internationally."³

1.2. The DPP Ministerial Statement ([WT/MIN\(24\)/14](#)) issued at the 13th WTO Ministerial Conference (MC13), agreed on the importance of international cooperation on a series of trade-related actions including to:

² Albania; Angola; Argentina; Australia; Austria; Barbados; Belgium; Bolivia, Plurinational State of; Bulgaria; Brazil; Cabo Verde; Cambodia; Cameroon; Canada; Central African Republic; Chad; Chile; China; Colombia; Costa Rica; Croatia; Cyprus; Czech Republic; Denmark; Ecuador; Estonia; European Union; Fiji; Finland; France; Gambia; Germany; Greece; Guatemala; Honduras; Hong Kong, China; Hungary; Iceland; Ireland; Italy; Jamaica; Japan; Kazakhstan; Korea, Republic of; Latvia; Lithuania; Luxembourg; Macao, China; Maldives; Malta; Mauritius; Mexico; Mongolia; Montenegro; Morocco; Mozambique; Netherlands; New Zealand; North Macedonia; Norway; Panama; Paraguay; Peru; Philippines; Poland; Portugal; Romania; Russian Federation; Samoa; Saudi Arabia, Kingdom of; Singapore; Slovak Republic; Slovenia; Spain; Suriname; Sweden; Switzerland; Thailand; Tonga; United Kingdom; United States; Uruguay; and Vanuatu.

³ See the DPP Ministerial Statement issued in the context of the WTO 12th Ministerial Conference (MC12) ([WT/MIN\(21\)/8/Rev.2](#)).

Improve transparency, monitoring and understanding of trade flows throughout the value chain of plastics, including flows of single-use plastics, plastic films and hard-to-recycle plastics.

1.3. Since MC13, to help the DPP achieve "further concrete, pragmatic and effective" outcomes by the 14th Ministerial Conference (MC14), the DPP has focused its discussions around [eight points](#) selected through a consultative process, and reflecting strong technical work already developed. Point of focus (PF) #2 under the cross-cutting issues workstream reads:

Point of focus 2: How to enhance transparency of trade flows of plastics, including, for example, by supporting the work at the World Customs Organization, UNITAR and other relevant institutions.

1.4. The topic was discussed during several DPP meetings, workshops and events. This document provides a non-exhaustive overview of such discussions on approaches to estimate trade flows of embedded plastics, packaging and single-use products. It draws on presentations, interventions and discussions during DPP meetings that addressed these points of focus.⁴ It also covers discussions held and technical presentations made prior to MC13.

2 INFORMATION GAPS ON TRADE FLOWS OF PLASTICS

2.1 HS codes and information for trade flows

2.1. Trade data is based on the Harmonized Commodity Description and Coding System (HS), an internationally standardized system, developed and maintained by the World Customs Organization (WCO). It classifies products by separating them commodity groups, each identified by a six digits code, supported by wider rules and nomenclature. Trade data from the HS for plastics consists of identifying the flow of plastic at primary stage (e.g. pellets), or in the context of finished goods, those that have the 'essential character' of plastic and no function or features that would necessitate classification of the product elsewhere.

2.2. There is a currently a knowledge gap in trade flows of plastics, directly linked to the lack of granularity in HS codes. For example, information on the specific material used in a product might be missing, so while the system allows for the classification of cotton buds, it does not differentiate between those made of plastic and those made of paper. Similarly, bottled mineral waters in plastic containers are not differentiated by capacity limits, but all grouped under a single code. Currently, in HS 2022, plastic items (such as in HS392410 – tableware and kitchenware) are not distinguished between reusable versus single-use articles, nor does it separate plates from cutlery or stirrers. Finally, there is little granularity by polymer for selected products.

2.3. There is also little information on packaging when used in traded goods, because of the rules of the HS which state that "materials and packing containers presented with the goods are classified with the good if they are of a kind normally used for packing goods". Products made with recycled plastic content or bio-based outputs are also not distinguishable within the current 6-digit HS codes. As a result, actual amounts of plastics moving across borders is difficult to measure in trade flows.

2.4. The review cycle of the 2028 edition of the HS is due to be concluded this year. As part of the review, proposals for changes to the nomenclature in relation to plastics, and in particular to better reflect single-use plastics (SUPs) trade flows, have been considered.

2.2 Gaps in flows of embedded plastics

2.5. Another important gap is the lack of information on [flows of embedded plastics](#), i.e. plastic present in goods that are not entirely made of plastics, but where plastics could represent a high percentage of their total mass. Estimating plastic content in complex durable goods – such as electronics and vehicles – is difficult, especially as plastics are embedded in multiple components of these goods.

⁴ In particular, DPP meetings held on 31 October 2024 ([INF/TE/IDP/R/20](#)), 19 May 2025 ([INF/TE/IDP/R/25](#)), as well as regional workshops ([INF/TE/IDP/R/23](#); [INF/TE/IDP/R/24](#)).

2.6. Collecting and analysing data on trade in goods with high plastic content would give Members a more complete picture of plastic flows through their economy. Improved transparency would enable evidence-based policymaking, help governments in defining targeted measures with the greatest impact on plastic pollution and allow more accurate tracking of progress. Extended Producer Responsibility (EPR) schemes were mentioned as a way for Members to enhance information on plastics flows, supporting transparency and gathering data, but it would need to be complemented with trade data. Global aggregates generated from these estimates would likewise enhance understanding of plastics flows and hotspots worldwide.

2.7. The Nordic Council of Ministers identified data and methodological challenges, when researching in 2023, for the establishments of national plastics inventories. Challenges ranged from those identified above, to data and difficulty in mapping end-of-life fates of plastic waste export.

3 EXAMPLES OF STATISTICAL APPROACHES TO ESTIMATE TRADE FLOWS OF PLASTICS, INCLUDING EMBEDDED PLASTICS, PRESENTED IN DPP

3.1. This section showcases statistical approaches that were presented in DPP meetings, to help estimate trade flows of plastics in more comprehensive ways, including embedded plastics in finished goods. This section presents a non-exhaustive list of approaches.

3.1 UNEP/UNITAR Statistical Guideline on Measuring Flows of Plastic throughout the Life Cycle

3.2. UNITAR presented an overview of their [Statistical guideline on 'Measuring flows of plastic throughout the life cycle'](#).⁵ The guideline aims to provide policy makers with statistics on plastics flows across the lifecycle, from production to disposal. It helps generate high-quality data that are comparable at the domestic, regional and global levels to inform policies on responsible consumption and production, the circular economy, trade and others. It is designed in collaboration with several organizations, for domestic statistical offices and other relevant organizations responsible for the production of statistics on plastics, and is currently under pilot testing in Viet Nam, and through the World Bank ProBlue multi-donor trust fund, in Morocco and Tunisia.

3.3. To support consistent data compilation, UNITAR developed the Plastic-KEYs classification system, which grouped both finished plastic products and plastic-containing products into eight key categories: (i) packaging; (ii) transport; (iii) building and construction; (iv) electrical and electronic equipment; (v) consumer and institutional products; (vi) industrial machinery; (vii) textiles; and (viii) other. It covers both finished plastic products (where the fraction would be 100%) and plastic-containing products. Trade statistics and domestic production statistics are applied to estimated plastic fractions, coupled with information on polymer composition, to estimate the plastic waste generated, for a given "Plastic Key", after inputting the expected lifetime of the product.

3.4. The guideline is based on international approaches (SEEA, Basel Convention practical guidance on Plastics Waste Inventories...), and the methodology includes a modular approach under which countries start by focusing on core indicators before expanding to more complex data collection, offering flexibility.

3.5. Recommendations to Nordic countries, in support of developing national plastics inventory were put forward by the Nordic Council of Ministers in their 2023 report, and included follow-up on UNITAR's Plastic-KEYs, to ensure common data reporting on plastics, develop harmonized waste reporting, map available data from large industries, and establish standardized methods for waste analysis. It was accompanied with recommendations to enhanced cooperation among Nordic countries customs authorities, especially on data on waste shipments, and to environmental agencies to enhance information on polymer compositions of products and support measures to improve data flow.

⁵ [INF/TE/IDP/RD/175](#).

3.2 European Union Joint Research Centre (JRC): Assessing the material flows of plastics in the European Union Value Chain

3.6. The European Union JRC presented a top-down material flow analysis (MFA) of plastics in the EU27 for the year 2019, covering the full value chain, in its presentation "[Assessing the material flows of plastics in the European Union Value Chain](#)".⁶ Material flow analysis for plastics was undertaken along its value chain, from polymer production to end of life, including trade, mismanaged waste, and environmental losses. It includes sector specific information (packaging, construction, transport, electronics, agriculture, textiles, health care, fishing, others), as well as figures disaggregated by polymer.

3.7. The study identified packaging as the largest consumption sector, accounting for over 30% of total plastic consumption and 65% of input to recycling, although only 16% of the total plastic waste generated was recycled at end of life. Plastic losses and mismanaged waste were found to be comparable in volume to recycled plastics. The study also modelled intervention scenarios showing that combined improvements in waste management and reductions in plastic production could significantly increase the total quantities of recycled plastics.

3.8. Several needs were identified, such as data granularity on sector-specific and polymer-specific data from manufacturing to end of life, in order to trace original use and detect embedded additives, as well as addressing limitations of current HS and PRODCOM codes in distinguishing key plastic product categories, such as SUPs versus reusable articles. In the current context, guidance to estimate trade flows of plastics, including those embedded in complex goods like electronics and vehicles, would be valuable. Besides, understanding what happened to losses, trade flows, mismanaged waste, recycled plastics would be important.

3.3 Other approaches

3.9. The approach used in the OECD Global Plastics outlook to provide plastic related estimates is described in [Annex A of the report](#). It estimates plastics use attributing a share of plastics production to different sectors of activity. It also estimates plastic waste generation, plastic waste management and the environmental impacts of plastics, i.e.: (1) leakage to the environment, detailing the macroplastics and microplastics fractions; (2) leakage to aquatic environments; (3) particulate matter emissions from tyre and brake abrasion; and (4) greenhouse gas (GHG) emissions. Data is provided by regions and disaggregated by sector and by polymer.

3.10. The UN Trade and Development data hub provides overall data on plastic trade (import and export) in an experimental form. Its data⁷ refers to plastic products and products containing plastics as identified in the UN Trade and Development and Forum on Trade, Environment & the SDGs (TESS) classification. The effort involves a granular examination of official WCO HS data, compiling information on all flows in HS Chapter 39 ('Plastics and articles thereof') but also plastic flows identifiable in other Chapters ('semi-hidden flows'), such as synthetic rubber products, synthetic textiles, and fishing nets. The database still does not cover "hidden flows" of trade in plastics embedded in products but not identifiable in customs data (e.g. goods packaged and transported in plastics or with high share of embedded plastics).⁸ The research outlined that global plastic trade has more than doubled over two decades, yet much remains untracked.

4 OPTIONS, CONSIDERATIONS AND EXAMPLES OF COOPERATIVE APPROACHES

4.1. Members discussed that further efforts on statistical approaches is desirable to enhance transparency and use statistics to better understand the flow of international trade in plastic products, whether they are products made of plastics, SUP products, packaging or products with embedded plastics. They were raised as meaningful initiatives in DPP discussions to improve transparency, monitoring and understanding of trade flows throughout the value chain of plastics, thereby contributing to the fight against plastic pollution from a trade perspective. Both the pilot from the UNITAR/UNEP approaches and the JRC calculations resulted in highlighting packaging as the largest consumption sector.

⁶ [INF/TE/IDP/RD/201](#).

⁷ [Data Insights: UNCTAD Data Hub](#).

⁸ [INF/TE/IDP/W/3](#).

4.2. Along with the emphasis on transparency, data collection on plastics trade was seen as a priority and as a challenge. The importance of domestic databases, and of reliable, granular data for monitoring plastic pollution was highlighted. To support regulatory approaches addressing plastic pollution, trade data are needed disaggregated by sector, type of product, by polymer, together with information on embedded plastics, recycled content, and composites and chemicals. Data on plastic waste fate is also missing. Some emphasized lifecycle analysis (LCA) data and tools, as well as funding for domestic laboratories studies on material flows of plastics; or community-level data on recycling infrastructure, material tonnages, and recycling market development opportunities.

4.3. Regional cooperation could also facilitate sharing of information, and comprehensive monitoring of trade in plastics across the entire value chain, enabling effective enforcement of relevant legislation, including enforcement of customs regulations and creation of conducive conditions in line with the recommendations from the WCO HS reform, as well as prevention of illegal plastic waste trade. Technical Assistance could support efforts to set up data system.

4.4. Trade-related environmental measures can also require more detailed data on plastics and at the same time have a role to promote a better identification of plastics material flows entering/exiting the economy.

4.5. Several Members highlighted the role that EPR schemes can play in improving transparency, by requiring producers to report on plastic content, helping align their environmental goals with trade practices and enhancing data accuracy. Amongst other, the digitalization of EPR scheme implementation could help improve transparency. In some instances, companies, local authorities and NGOs may also provide more granular data on plastics circulating in the economy.

4.6. While refinement and broader application is required, some Members noted that it should not create complicated or burdensome trade procedures, in particular for businesses, nor delay further actions on plastic pollution. In particular, evaluating the contribution made to reducing plastic pollution by improving their transparency and ensuring that transparency requirements are not used to impose additional burdens on trade or as disguised protectionism.

4.7. Several Members showed interest in statistical tools to better assess volumes of plastics traded (e.g. average estimates of plastic content), others supported further exploring HS and other customs tools. They also noted the relevant work taking place in other WTO committees, such as the Technical Barriers to Trade (TBT) Committee, and encouraged the DPP coordinators to facilitate collaboration. A strong call for international cooperation was made, emphasizing the need to improve the collection of plastic trade data.

4.8. Several delegations suggested that the Dialogue could trigger a reflection on which goods were associated with a high percentage of embedded plastics as part of their overall composition.

4.9. Some saw potential in a standardized data-sharing platform to better understand plastic flows across their lifecycle, which could support coordinated policy efforts and address the environmental impacts of plastic trade. On that note, one Member suggested close cooperation with the [Global Plastic Hub](#), launched in June 2025 by the Global Partnership on Plastic Pollution and Marine Litter (GPML), and supported by UNEP. The Global Plastics Hub is an open-source, multi-stakeholder platform that compiles information and integrates data to guide action globally.

TECHNICAL OUTCOME B

ANALYTICAL SUMMARY OF THE DIFFERENT APPROACHES IN REGULATING SINGLE-USE PLASTIC PRODUCTS DISCUSSED IN THE DPP

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1 INTRODUCTION

1.1. The World Trade Organization (WTO) Dialogue on Plastic Pollution and Environmentally Sustainable Plastics Trade (DPP), co-sponsored by 83 WTO Members¹, has made efforts since its inception to identify and discuss trade-related measures adopted to address plastic pollution ("trade-related plastic measures" or TrPMs) with a view to "support the implementation of actions under other international processes and efforts and strengthening cooperation and policy coherence".² The DPP Ministerial Statement ([WT/MIN\(24\)/14](#)) issued at the 13th WTO Ministerial Conference (MC13), affirms the importance of international cooperation on a series of trade-related actions including to:

Promote cooperative and effective trade-related policies or measures implemented to support efforts to reduce plastics and plastic products that are harmful to the environment or human health, or unnecessary single-use plastics and plastics

¹ Albania; Angola; Argentina; Australia; Austria; Barbados; Belgium; Bolivia, Plurinational State of; Bulgaria; Brazil; Cabo Verde; Cambodia; Cameroon; Canada; Central African Republic; Chad; Chile; China; Colombia; Costa Rica; Croatia; Cyprus; Czech Republic; Denmark; Ecuador; Estonia; European Union; Fiji; Finland; France; Gambia; Germany; Greece; Guatemala; Honduras; Hong Kong, China; Hungary; Iceland; Ireland; Italy; Jamaica; Japan; Kazakhstan; Korea, Republic of; Latvia; Lithuania; Luxembourg; Macao, China; Maldives; Malta; Mauritius; Mexico; Mongolia; Montenegro; Morocco; Mozambique; Netherlands; New Zealand; North Macedonia; Norway; Panama; Paraguay; Peru; Philippines; Poland; Portugal; Romania; Russian Federation; Samoa; Saudi Arabia, Kingdom of; Singapore; Slovak Republic; Slovenia; Spain; Suriname; Sweden; Switzerland; Thailand; Tonga; United Kingdom; United States; Uruguay; and Vanuatu.

² See the DPP Ministerial Statement issued in the context of the WTO 12th Ministerial Conference (MC12) ([WT/MIN\(21\)/8/Rev.2](#)).

packaging, associated with international trade that are not essential for medical or sanitary purposes.

1.2. The MC13 Ministerial Statement also included factual compilation III with an "open, illustrative, non-exhaustive and evolving compilation of products most often addressed by TrPMs and identified in Dialogue discussions". It indicated packaging and single-use plastic (SUP) products as the two most often targeted goods by TrPMs, with single-use plastic bags the most often targeted good among SUP products.

1.3. Since MC13, to help the DPP achieve "further concrete, pragmatic and effective" outcomes by the 14th Ministerial Conference (MC14), the DPP has focused its discussions around [eight points](#) selected through a consultative process and reflecting strong technical work already developed.

1.4. Point of focus (PF) #6 reads:

PF6: Identify opportunities for greater harmonization, alignment or interoperability of TrPMs, starting by focusing on SUPs.

1.5. The topic was discussed during several DPP meetings, workshops and events.³ This analytical summary provides a non-exhaustive overview of such discussions, in particular those related to the differences in approaches adopted by TrPMs when targeting SUP products and the challenges and opportunities identified. It also covers discussions held and technical presentations made prior to MC13, including information from the Factual Summary of Discussions on Reduction and Circularity ([INF/TE/IDP/RD/125](#)) and the DPP Survey of TrPMs ([INF/TE/IDP/W/11](#)), where appropriate.

1.6. Finally, the DPP has explored more in-depth how the TrPMs discussed in its meetings identified specific SUP products. The relevant documents issued on this topic provided an important basis for this summary.⁴

2 VARIABILITY OF CRITERIA AND DEFINITIONS USED TO IDENTIFY SUP PRODUCTS IN TRPMS

2.1. The DPP Survey of TrPMs reflected the broad range of domestic and regional approaches to defining and regulating SUPs. Among the 223 TrPMs identified by the Survey, 97 targeted SUP products. They were adopted by 64 WTO Members, 66% of which were developing Members and least developed countries (LDCs). Among these measures, 59 targeted SUP bags (by 61 Members). After SUP bags, a range of products from the food and food services industry were the products most often targeted, often specifying their single-use nature: tableware (33 TrPMs), food containers (31), plastic straws (26), and cups (25).

2.2. These measures are almost entirely composed of bans, import licensing schemes, and technical regulations or specifications coupled with certain exceptions (e.g. for bio-sourced, recyclable, compostable and/or [bio]degradable materials, health, economic, social and/or cultural reasons). Such measures normally require a customs and/or technical description or definition of the products submitted to their application. Divergences in definitions, scope, and coverage were quickly noted throughout the mapping and discussions in the DPP, leading to the exploration of opportunities for greater alignment, as highlighted in the adoption of PF6.

2.3. This section summarizes the information generated by DPP discussions on the topic, in particular as reflected in the technical presentations made at the pre-plenary meetings held in April 2024 ([INF/TE/IDP/RD/152](#)) and in February 2025 ([INF/TE/IDP/RD/189](#)) and the Informal Report on the Definition of SUP Products in TrPMs Found in the DPP Survey ([INF/TE/IDP/W/14](#)).

³ See, in particular, the aide memoires of the DPP pre-plenary meetings held in April ([INF/TE/IDP/R/17](#)) and June ([INF/TE/IDP/R/18](#)) 2024 and February 2025 ([INF/TE/IDP/R/21](#)) and the informal briefs of the special workshops focused on the African ([INF/TE/IDP/R/23](#)), Latin America and the Caribbean ([INF/TE/IDP/R/24](#)) and Asia and the Pacific (to be issued) regions held in 2025. In these events, delegations and stakeholders provided their inputs based on a series of "guiding questions".

⁴ See, in particular, the technical presentations made at the DPP pre-plenary meetings held in April 2024 ([INF/TE/IDP/RD/152](#)) and in February 2025 ([INF/TE/IDP/RD/189](#)) and the Informal Report on the Definition of SUP Products in TrPMs Found in the DPP Survey ([INF/TE/IDP/W/14](#)).

2.1 General criteria identified in TrPMs targeting SUP products

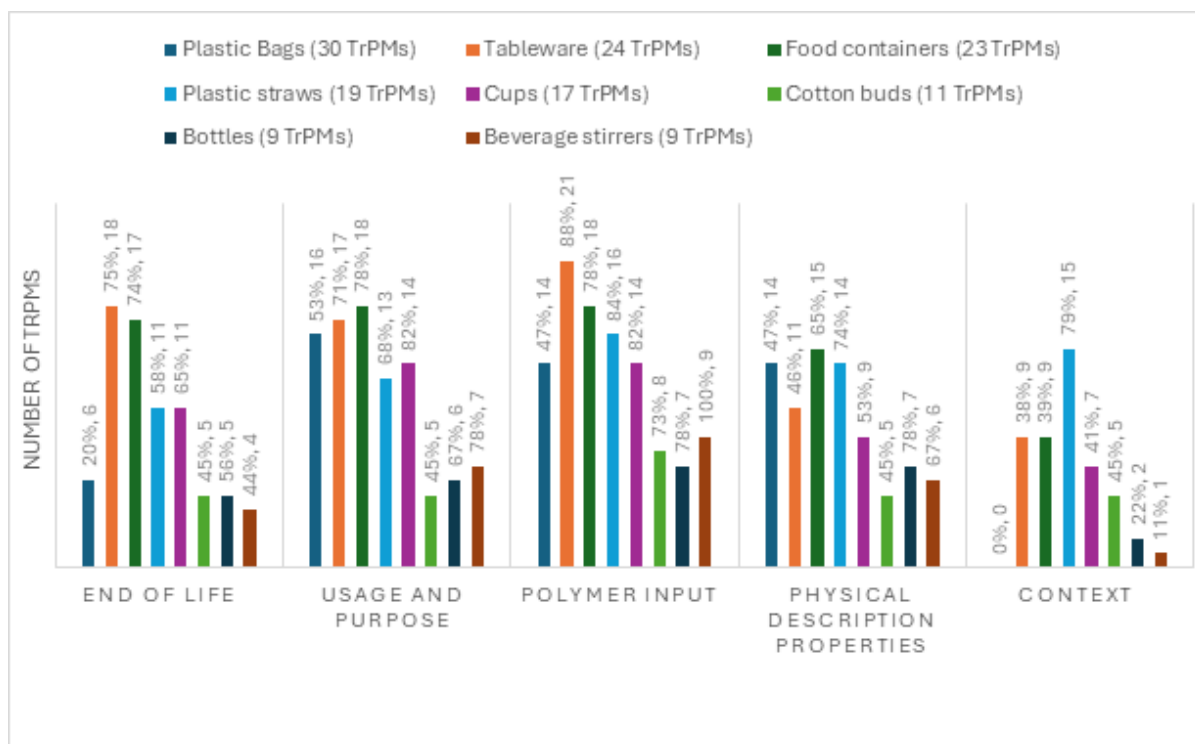
2.4. Not all TrPMs in the Survey offered enough information to identify commonalities and differences in the criteria and definitions used to identify SUP products. For example, among the 59 TrPMs targeting SUP bags, only 30 contained sufficiently detailed information. Table 1 below indicates the number of TrPMs for each SUP product containing enough information for the analysis.

Table 1: Number of TrPMs analysed per SUP product

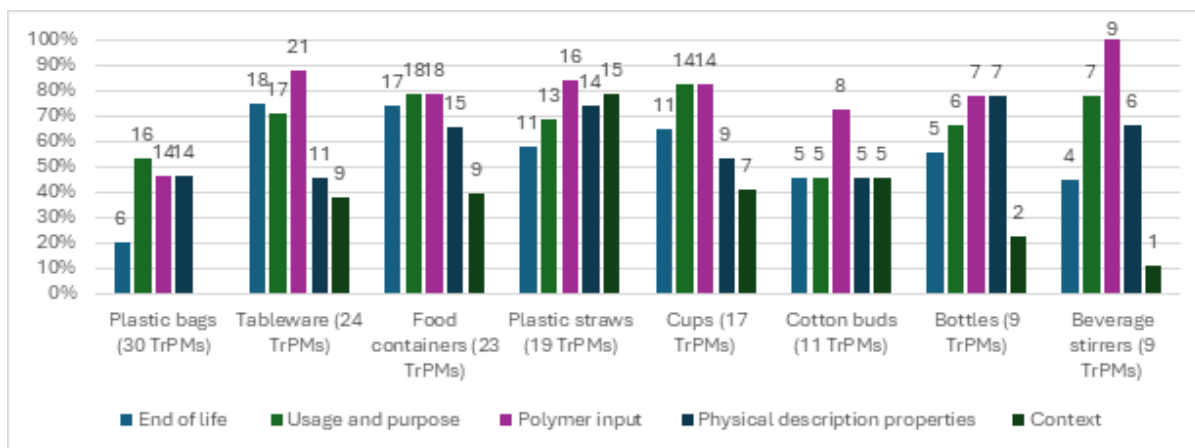
Bags	30
Tableware	24
Food containers	23
Plastic straws	19
Cups	17
Cotton buds	11
Bottle	9
Beverage stirrers	9
Plastic lids	6
Film	5
Plastic balloon sticks	3
Sachets	1
Tobacco	1

2.5. TrPMs targeting SUP bags included four general criteria to identify the targeted products: physical property (thickness), usage and purpose, polymer input, and end-of-life properties. For the other SUP products, a fifth criterion was often used: context.⁵ Graph 1 shows the five main categories broadly used by TrPMs to identify the SUP products. For each category, the graph shows the number of TrPMs that referred to it per product. Furthermore, the percentage indicates the relative significance of each category for the targeted SUP product, representing the proportion of measures that referenced the criteria out of the total number of measures for that particular product. For instance, 75% of TrPMs targeting single-use tableware used the criterion end-of-life.

⁵ See the Informal Report on the Definition of SUPs in TrPMs Found in the DPP Survey: [INF/TE/IDP/W/14](#), para. 7: "the five main categories broadly used by TrPMs to identify the SUP products" among which counts "context". Five main variations were identified for the context: (i) location (where SUPs products are typically sold, including locations where measures prohibit SUPs distribution); (ii) distribution context (conditions on how a product is supplied, especially when it accompanies another item, limiting the consumer's ability to refuse, return, reuse, or separately account for it); (iii) price (reference to the price of the product); (iv) marketing (used to underline how the SUP are promoted); (v) warranty (specification of the product's warranty status).

Graph 1: Number of TrPMs per criterion for each SUP product⁶

2.6. Graph 2 indicates for each SUP analysed the number of TrPMs using each of the five broad categories. The percentages on the left axis reflect the relative importance of each category for the targeted SUP, indicating the proportion of measures referring to the criteria out of the total number of measures for that specific product.

Graph 2: Number and percentage of TrPMs using each criterion when defining the SUP

2.7. The analysis showed that definitions of SUP products differ significantly depending on the product targeted. Plastic bags, for example, showed the least commonality in the use of the broad criteria identified, with only "usage" being referred to in more than 50% of the TrPMs targeting bags examined. Other products, like tableware, food containers and bottles had three or four criteria

⁶ Certain SUPs analysed during DPP discussions are not represented in this graph due to the low number of TrPMs available (plastic lids, sachets, balloon sticks, tobacco). Specific information on how these TrPMs defined the targeted products can be found in the Informal Report on the Definition of SUP Products in TrPMs Found in the DPP Survey ([INF/TE/IDP/W/14](#)).

referred to in more than 50% of the TrPMs examined, indicating the potential for some convergence in the identification of such SUP products.

2.8. Plastic straws showed the highest referencing across all categories, with a minimum of 58% of measures including each category. Additionally, plastic straws were also the product for which TrPMs most referred to the criterion of "context" out of all SUP products, specifically the existence of exemptions for certain situations (e.g. for accessibility considerations).

2.9. For each broad criterion, the discussions also highlighted sub-criteria used to identify the SUP products. Table 2 below provides an overview of the sub-criteria identified.⁷ More information on specific chemical additives identified in SUPs can be found in the TrPM Survey Report.⁸

Table 2: Sub-criteria identified in the TrPMs targeting SUPs analysed

Criterion	Sub-criteria (examples)
End-of-life	(Bio)Degradability, disposability, recoverability
Usage and purpose	Number of uses, lifespan, rotation and circuits, trips, ordinary consumer behaviour, unnecessary/avoidable, reuse/refill potential
Polymer input	Plastic-manufactured, wholly or partially made of plastic, reference to specific polymers
Physical properties	Thickness, physical properties alteration, washability, reparability, recyclability, physical description characteristic
Context	Price, distribution context, consumption location, warranty, marketing, exemptions

2.10. Similarly to the broad criteria, the wide variety of sub-criteria identified indicates the significant heterogeneity with which TrPMs approach the identification of SUP products. For example, tableware and food containers most often combined "number of uses" and "disposability or probability of becoming waste/litter". Cotton buds and beverage stirrers were defined more narrowly, with emphasis on "polymer input" and "physical properties" characteristics. Cups were most frequently defined by "number of uses" and "reference to specific polymer", supplemented by physical description characteristics such as thickness or shape. Bottles were primarily differentiated through "refill/reuse" and "reference to specific polymer" sub-categories, distinguishing returnable/reusable from non-returnable bottles.

2.11. Such variation was also highlighted when DPP discussions focused on specific SUP products. Below, the examples of the two most often targeted SUP products are referred to: bags and tableware. The Informal Report on the Definition of SUP Products in TrPMs Found in the DPP Survey ([INF/TE/IDP/W/14](#)) offers further information on the remaining SUP products discussed.

2.2 SUP bags: criteria used in TrPMs discussed in the DPP

2.12. In the 30 TrPMs targeting SUP bags analysed, Members adopted different configurations of four broad criteria: physical properties (material thickness); usage; polymer input; and end-of-life properties. As shown in graph 2 above, only a few criteria were used consistently by these measures. All 30 TrPMs used at least one of these criteria, while 16 used two or more criteria to identify SUP bags. No measure used all four.

2.13. Even where the same criteria were applied, TrPMs varied in the technical specifications included. For instance, with respect to the thickness below which a plastic bag would be considered "single-use" and thus covered by the measure, the TrPMs varied between a minimum thickness from as low as 15 microns to as high as 100.

⁷ The Informal Report on the Definition of SUP Products in TrPMs Found in the DPP Survey ([INF/TE/IDP/W/14](#)) offers more details as well as examples of what each sub-criterion included.

⁸ See "2.5.4 Specific polymers 51. Many measures also target polymers (56), chemicals (8) and additives (2). While the TrPMs do not offer sufficient granularity to identify specific chemicals and additives that have been most often targeted, a couple of specific polymers have been specifically targeted relatively recurrently: polystyrene (21) and polyvinyl chloride, or PVC (5). For polystyrene, nine of the 21 TrPMs specifically targeted 'expanded polystyrene' as a plastic of concern. Forty-two Members have TrPMs in the survey which target specific polymers, chemicals and/or additives."

Table 3: Variation in thickness threshold for SUP bag identification

thickness (in microns, smaller than)	15	25	30	35	50	70	100
# of TrPMs	2	2	1	2	6	3	1

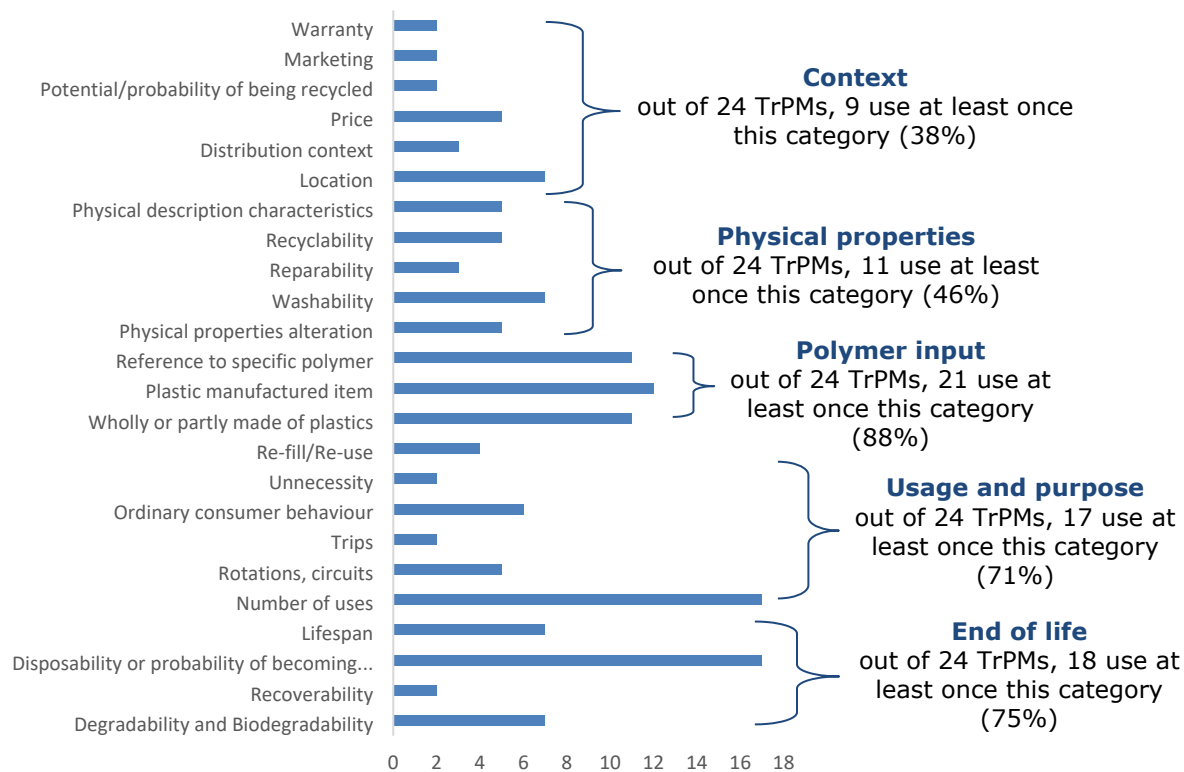
2.14. Table 4 provides an overview of the internal variation in the criteria used by TrPMs to identify SUP bags. This variation led to some discussions at the DPP about efforts to identify opportunities for greater harmonization, alignment or interoperability of these measures, in particular to reduce implementation, compliance and verification costs, reduce illegal trade flows and increase trade flows of compliant goods. The regional opportunities and efforts raised during DPP discussions are summarized in section 4 of this analytical summary.

Table 4: Overview of criteria used by TrPMs to identify SUP bags

Thickness (ranges)	Usage (e.g. purpose or capacity) includes	Polymer references	End-of-life properties include
<15 microns	Designed to carry • purchased goods from a business • goods, materials or products • products and goods that are delivered to a consumer	Bio-Based • a blend of materials with plant derived products	Biodegradable or compostable • whose composition and/or characteristics do not allow or hinder its biodegradability
< 25 microns < 30 microns < 35 microns < 50 microns < 70 microns	Capacity / volume / surface density of • less than 10 kilograms, > 53 meters • less than 25 liters • equal to or greater than 60 g/m²	Polymers of • ethylene • one or more organic polymeric substances of large molecular weight • contains as an essential ingredient a high polymer such as polyethylene terephthalate, high density polyethylene, etc.	Made of degradable plastic often included in the ban • incl. oxo-degradable, biodegradable and compostable materials • consists of polyethylene and oxo-degradable impurities
< 100 microns	Designed for single-use/short useful life or to be "reusable" or used > than: • 100 times	Oil-based • petroleum-based material or its derivatives	

2.3 Criteria used to identify SUP tableware in TrPMs discussed in the DPP

2.15. The analysis of the criteria used to identify the second most often targeted SUP product, tableware, offers similar conclusions. Tableware includes the following single-use items: tableware, kitchenware, cutlery, plates, bowls, trays, and eating utensils. A total of 24 TrPMs were examined regarding their definition of single-use tableware. These TrPMs used a wide variation of the five broad criteria when identifying SUP tableware. Only four (17%) used all five criteria, while two relied on only one. Seven TrPMs (29%) relied on three criteria, six (25%) relied on four and five TrPMs used two criteria. Graph 3 below provides a breakdown of the criteria and their sub-categories used in the 24 TrPMs targeting tableware.

Graph 3. Sub-criteria used to identify SUP tableware in TrPMs

2.16. The most common sub-criteria used in TrPMs to define SUP tableware were the "disposability and probability of becoming waste" and "number of uses", with 17 measures referring to each. This implies that the most common way of identifying SUP plastic tableware in TrPMs discussed in the DPP was by specifying how many times the item could be used and whether it was disposable or would most likely become litter after its usage. For example, regarding the disposability, several measures used the reference to "disposable tableware" to describe the product, while for the number of uses, most TrPMs underlined that SUP tableware was "designed for a single-use".

2.17. While the "physical properties" criterion was used less often, the analysis provided some indication on how it could be useful to identify whether plastic tableware was physically apt to be used multiple times. For instance, seven measures explicitly indicated washability criteria for SUP tableware. One of such measures included the following description: "SUP Cutlery changes shape when submerged in water maintained at a temperature of between 82°C and 86°C for 15 minutes". Similarly, the context sub-criteria, such as the location where the cutlery was provided (e.g. food courts) or the low price of the product (e.g. free-of-charge) provided insights into the TrPMs approach to identifying SUP tableware.

2.18. While the wide variation of sub-criteria used raise challenges for harmonization efforts, the number of TrPMs referring to the same sub-criteria, such as number of uses or disposability/probability of becoming waste, indicate at least some opportunity for future work.

3 CHALLENGES AND OPPORTUNITIES

3.1. SUPs were by a significant margin the topic most often raised and discussed under the DPP reduction workstream.⁹ Since MC12, 12 substantive meetings¹⁰ and the 2023 Workshop on Reduction and Circularity to Tackle Plastic Pollution, held in cooperation with the United Nations Environment Programme (UNEP), have specifically addressed the issue of TrPMs targeting SUP

⁹ See [INF/TE/IDP/RD/125](#), para. 10.

¹⁰ Ten of these meetings were summarized in the DPP Factual Summary of Discussions on Reduction and Circularity ([INF/TE/IDP/RD/125](#)).

products. Interventions from 34 Members and 12 stakeholders in these occasions covered four main types of information:

- a. domestic policies and plans on SUP;
- b. challenges in implementation;
- c. scientific/technical studies; and
- d. suggestions for action.

3.2. A common thread in these discussions was the broad recognition of the implementation costs of fragmented regulatory approaches, challenges in effective implementation and the need for strengthened international and regional coordination on TrPMs. As noted in the DPP Factual Summary of Discussions on Reduction and Circularity ([INF/TE/IDP/RD/125](#)), "[t]he lack of global regulations on plastics pollution on the one hand, and fragmentation of regulatory approaches on the other hand, were highlighted as challenges impeding international efforts to reduce plastics pollution."

3.3. Several stakeholders explored ways to enhance coordination of TrPMs on SUP products throughout pre-plenary meetings since MC12, including:

- the Organisation for Economic Co-operation and Development (OECD) "Global Plastics Outlook" ([INF/TE/IDP/RD/17](#)) highlighted opportunities to harmonize or jointly develop trade policy, regulation, and product standards;
- the Pew Charitable Trusts, in its "Breaking the Plastic Wave" study ([INF/TE/IDP/RD/50](#)), emphasized the importance of coordinated regional or domestic bans on specific problematic products or polymers;
- the Minderoo Foundation's "Plastic Waste Makers Index" ([INF/TE/IDP/RD/110](#)) mapped the SUP value chain and recommended targeted restrictions on unnecessary SUPs alongside coordinated policy interventions across economies and regions;
- the UNEP raised the importance of a "common approach to economic instruments" ([INF/TE/IDP/RD/128](#));
- the Forum on Trade, Environment, & the SDGs (TESS) explored options for trade-related cooperation on problematic and avoidable plastics, stressing the need for cooperation on requirements on SUPs ([INF/TE/IDP/RD/157](#)).

3.4. The International Organization for Standardization (ISO) ([INF/TE/IDP/RD/183](#)) stressed how international standards supported policy objectives by harmonizing how goals were achieved, ensuring consistent practices across sectors and economies.¹¹

3.5. These calls for greater harmonization/coordination were echoed by several delegations as reflected in the MC13 Ministerial Statement Factual Compilation IV – Open, Illustrative, Non-Exhaustive and Evolving Compilation of TrPMs on Reduction and Other Approaches, which included, *inter alia*, among the "options for trade-related actions", the suggestion to "align requirements and restrictions in key TrPMs (e.g. those targeting SUP bags) to facilitate implementation, avoid illegal trade and improve market access for non-plastic substitutes and alternative plastics." The issue was similarly raised during the Technical Barriers to Trade (TBT) Committee [Thematic Session on Regulatory Cooperation](#) between Members on plastic regulation held on 7 March 2023 ([G/TBT/GEN/351](#)).¹²

3.6. Among the 97 TrPMs targeting SUP products identified in the DPP Survey, 33 indicated what "challenges or needs were faced, or are expected to be faced, for the successful implementation of the policy." Engagement with the domestic private sector was referenced in 76% of these measures,

¹¹ Other stakeholders that raised similar challenges and suggestions in tackling SUP products included the Ellen MacArthur Foundation, the Global Plastics Policy Centre of the University of Portsmouth, the Center for International Environmental Law (CIEL), the Quaker United Nations Office (QUNO), the International Institute for Sustainable Development (IISD), the World Economic Forum (WEF) and the Scientists' Coalition for an Effective Plastics Treaty (Scientists' Coalition).

¹² See, *inter alia*, the [presentation by the representative from South Africa](#).

followed by access to technology (e.g. alternatives and non-plastic substitutes) and assistance on policy implementation (e.g. market surveillance), both referenced in 55% of the TrPMs.

3.7. In the context of discussions around PF6, a series of specific challenges in implementing TrPMs targeting SUP products were raised. These largely confirm the results of the TrPMs Survey and are summarized in table 5 below.

Table 5: Challenges raised in the implementation of TrPMs targeting SUP products

Regulatory concerns	Transparency and financial concerns
• Divergent definitions of SUP products. • Divergent types of TrPMs (e.g. market restrictions, product requirements, labelling schemes, excise taxes). • Divergent timelines for restrictions on SUP products among trade partners. • Lack of globally consistent regulations. • Absence of global legal framework for action on SUP products. • Low environmental efficiency of uncoordinated action.	• Lack of transparency on TrPMs targeting SUP products. • Lack of data on the implementation of voluntary commitments by the industry. • Lack of transparency, data, and scientific information on safety/components of SUP products, affecting circularity. • High compliance costs (for businesses). • Limited investment in, high costs or inexistence of alternatives/non-plastic substitutes.

3.8. Two concrete examples shared by delegations during the February 2025 pre-plenary meeting help illustrate the challenges identified.¹³ A representative from Kenya shared trade-related challenges in the implementation of their domestic restrictions on SUP goods ([INF/TE/IDP/RD/184](#)). In 2017, Kenya banned the use, manufacture, and importation of plastic bags for commercial and household packaging, with certain exemptions for industrial packaging. Among the challenges in implementation noted by the representative (e.g. legal battles, smuggling, and the emergence of a black market), there were certain difficulties due to illicit cross-border trade and the lack of coherent regional policies and harmonized standards within the East African Community (EAC). The presentation noted the challenge of one economy banning a good that was still allowed in a neighbouring territory, particularly in case of a free trade agreement or customs union. This was also the case when the restrictions diverged, increasing costs and potentially leading to illegal trade.

3.9. New Zealand similarly shared its trade-related experience in implementing a phased approach to restricting SUPs domestically since 2020. The first phase (October 2022) banned several SUP items, and the second phase (July 2023) introduced further restrictions, including on plastic straws and tableware, achieving high compliance supported by both consumers and industry. However, some challenges were also highlighted, including for compostable labelling of produce. As a smaller and more distant market, New Zealand had to balance the ambition of moving to fully home compostable labelling with market realities, given that international pack houses and international exporters were unlikely to be able to substantially change and adopt special labels for its market. Thus, in a first phase in July 2023, domestic producers were required to use fully home compostable labels, except for the adhesive. The second stage would require that all produce, both domestic and imported, use fully home compostable labels, including adhesive ones. This stage, originally due for July 2025, had been extended to 2028 when other key trading partners who were suppliers to the New Zealand market would have imposed similar requirements.

4 EXAMPLES OF COOPERATIVE APPROACHES, OPTIONS AND CONSIDERATIONS DISCUSSED

4.1. During DPP discussions on the topic, several international and regional efforts to tackle SUP products were shared. However, few of those specifically addressed the issue of diverging criteria/definitions through efforts to harmonize, align, or ensure the interoperability of different policies. Several delegations stressed the importance of the conclusion of the negotiations by the United Nations Intergovernmental Negotiating Committee on Plastic Pollution (INC), noting that it would provide important guidance for the work of the DPP, not least on the definition or identification of SUP products to be targeted.

¹³ See [INF/TE/IDP/R/21](#), paras. 4.3-4.8.

4.2. Reference was equally made to relevant developments under the Basel, Rotterdam and Stockholm (BRS) Conventions, in particular the Basel Plastic Waste Amendment, the 2028 reform of the World Customs Organization (WCO) Harmonized Commodity Description and Coding System (HS), as well as work under the ISO on developing international standards that could support the harmonization of criteria used to identify SUP products.

4.3. The regionally focused workshops organized by the DPP for Africa, Latin America and the Caribbean, and Asia and the Pacific provided some additional examples of cooperative efforts on the topic. These are summarized below.

4.1 Regional regulatory efforts in Africa

4.4. Out of 223 TrPMs identified in the DPP Survey, 32 TrPMs were from Africa.¹⁴ Additional information regarding TrPMs adopted in the region was collected in the context of the DPP Africa-focused workshop. For example, some African economies, including Burundi, Kenya, Rwanda, South Sudan, Tanzania, Uganda, DRC, and Somalia, had enacted domestic laws targeting SUPs, particularly plastic bags. However, uneven policy enforcement and regulatory inconsistencies across borders have hindered the effectiveness of these measures, affecting both multilateral trade and environment.¹⁵

4.5. Some specific ongoing regional efforts were highlighted including:

- a. The Africa Legal Network (ALN) had worked alongside the Flipflop Project to develop the East African Single-Use Plastic Bill, which aimed to harmonize regulations across East Africa and align with international frameworks, such as EU regulations. By the time of the thematic Africa-region Workshop held in April 2025, the bill was still under review by the East African Legislative Assembly (EALA), marking a step towards consistent regional action on regulating SUPs.
- b. Several participants considered the African Continental Free Trade Area (AfCFTA) Agreement presented an important opportunity to further support regulatory alignment and foster regional cooperation. Through this platform, economies could coordinate consistent policies on SUPs, facilitating both trade and environmental sustainability. Complementary strategies, including the adoption of biodegradable packaging and reusable models such as "reuse" and "refill," were identified as holding the potential to enhance economies of scale while reducing plastic dependence.

4.6. In the discussions held during the regional workshop, several African Members shared difficulties managing packaging waste from imported products, with illegal smuggling of SUP goods undermining domestic restrictions in economies such as Kenya. Policy implementation varied significantly across Members, highlighting the need for joint investment in recycling technologies and eco-friendly packaging solutions. Strengthening regional standards, including Extended Producer Responsibility (EPR) frameworks and harmonized packaging designs, alongside transparent mapping and categorization of plastic waste, were highlighted as potential avenues to achieving enhanced regional trade efficiency and long-term environmental benefits.

4.2 Regional regulatory efforts in Latin America and the Caribbean (LAC)

4.7. Out of the 223 TrPMs identified, 31 TrPMs were from LAC.¹⁶ Additional information regarding TrPMs adopted in the region was collected in the context of the DPP LAC-focused workshop. Between 2018 and 2019, The Caribbean Community (CARICOM) Members, including Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, St. Lucia, St. Vincent and the Grenadines, Suriname, and Trinidad, implemented various measures such as bans or restrictions on SUPs, including plastic bags and styrofoam products. In 2019, CARICOM heads of government issued the St. John's Declaration on Plastics Pollution, emphasizing regional commitments to combat plastic waste and promote sustainable practices.

¹⁴ See [INF/TE/IDP/RD/192](#).

¹⁵ See Informal Brief [INF/TE/IDP/R/23](#).

¹⁶ See [INF/TE/IDP/RD/194](#).

4.8. Harmonizing environmental policies and trade commitments at the regional level was identified as a key opportunity for tackling SUPs effectively in the LAC region. Such an approach could strengthen regional cooperation and ensure consistent implementation of regulations. The MERCOSUR, the Alianza del Pacífico, the Central American Integration System (SICA), the Andean Community (CAN), the Latin American Integration Association (ALADI), and the Economic Commission for LAC (CEPAL) were identified as potential platforms for enhanced cooperation.¹⁷ Additional opportunities identified included promoting certification standards for biodegradable and non-plastic substitutes to SUPs and strengthening institutional and regulatory capacity to enforce and monitor SUP bans and restrictions.

4.9. Concrete efforts were highlighted including:

- a. The World Bank's support for the Organisation of Eastern Caribbean States (OECS) and CARICOM to develop a regional action plan for plastics, flagging the heavy reliance on imported, non-recyclable SUPs as a key trade-related issue, which presented an opportunity for improved import controls, as previously demonstrated by a phase-out effort in the Maldives.
- b. The UNEP Cartagena Convention Secretariat's support for the LAC region in tackling plastic pollution through the Land-Based Sources of Pollution (LBS) Protocol, including revising policies, CB, and circular economy transition. Two trade-related projects led across eight economies, "*PROMAR*"¹⁸ and "*Reduce marine plastics and plastic pollution in Latin American and the Caribbean cities through a circular economy approach*"¹⁹, were addressing SUPs through targeted policies, data collection and analysis, and behaviour change. Challenges such as import dependence, economies of scale for recycling, lack of human capacity, and implementation of a regional EPR scheme were highlighted, while presenting opportunities in integrating trade and customs authorities into existing projects rather than creating standalone programmes. The importance of regional approaches that prioritized the needs of small islands and address import reliance to reduce SUPs consumption were equally emphasized.
- c. CARICOM's regional efforts to address plastic pollution. While policy development remained at an early stage, several Members had implemented domestic bans on certain SUPs and Styrofoam products, resulting in the 2019 St. John's Declaration on Plastic Pollution. These actions were supported through regional coordination under the Council for Trade and Economic Development (COTED) and CB initiatives funded by the ACP-EU programme.²⁰ CARICOM called for harmonized regional strategies, investment in appropriate waste management technologies, and CB that reached communities, SMEs, and institutions alike. There was also a need for predictable financing, technology access, and specific attention to abandoned aquaculture fishing gear as part of a comprehensive, lifecycle approach.
- d. MERCOSUR's technical regulations on plastics, mainly focused on food contact. There was a need for better alignment of domestic regulations, particularly those affecting multilateral trade.

4.3 Regional regulatory efforts in Asia and the Pacific

4.10. Out of 223 TrPMs identified in the DPP Survey, 105 TrPMs were from Asia and the Pacific.²¹ Additional information regarding TrPMs adopted in the region was collected in the context of the DPP Asia and the Pacific-focused workshop held in October 2025. Plastic pollution was recognized as a significant transboundary challenge in the region, with economic and environmental implications, particularly for Small Island Developing States (SIDS), which faced limited waste management capacity and vulnerabilities in managing plastic pollution. Participants highlighted the importance of

¹⁷ See Informal Brief – [INF/TE/IDP/R/24](#).

¹⁸ The project supports five Eastern and Southern Caribbean economies: Guyana; Suriname; St. Kitts and Nevis; the British Virgin Islands; and Trinidad and Tobago.

¹⁹ The project supports Colombia, Jamaica and Panama.

²⁰ A partnership between the African, Caribbean and Pacific (ACP) Group of economies and the European Union.

²¹ See the informal brief of the special workshops focused on Asia and the Pacific region (to be issued).

enhanced regional cooperation to complement domestic efforts and advance coherent, trade-related solutions.

4.11. Delegates noted that Asia and the Pacific region have demonstrated leadership in addressing plastic pollution through a range of domestic and regional measures. Several Members in the region had developed domestic action plans and robust policy frameworks, although the level of enforcement and the design of EPR schemes varied considerably across countries. Regional frameworks such as Association of Southeast Asian Nations (ASEAN), the Coordinating Body on the Seas of East Asia (COBSEA), The Asia-Pacific Economic Cooperation (APEC), and the Pacific Islands Forum, were highlighted as potential platforms for joint action.

4.12. Participants noted progress in developing substitutes derived from seaweed, bamboo, coconut fibre, and agricultural residues, but emphasized the need for further technology transfer and investment to reduce costs and achieve scalability. Discussions also focused on the role of public awareness and education in driving behavioural change among consumers and producers.

4.13. Concrete efforts were highlighted, demonstrating regional commitment to coordinated action:

- a. The Cleaner Pacific 2025 Strategy and the Pacific Regional Action Plan on Marine Litter (2022–2026), coordinated by the Secretariat of the Pacific Regional Environment Programme (SPREP), were identified as key frameworks improving waste and plastic pollution management across the Pacific region, translating into development of a regional plastic strategy that integrates waste prevention, trade facilitation, and sustainable financing.
- b. Among Members initiatives, Thailand presented its 2018-2030 Roadmap on Plastic Waste Management, combining regulatory bans with voluntary private sector initiatives, including the removal of plastic bottle seals and the phase-out of microbeads.
- c. The Philippines' enacted EPR law from 2023 was provided as an example of a national framework integrating upstream and downstream measures and mobilizing private investment through plastic credit mechanisms.
- d. Fiji and Vanuatu shared ongoing domestic and regional efforts to promote alternatives based on locally available materials such as coconut, bamboo, and seaweed, calling for enhanced technology transfer and support for regional-scale production.
- e. UNEP and OECD reported ongoing regional cooperation on data harmonization, policy alignment, and capacity building for EPR systems, highlighting progress in integrating trade-related considerations into regional circular economy frameworks.
- f. The International Bamboo and Rattan Organization (INBAR) and PCX Solutions presented initiatives supporting the development and scaling of sustainable substitutes and circular financing mechanisms. INBAR promoted bamboo- and rattan-based substitutes through technical cooperation and trade facilitation, while PCX Solutions demonstrated innovative traceability and plastic credit systems that mobilize investment in waste collection and recycling infrastructure.

4.4 Observations and considerations raised

4.10. Several observations and considerations were raised by delegations and stakeholders regarding "opportunities for greater harmonization, alignment or interoperability of TrPMs, starting by focusing on SUPs". These observations summarize discussions at DPP meetings and do not represent the views of all Members.

- Recognize the fragmentation of regulatory approaches on SUP products and the relevance of a global Plastics Treaty to address this challenge.
- Need to consider domestic circumstances when applying a mix of TrPMs on SUP products.

- Recognize that the objectives pursued by different TrPMs on SUP products vary (e.g. combatting marine plastic pollution or building a circular economy).
- Importance of exchanging good practices and collectively tackling common challenges, while recognizing that domestic practices are not necessarily (global) best practices.
- Share experiences on challenges faced by Members when considering on appropriate criteria for designing TrPMs on SUP products.
- Mapping policies may be positive to promoting equivalence and mutual recognition measures that take into account the specific realities of each economy.
- Ensure flexibility as the (re)usability and risk profiles of different SUP products can vary significantly depending on their intended purpose, specific content and consumption context.
- Need to take into account and ensure consistency with the results of the INC process, and with existing international commitments.
- Need to improve the transparency of TrPMs applied to SUPs (potentially making them available in a public, online platform).
- Recognition of the current social, health and economic roles of SUP products.
- Importance of properly implementing waste prevention, waste management and recycling policies.

4.11. Additional observations by stakeholders included:

- Avoidance of regrettable alternatives and substitutions, including materials, products and technologies.
- Importance of criteria on safety, sustainability, essentiality, and transparency, also applied along the full lifecycle for both SUP products and alternatives and substitute materials.
- Accurate labelling, transparency and traceability of SUP products along supply chains.
- Enhance financial capacity and technical support for developing Members to effectively implement and enforce TrPMs on SUP products, including enabling robust monitoring and enforcement mechanisms.

4.2 Options for future work raised

4.12. Delegations and stakeholders also discussed what could be done under the DPP with regards to "opportunities for greater harmonization, alignment or interoperability of TrPMs, starting by focusing on SUPs". These suggestions should be considered a summary of discussions and do not represent the views of all Members.

- Explore the factual summaries for building consensus around recommendations or voluntary guidelines highlighting good practices, potentially concretely starting with SUP bags or other SUP products.
- Develop voluntary guidelines for MC14, potentially first identifying what kinds of information or evidence Members would see as necessary for their development and agreeing on a common vision of what such guidelines should achieve.
- Reach a (voluntary) common understanding of what is a multiple use plastic bag, providing guidance to domestic policymakers.

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- Compile specifications and standards that DPP co-sponsors have applied to product requirements, as well as information on recyclability challenges, requirements and standards.
 - Discuss approaches to the definition for SUP products, potentially first identifying what evidence from regulators and relevant businesses would be useful to converging around an understanding.
 - Ensure that the DPP supports trade facilitation and work towards aligning co-sponsors TrPMs.
 - Explore how to support developing Members in designing and implementing TrPMs on SUP products.
 - Promote regional cooperation and, where relevant, harmonization on TrPMs applied to SUP products and/or adopt regional regulations.
 - Develop on trade-friendly, innovation-driven approaches, including working towards global trade standards to reduce regulatory fragmentation and compliance burdens.
 - Discuss strengthening recycling infrastructure, promoting trade in recycled materials, and encouraging technological advancement in plastic production and reuse.
 - Seek options to limit unnecessary impacts on trade from legitimate environmental measures implemented to address the growing challenge of plastic pollution.

4.13. Additional observations by stakeholders included:

- Continue to help identify global standards, criteria and indicators, and mandated monitoring, reporting requirements, and legally binding mechanisms that would substantially support diffuse domestic level efforts.
- Use SUP products currently regulated in domestic jurisdictions as a strong starting list of categories to adopt over time as new data and evidence emerges.
- Promote harmonized international standards and globally mandated requirements for SUP products to enhance transparency, trust, and consistency in product quality, monitoring, and reporting, reducing costs of monitoring and reporting in future.
- Establish transparency, monitoring, and reporting requirements to reduce the illegal trade of plastics and support the Basel Convention in eliminating the illegal trade of plastics waste.
- Members could consider, individually or collectively, to adopt measures to reduce complexity, such as through mutual recognition of certification, conformity assessment practices, and the adoption of common definitions, even if requirements of implementation might vary.
- Alignment of domestic classification systems for SUP products not reflected in the WCO HS, as well as shared practices for monitoring and controlling illegal trade.
- Regulatory cooperation and alignment on transparency requirements, including on SUP products composition.
- Co-sponsors could identify three or four product categories for which they could review existing product bans for similar purposes and explore whether and how they could concretely or voluntarily pursue alignment on these specific product categories.
- Members could continue to share information with the Secretariat and facilitate the compilation of information relevant to domestic experience on the types of SUP products regulated by TrPMs, building on the relevant information gathered on SUP bags.

- Encourage Members and stakeholders to enhance coordination on aligning measures on SUP products with best practices that are proportionate, scientific, and aligned to WTO principles.
 - Improve existing databases such as the WTO Environmental Database to separately report SUP products-related notifications.
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TECHNICAL OUTCOME C

SYNOPSIS OF MEMBER CONSIDERATIONS IN THE ADOPTION OF TRADE-RELATED PLASTIC MEASURES RAISED IN DPP DISCUSSIONS

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1 INTRODUCTION

4.14. The World Trade Organization (WTO) Dialogue on Plastic Pollution and Environmentally Sustainable Plastics Trade (DPP), co-sponsored by 83 WTO Members¹, has discussed "[i]dentifying effective trade policies or measures to support the implementation of actions under other international processes and efforts and strengthening cooperation and policy coherence within rules and mechanisms of the WTO", since its inception.²

4.15. The DPP Ministerial Statement ([WT/MIN\(24\)/14](#)) issued at the 13th WTO Ministerial Conference (MC13), agreed on the importance of international cooperation on a series of trade-related actions including to:

Promote cooperative and effective trade-related policies or measures implemented to address the environmental, social and human health impacts and leakages across the lifecycle of plastics, plastics products and their constituents.

4.16. Since MC13, to help the DPP achieve "further concrete, pragmatic and effective" outcomes by the 14th Ministerial Conference (MC14), the DPP has focused its discussions around [eight points](#) selected through a consultative process and reflecting strong technical work already developed.

4.17. Point of focus (PF) #5, under the reduction workstream, reads:

PF5: Identify potential best practices from Members collective experiences.

¹ Albania; Angola; Argentina; Australia; Austria; Barbados; Belgium; Bolivia, Plurinational State of; Bulgaria; Brazil; Cabo Verde; Cambodia; Cameroon; Canada; Central African Republic; Chad; Chile; China; Colombia; Costa Rica; Croatia; Cyprus; Czech Republic; Denmark; Ecuador; Estonia; European Union; Fiji; Finland; France; Gambia; Germany; Greece; Guatemala; Honduras; Hong Kong, China; Hungary; Iceland; Ireland; Italy; Jamaica; Japan; Kazakhstan; Korea, Republic of; Latvia; Lithuania; Luxembourg; Macao, China; Maldives; Malta; Mauritius; Mexico; Mongolia; Montenegro; Morocco; Mozambique; Netherlands; New Zealand; North Macedonia; Norway; Panama; Paraguay; Peru; Philippines; Poland; Portugal; Romania; Russian Federation; Samoa; Saudi Arabia, Kingdom of; Singapore; Slovak Republic; Slovenia; Spain; Suriname; Sweden; Switzerland; Thailand; Tonga; United Kingdom; United States; Uruguay; and Vanuatu.

² See the DPP Ministerial Statement issued in the context of the WTO 12th Ministerial Conference (MC12) ([WT/MIN\(21\)/8/Rev.2](#)).

4.18. The topic was discussed during several DPP meetings, workshops and events. This document provides a non-exhaustive overview of such discussions, drawing on presentations and interventions during DPP meetings that addressed this point of focus.³

2 CONSIDERATIONS IN THE ADOPTION OF TRPMS

4.19. In furthering the objectives of their 2021 Ministerial Statement, the DPP launched a survey on Trade-related Plastic Measures (TrPMs) in June 2022.⁴ The survey captured 223 TrPMs adopted since 1993 by 85 WTO Members. Its results reflected a steady and significant increase from 2016 onwards, with 75% of all TrPMs in the dataset concentrated between 2016-2021, and more than half represented in the three years between 2019 and 2021. The latest data from the WTO Environmental Database demonstrates that, between 2009 and 2023, 289 measures related to plastics have been notified by 64 WTO Members and 156 entries related to plastics have been made in WTO Trade Policy Reviews (TPRs) by 56 Members. Most plastic-related measures have been notified under the TBT Agreement (165), followed by import licencing requirements (46) and quantitative restrictions (41).⁵

4.20. The exponential growth in TrPMs in recent years (much greater than the growth trend for all environmental objectives combined captured by WTO data) seems to mirror the increase in interest and concerns related to plastic pollution.

2.1. The increasing number of TrPMs also indicated the shared understanding among DPP co-sponsors of the value of trade and trade policies in contributing to efforts to address plastic pollution, as reflected in the DPP MC13 Ministerial Statement. During related discussions in DPP meetings, a number of elements and considerations were shared by delegations as relevant/important when adopting TrPMs. The tables below offer a non-exhaustive summary of the elements raised in DPP discussions thus far. This table does not represent the views of all Members and is not intended as guidance for how Members should design their TrPMs.

2.1 Procedural aspects

Consideration	Description
Good regulatory practices (GRP)	Following good regulatory practices in the design and implementation of TrPMs could help support consistency, transparency, and predictability. Regulatory best practices developed by the Technical Barriers to Trade (TBT) Committee could also serve as useful context.
Stakeholder consultations and dialogue	Engaging a wide range of stakeholders, including industry, civil society, scientific community, and local authorities and trading partners at various stages of policy development could enhance legitimacy and effectiveness of TrPMs. Rolling submissions from Members and stakeholders on implementation experiences could help identify evolving good practices and inform policy adjustments.
Timeframes and transition periods	Providing reasonable timeframes and transition periods for entry into force and implementation of TrPMs could ease implementation, especially for small businesses and developing Members.
Implementation guidelines	Offering clear guidance or implementation tools could further support effective rollout of TrPMs.
Periodic review	Grounding measures in available scientific or technical evidence and allowing for periodic review could help ensure that policies remain effective and up to date as new data emerges.
Fiscal and cost-effectiveness considerations	Considering the fiscal implications and promoting cost-effective implementation of TrPMs could reduce delays and support broader uptake of measures.

³ In particular, DPP meetings held on 12 April 2024 ([INF/TE/IDP/R/17](#)), 13 June 2024 ([INF/TE/IDP/R/18](#)), 31 October 2024 ([INF/TE/IDP/R/20](#)), 9 April 2025 ([INF/TE/IDP/R/22](#)), as well as African region workshop ([INF/TE/IDP/R/23](#)), Latin America and Caribbean region workshop ([INF/TE/IDP/R/24](#)), and Asia and the Pacific region workshop (to be issued).

⁴ Factual report of the trade-related plastics measures (TPRMS) survey ([INF/TE/IDP/W/11](#)).

⁵ WTO Environmental Database (EDB) Plastic-related information and functionalities ([INF/TE/IDP/RD/202](#)).

Consideration	Description
Lifecycle assessment	Relying on lifecycle assessments, tailored to local contexts, could support more informed decision-making. Considering measures from the perspective of the whole lifecycle could also help avoid unintended environmental consequences.
Transparency and notification	Promoting transparency, including through timely notifications to relevant WTO bodies, could support information sharing and enhance policy coherence.

2.2 Substantive aspects

Consideration	Description
Consideration of policy options	It could be useful to explore a range of policy instruments – regulatory, market-based, and voluntary – covering both upstream and downstream segments of the plastics value chain.
Consistency with WTO rules	Ensuring the TrPMs are consistent with WTO rules and principles would help minimize their negative trade impacts and ensure that they do not amount to arbitrary or unjustifiable discrimination, and do not constitute disguised restrictions on international trade.
Alignment with international standards	Aligning with or basing TrPMs on existing international standards, where relevant and appropriate, could help reduce duplication, promote efficiency, and facilitate trade.
Environmental effectiveness and alignment with environmental objectives	Reflecting on the environmental goals that TrPMs aim to achieve and assessing whether the measures are well aligned with those objectives, could help strengthen their effectiveness. Using clear definitions and performance metrics could assist in evaluating the impact of TrPMs and identifying areas for improvement.
Social and economic impacts	Taking into account the broader social, economic, and health impacts of measures, particularly on vulnerable groups, could help build inclusive and resilient policy frameworks.
Sustainable supply, demand and investment chains	Looking at the implications of TrPMs on global supply and demand dynamics, as well as investment incentives, could support more integrated and sustainable policy options.
Private-sector efforts	Voluntary and industry-led initiatives could complement regulatory efforts and could be considered in the development and evaluation of measures.
Alignment with MEAs	Taking account of obligations under Multilateral Environmental Agreements (MEAs), including the results of the INC negotiations, could help reinforce shared goals and limit fragmentation.
International coordination and knowledge exchange	Greater coordination of policy efforts could help avoid regulatory fragmentation and unnecessary trade barriers. Collaborative initiatives could be strengthened involving different international organizations to help coordination and knowledge exchange.
Coordination among TrPMs	Greater coordination or interoperability among TrPMs could help reduce compliance burdens and improve policy coherence.
Local context and Developing Members needs	Tailoring measures to reflect local conditions and capacities, especially in Developing Members, could enhance both their relevance and their effectiveness.
Accompanying support measures	Complementary support for affected stakeholders, such as Small and Medium-sized Enterprises (SMEs), could ease transitions and help maintain competitiveness and inclusivity.
Regional cooperation	Regional measures, cooperation and harmonization efforts could have an important role in addressing the challenges that Members encounter when determining appropriate criteria for designing TrPMs. Exploring concrete regional outcomes could enhance the effectiveness of TrPMs and leverage regional markets and value chains.
Technical assistance and capacity building	Technical assistance and capacity building across the value chain, particularly for vulnerable populations and SMEs, could facilitate compliance with TrPMs and improve reliable data on plastics production and trade to inform policy making. Technical assistance focusing on policy

Consideration	Description
	support, data collection, and stakeholder training can address plastic trade comprehensively.

2.3 Context-specific considerations

Consideration	Description
Resource efficiency	TrPM policies that aim to reduce the amount of resources needed and keep materials in circulation longer, such as ecodesign requirements, reuse and recharge schemes, deposit return schemes, etc. could contribute to waste reduction and greater resource efficiency.
Producer accountability and distribution of burdens	Approaches such as extended producer responsibility (EPR) could offer a way to encourage greater accountability and incentivize circular design and eco-modulation schemes. Considering how responsibilities are shared among producers, users, and consumers could support the development of a sustainable and resilient value chain.
Reinforce waste management, respecting waste hierarchy principles	In keeping with the principles of waste hierarchy, implementing effective waste management systems and exploring viable and safe alternatives to plastics, together with considering measures from the perspective of the whole lifecycle, could yield more durable and systemic solutions.
Environmental goods and eco-labelling	Facilitating trade in environmental goods, and considering the role of eco-labelling schemes, could support informed consumer choice and market incentives for sustainability.
Product design	Developing product standards for circular design and plastic alternatives could reduce complexity and lower compliance costs, especially for MSMEs.
Biodiversity considerations	Consideration of the Global Biodiversity Framework and Target 7 in the formulation of TrPM to support biodiversity goals.

3 CONSIDERATIONS AND POSSIBLE AREAS FOR FUTURE DPP WORK

3.1. Among DPP co-sponsors, there has been strong engagement on and support for the development of voluntary guidelines or best practices regarding TrPMs, with many delegations highlighting key considerations such as minimizing unnecessary trade barriers, aligning with, developing and taking into account international standards, ensuring environmental effectiveness, and considering local contexts that impact recyclability and compostability.⁶

4.21. Delegations and stakeholders have discussed a number of elements to consider and possible areas for future DPP work. These suggestions should be considered a summary of discussions and do not represent the views of all Members.

- Ensure that the DPP is informed of and supports the ongoing INC negotiations as well as the implementation of relevant MEAs.
- Further explore key questions such as, impacts of different policy approaches on supply chains; Members' experiences in assessing environmentally preferable goods/materials; and possible policy alternatives, including stakeholder inputs.
- Consider the opportunity to make use of approaches employed by the Trade and Environmental Sustainability Structured Discussions (TESSD) with regard to policy design; consider multi-stakeholder consultations and dialogue on regulation development and impact assessment; map incentives and disincentives imposed by governments to understand policy options and landscape.
- Discuss shared trade policies for plastics and enhanced data-sharing to support sustainable and traceable plastic trade flows.

⁶ See coordinators' summary of the DPP work at DPP meeting held on 9 April 2025 ([INF/TE/IDP/R/22](#)).

- Further discuss EPR schemes and recognition of charges paid across jurisdictions.
 - Work on identifying and addressing potential technical trade barriers based on available science or technical evidence and in an environmentally responsible manner to support a global circular transition.
 - Hold focused discussions on specific issues, such as waste management or single-use plastics, in order to focus on issue-specific design considerations.
 - Other considerations raised: information sharing on plastics embedded in internationally traded goods; and EPR schemes for plastic packaging; and biodiversity considerations in addressing plastic pollution.
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TECHNICAL OUTCOME D

SYNOPSIS OF GOODS, SERVICES AND TECHNOLOGIES FOR WASTE MANAGEMENT AND CLEAN-UP ACTIVITIES, THEIR CHALLENGES AND OPPORTUNITIES IDENTIFIED IN DPP DISCUSSIONS

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1 INTRODUCTION

1.1. The World Trade Organization (WTO) Dialogue on Plastic Pollution and Environmentally Sustainable Plastics Trade (DPP), co-sponsored by 83 WTO Members¹, has discussed how enhanced trade cooperation can support the development and deployment of "environmentally sustainable waste management technologies" since its inception.² The DPP Ministerial Statement ([WT/MIN\(24\)/14](#)) issued at the 13th WTO Ministerial Conference (MC13), agreed on the importance of international cooperation on a series of trade-related actions including to:

Promote cooperation on trade that contributes to ending plastic pollution, including trade in ... services and technologies including for improving transparency, waste management and clean-up activities, in ways that consider the waste hierarchy and are appropriate to local development circumstances and needs, and in line with Basel Convention Technical Guidelines on Environmentally Sound Management of Plastic Wastes.

1.2. Since MC13, to help the DPP achieve "further concrete, pragmatic and effective" outcomes by the 14th Ministerial Conference (MC14), the DPP has focused its discussions around [eight points](#) selected through a consultative process and reflecting strong technical work already developed.

¹ Albania; Angola; Argentina; Australia; Austria; Barbados; Belgium; Bolivia, Plurinational State of; Bulgaria; Brazil; Cabo Verde; Cambodia; Cameroon; Canada; Central African Republic; Chad; Chile; China; Colombia; Costa Rica; Croatia; Cyprus; Czech Republic; Denmark; Ecuador; Estonia; European Union; Fiji; Finland; France; Gambia; Germany; Greece; Guatemala; Honduras; Hong Kong, China; Hungary; Iceland; Ireland; Italy; Jamaica; Japan; Kazakhstan; Korea, Republic of; Latvia; Lithuania; Luxembourg; Macao, China; Maldives; Malta; Mauritius; Mexico; Mongolia; Montenegro; Morocco; Mozambique; Netherlands; New Zealand; North Macedonia; Norway; Panama; Paraguay; Peru; Philippines; Poland; Portugal; Romania; Russian Federation; Samoa; Saudi Arabia, Kingdom of; Singapore; Slovak Republic; Slovenia; Spain; Suriname; Sweden; Switzerland; Thailand; Tonga; United Kingdom; United States; Uruguay; and Vanuatu.

² See the DPP Ministerial Statement issued in the context of the WTO 12th Ministerial Conference (MC12) ([WT/MIN\(21\)/8/Rev.2](#)).

1.3. Point of focus (PF) #7 reads:

PF7: How to facilitate access to technologies and services, including for environmentally sound waste management technology (e.g. by identifying key technologies, challenges, and opportunities)

1.4. The topic was discussed during several DPP meetings, workshops and events.³ This synopsis provides a non-exhaustive overview of such discussions. It also covers discussions held and technical presentations made prior to MC13, including information from the DPP Survey of Trade-related Plastic Measures (TrPMs), where appropriate ([INF/TE/IDP/W/11](#)).

2 GOODS, SERVICES AND TECHNOLOGIES FOR ENVIRONMENTALLY SOUND WASTE MANAGEMENT AND CLEAN-UP ACTIVITIES DISCUSSED

2.1. Article 2, paragraph 8, of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention) defines Environmentally Sound Management (ESM) of hazardous wastes and other wastes as "taking all practicable steps to ensure that hazardous wastes or other wastes are managed in a manner which will protect human health and the environment against the adverse effects which may result from such wastes."⁴ Paragraph 2 of the same article defines management as "the collection, transport and disposal of hazardous wastes and other wastes, including after-care of disposal sites".

2.2. The Basel Convention Technical Guidelines on the ESM of Plastic Wastes (UNEP/CHW.16/6/Add.3/Rev.1) refers to this definition and highlights the waste management hierarchy as a guiding principle for ESM, emphasizing actions in the following order: *Prevention – Minimization – Reuse – Recycling – Other recovery operations including energy recovery, and – Final disposal*.

2.3. The Guidelines also offer a breakdown on the two main categories of plastic wastes⁵:

- **Pre-consumer/industrial plastic wastes:** This is plastic waste that arises from the production of plastic resin or plastic products (e.g. defective products or residual resin)
- **Post-consumer plastic wastes:** This is largely industrial and agricultural plastic waste, commercial plastic waste and residential plastic waste (e.g. packaging materials, pipes, agricultural plastic wastes, waste from grocery stores, from hotels, medical wastes, single-use and non-single-use products, etc.)

2.4. Presentations and interventions on the topic at the DPP tended to follow a categorization closer to the Basel definition of management, and related concrete operations, along the plastics wastes "lifecycle". The following categories could be identified from discussions: sampling, analysis and monitoring; traceability; separation at source; handling; collection (including in the marine environment); sorting/separation at sorting; packaging; compaction; transportation and storage; recycling, recovery and disposal. This categorization is also applicable to (marine) clean-up activities

³ See, in particular, the aide memoires of the DPP pre-plenary meetings held in April ([INF/TE/IDP/R/17](#)), June ([INF/TE/IDP/R/18](#)) and October ([INF/TE/IDP/R/20](#)) 2024, and the informal briefs of the special workshops focused on the African ([INF/TE/IDP/R/23](#)), Latin America and the Caribbean ([INF/TE/IDP/R/24](#)) and Asia and the Pacific (to be issued) regions held in 2025. In these events, delegations and stakeholders provided their inputs based on a series of "guiding questions".

⁴ The 1999 Basel Declaration on ESM calls on the Parties to enhance and strengthen their efforts and cooperation to achieve ESM, including through prevention, minimization, recycling, recovery and disposal of hazardous and other wastes subject to the Basel Convention. This takes into account social, technological and economic concerns, and through further reduction of transboundary movements of hazardous and other wastes subject to the Basel Convention. The 2011 Cartagena Declaration on the Prevention, Minimization and Recovery of Hazardous Wastes and Other Wastes reaffirms the importance of efforts to prevent and minimize waste generation, and efficiently and safely manage that which cannot be avoided. Finally, the 2013 Framework for the ESM of hazardous wastes and other wastes, adopted by decision BC-11/1 ("ESM framework") establishes a common understanding of what ESM encompasses and identifies tools and strategies to support and promote the implementation of ESM.

⁵ This breakdown is also included or reflected in technical presentations and interventions from other stakeholders and delegations.

as discussed in the DPP, although it was noted that such activities often require specialized equipment and were not usually done on a commercial basis.

2.5. During DPP discussions, several goods, services and technologies were identified relating to one or more of these activities. Table 1 below provides an overview of the goods, services and technologies mentioned, broken down by the types of activities and accompanied by short descriptions provided (when applicable).

Table 1: Goods, services and technologies mentioned in DPP meetings by type of activity⁶

Type of activity	Sample goods, services and technologies
Sampling, analysis and monitoring	Screening equipment such as x-ray fluorescence, laboratories and laboratory equipment to identify related pollutants like heavy metals, UV stabilizers, bisphenols.
Traceability	<i>[no specific good, service or technology mentioned] traceability systems / tools</i>
Separation at source	Labelling, colour-coded bins may be useful to facilitate proper recycling
Handling	Protective gear and equipment such as sack-barrows, pallet trucks and fork-lift trucks are needed for safe handling of large or heavy containers
Collection	Large drop-off containers, mobile baling equipment, and specialized treatment facilities
Collection (marine)	Technology such as GPS trackers may be used to retrieve lost fishing gear. Technology may also be applied in untangling plastic waste from ropes and nets used in fishing
Sorting/ Separation at sorting	Sorting can be classified into manual sorting, automated/mechanical sorting, sink-float separation, liquid density separation, electrostatic separation and sorting by hydro-cyclones and centrifugal sorting. Automated/mechanical sorting technologies can be broadly classified into screen separators (Trommel, Disk, Oscillating and Flip-flop screens), air separators (Zigzag, Rotary, Cross-current classifiers and Suction hood), ballistic separators and film grabbers based on their ability to sort items based on particle shape, size and density. Furthermore, based on their ability to remove different types of metals from the waste stream, they can be classified into overband/conveyer head-roller magnets, eddy current separators, and induction sensors. Sensor-based sorting and robotic sorting are examples of advanced forms of automated sorting, including near infrared (to differentiate between plastic types – PET, HDPE, PVC, PP and PS – and plastic waste from mixed, residual and other materials such as paper and metals), visual spectrometry (to identify materials based on colour), x-ray fluorescence (to differentiate between metals/alloys and persistent organic pollutants), and X-ray transmission (materials based on atomic density such as halogens and organic components, mineral fillers, hidden metal particles etc).
Transportation and storage	<i>[no specific good, service or technology mentioned]</i> Packaging of plastic wastes falls into two categories: packaging for transportation and packaging for storage. For certain plastic wastes, baling might be appropriate. However, if this is an inappropriate size, transportation in big bags or closed bulk containers can be a reasonable measure.
Compaction	Shredding, compressing and baling.
Transportation and interim storage	UV-protective material for plastic wastes stored outside to avoid their degradation due to prolonged UV light exposure. Furthermore, the storage must be weather-proof to avoid the waste drifting away due to wind and rain.
Disposal, including Recycling and Recovery	Mechanical recycling: (whereby plastic waste is processed by size reduction, cleaning and drying, thermal melt-extrusion and pelletizing, and compounding). Varied technologies are used for mechanical recycling (e.g. drying machines, pelletizing machines, automated and sensor-based sorting machines, x-ray transmissions among others)

⁶ This list has been compiled as a summary of technologies mentioned in discussions and does not represent an endorsed list of goods, services or technologies by the Membership.

Type of activity	Sample goods, services and technologies
	Solvent-based recycling: (whereby plastic waste is dissolved in a solvent and the polymer is separated from constituents, e.g. flame-retardants) from plastic waste using solvents while keeping the plastic polymer molecules chain largely intact (solvent-based purification) [Chemical recycling]*: (whereby plastic polymer molecules are broken down into smaller component parts (monomers or oligomers)), subjected to further processing and used as base chemicals, including feedstock for plastic manufacture (feedstock recycling). <i>*This is an emerging technology, and more evidence is needed on the applicability of the ESM concept to it. (as referred to in the Basel Convention Technical Guidelines on ESM of Plastic Wastes (UNEP/CHW.16/6/Add.3/Rev.1) This technology is currently feasible for advanced economies due to the high capital costs and specific expertise required.)</i> Thermal melt-extrusion equipment and pelletizing, including melt-filtration (metal wire-mesh melt-filter screens) and profile extrusion Pyrolysis Waste-to-energy (energy recovery), incineration <i>[no specific good, service or technology mentioned]</i> landfilling (bottom of the waste hierarchy)

2.6. Goods and technologies mentioned were rarely accompanied by their related World Customs Organization (WCO) Harmonized Commodity Description and Coding System (HS) codes, with the exception of one technical presentation by a stakeholder⁷, available [here](#).

2.7. Similarly, services were not discussed in the context of their related classification in the Services Sectoral Classification List (W/120) or other international classification systems.⁸ However, a thematic classification was proposed, identifying technical, non-technical and auxiliary services related to prevention and mitigation of plastic pollution and whether they operated in the producer or consumer side of the value chain.

Table 2: Proposed services thematic classification⁹

Producer side	Consumer side
Technical services (e.g. design, engineering and R&D)	Technical services (e.g. waste collection and disposal)
Non-technical services (e.g. advisory, measurement and consulting)	Non-technical services (e.g. education and outreach)
Auxiliary services (e.g. marketing and consumer preference research)	Auxiliary services (e.g. IT services, e.g. app)

2.8. Apart from the services reflected in table 1 above, other services mentioned in the DPP discussions on this topic are included in table 3 below.

Table 3: Additional services mentioned in the DPP discussions on waste management

Advisory	Artificial intelligence (e.g. to identify marine debris)
Construction	Consulting (site assessment)

⁷ See TESS presentation at the 31 October 2024 pre-plenary meeting on "Pathways for trade policy cooperation to facilitate access for environmentally sound and safe plastic waste management technologies" ([INF/TE/IDP/RD/178](#)).

⁸ One technical presentation, by United Nations Trade and Development (UNCTAD), referenced to this challenged and previewed an upcoming study that would provide a first mapping and classification exercise ([INF/TE/IDP/RD/180](#)). No preliminary mapping was provided however that could be reproduced in this synopsis.

⁹ See UNCTAD presentation at the 31 October 2024 pre-plenary meeting on "Services for prevention and mitigation of plastic pollution: a forthcoming UNCTAD study" ([INF/TE/IDP/RD/180](#)).

Consumer research	Design
Education and outreach	Engineering
Information technology services	Marketing
Measurement	Operation of waste management sites
Remediation	Research and development of related technologies
Waste treatment	

3 CHALLENGES AND OPPORTUNITIES

3.1. A series of challenges and opportunities were mentioned during DPP discussions on how to facilitate access to goods, services and technologies relevant for ESM of plastic wastes and clean-up activities. Table 4 below provides an overview of the challenges and barriers mentioned.

Table 4: Challenges and barriers raised during DPP discussions

In general
Tariffs
Non-tariff barriers [regulatory costs] and lack of harmonization
Lack of appropriate [financial] incentives (e.g. EPR)
Lack of investment/partner with investment promotion agencies
Access to financing
Difficulty to reach economies of scale, small economies, absent value chains
Access to affordable and context-appropriate technologies
For waste management
Fragmented governance
Gaps and incoherent policies (e.g. absence of complementary policies to prevent plastic pollution)
Lack of adequate infrastructure, including to implement the Basel Convention
Constraints in technical and operational capacities
Lack of financial resources
Lack of affordable access to existing technologies
Restrictions on foreign investments
For marine debris clean-up
Lack of recognition of foreign certificates for crews on ships
Lack of visas/temporary entry permits for crews on ship
Discriminatory use of or access to port terminal services
Restrictions on chartering of vessels
Data localization requirements
Customs duties on equipment used for clean-up
Inexistent private market

3.2. With regard to opportunities, the rapid pace of technological development and innovative solutions in the field were raised as an important factor in addressing plastic pollution, with trade having a clear role to play in their development, access, and dissemination. While some concerns were raised about the cost, availability and access to such technologies, discussions also indicated that many solutions related to ESM of plastic wastes were "legacy" or "simple" technologies that were not necessarily costly.

3.3. It was noted that specific (trade-related) interventions to address upstream sources of plastic wastes and facilitate access to ESM technologies could have a positive impact on collection, reuse, repurpose and recycle rates, helping reduce plastic pollution and reintroducing resources in the economy. It was further noted that such technological solutions were often deployed in connection

with (often specialized) services, thus requiring a more systematic approach. Finally, the importance of establishing self-sustaining systems to finance plastic waste management (e.g. through extended producer responsibility – EPR – schemes) was highlighted.

3.4. Several interventions also raised the limitations of recycling and waste management, noting the historically low recycling rates, even in advanced economies with access to modern technologies. These Members highlighted the importance to respect the waste hierarchy principles and the promotion of other technologies, goods, and services that operated in upstream stages, supporting reduction efforts, as well as the development of effective and environmentally sound substitutes. Other Members noted there is no universally accepted definition of waste management hierarchy principles. The challenges for informal waste management systems and the inclusion of discussions on and with waste pickers, their social protection, livelihood, and their participation in decision processes were similarly stressed.

3.5. The DPP Survey of TrPMs had captured a relatively small number of 28 measures adopted for the "promotion of waste management and other technologies". These were adopted by 17 Members. Twelve of these TrPMs contained technical requirements and specifications, followed by grants and direct payments (6), EPR schemes (5), and tax concessions (4). In particular, grants and direct payments included in these TrPMs sought to fund waste management projects such as waste-to-energy or waste-to-fuel facilities and other resource utilization schemes, or specific plastic goods recycling, such as packaging and agricultural films. These measures and objectives were largely reflected in the subsequent discussions by delegations and stakeholders in the DPP.

4 EXAMPLES OF COOPERATIVE APPROACHES, OPTIONS AND CONSIDERATIONS DISCUSSED

4.1. The DPP discussions highlighted a few examples of specific global and regional efforts seeking to promote access to goods, services and technologies for the ESM of plastics. For example, the Basel Convention Plastic Waste Partnership (PWP) sought to improve and promote the ESM of plastic waste at the global, regional and domestic levels and to prevent and minimize its generation.

4.2. On marine plastic debris, the Asia-Pacific Economic Cooperation (APEC) adopted [Non-Binding Guidelines on Services that Support the Clean-up of Marine Debris](#). The voluntary recommendations sought to encourage Member economies to promote trade and investment in services that help collect and manage marine waste, such as from beaches, rivers, coastal areas and the open ocean.

4.3. The World Economic Forum (WEF) shared their efforts under the Global Plastic Action Partnership (GPAP), which had expanded to 19 economies. The project had included, *inter alia*, support for some Members to use existing trade agreements and membership in regional economic blocs to generate economies of scale and enhance reuse, recycling and overall ESM of plastics wastes.¹⁰ In their work specifically on the African continent, WEF had identified four major trade-related needs: (i) leveraging existing trade agreements to enhance market access and reduce barriers; (ii) strengthening border capacities to enforce domestic regulations against unwanted plastic imports; (iii) facilitating trade through improved customs unions; and (iv) developing uniform standards and regulations to lower non-tariff barriers. Additionally, a strong interest in addressing non-tariff barriers had been expressed, suggesting that focusing efforts on understanding these might yield significant benefits.¹¹

4.4. The African Workshop highlighted a few other regional efforts to improve plastic wastes management in the region:

- a. The African Organisation for Standardisation (ARSO) introduced a regional initiative setting standards for recycled PET packaging (including an environmental labelling scheme) to enhance recyclability and reduce waste, while also exploring sustainable packaging alternatives. The focus had expanded to include waste from plastic-coated clothes and second-hand garments in Africa, which significantly polluted the environment and waterways.

¹⁰ See WEF presentation at the 13 June 2024 pre-plenary meeting ([INF/TE/IDP/RD/165](#)).

¹¹ See the informal brief of the special workshop focused on the African region ([INF/TE/IDP/R/23](#)).

- b. The African Union Development Agency AUDA-NEPAD referred to certain regional projects that redesigned systems and empowered women to convert plastic waste into pavement blocks, creating income and enhancing infrastructure. They noted that trade could both enable and erode circular solutions, as seen in Kenya's struggle with illegal imports and South Africa's success with PETCO's (The PET Recycling Company) investment in recycling. They argued that scaling innovation thoughtfully through emerging technologies like AI and blockchain, supported by continental frameworks and partnerships as detailed in the Science, Technology, and Innovation Strategy for Africa (STISA-2024), could enable circular solutions and position Africa's local innovations for leadership in global discussions.
- c. Côte d'Ivoire, with support from partners like the WTO and the United Nations Industrial Development Organization (UNIDO), identified textile recycling as a key interest during domestic consultations aimed at developing a regional circular ecosystem that would address environmental challenges and create jobs. Despite banning non-biodegradable plastic bags since 2013, the country continued to face challenges in collection, sorting, access to recycling technology, and financing, which they hoped to overcome by attracting investment to establish a regional recycling hub in Côte d'Ivoire.

4.5. Similarly, the Latin America and the Caribbean (LAC) regions Workshop showcased a few regional efforts such as:

- a. The World Bank partnership with the Organization of Eastern Caribbean States (OECS) and the Caribbean Community (CARICOM) to develop a regional action plan for plastics. CARICOM actions were supported through regional coordination under the Council for Trade and Economic Development (COTED) and capacity building initiatives funded by the ACP-EU programme.
- b. The United Nations Environment Programme (UNEP) Cartagena Convention Secretariat support for the LAC region in tackling plastic pollution through the Land-Based Sources of Pollution (LBS) Protocol. Challenges such as import dependence, economies of scale for recycling, lack of human capacity, and implementation of a regional EPR scheme were highlighted, while presenting opportunities in integrating trade and customs authorities into existing projects rather than creating standalone programmes.

4.6. The Asia-Pacific region Workshop showcased a few regional efforts such as:

- a. The APEC Secretariat support for Member economies in reducing land-based marine debris through restrictions on single-use plastics, EPR systems, and investments in waste management infrastructure and technologies. Regional guidelines, such as the APEC Non-Binding Guidelines on Marine Debris and the Bangkok Goals on Bio-Circular-Green (BCG) Economy, were also referred to as providing frameworks for circular waste management and reduced plastic leakage.
- b. PCX Solutions, a Philippines-based producer responsibility organization, offered support to over 100 companies in meeting EPR obligations and financing waste management through plastic credits. The initiative funded clean-up and recycling projects, improved traceability of plastic waste, and helped to align companies with national objectives for transparency in waste flows. It also promoted bioplastics and non-plastic substitutes and alternatives, including pilot projects like compostable diapers in Pacific Islands, emphasizing regional cooperation and private-sector engagement.

4.7. Several observations and considerations were raised by delegations and stakeholders to ensure the ESM of plastic wastes and correct identification of goods, services and technologies. These observations summarize discussions at DPP meetings and do not represent the views of all Members.

- Appropriate socio-economic and lifecycle sustainability impact assessments of waste management solutions/practices.
- Weather/localization-specific biodegradability and waste management considerations.

-
- (Investment in and/or existence of) appropriate infrastructure.
 - Domestic consumer and producer practices and preferences.
 - Private/civil society engagement, including with informal workers (e.g. waste pickers).
 - Upstream interventions required to ensure effective end-of-life management.
 - Avoidance of export of domestically prohibited goods and cross-border waste management cooperation.
 - Commercial viability (and recovery of investment costs) of solutions and waste management systems.
 - The need to adapt goods, services and technologies to the local social, economic and environmental conditions.
 - Respect of waste hierarchy principles.
 - Respect of technological neutrality principles.

4.8. Delegations and stakeholders also discussed what could be done under the DPP to help facilitate access to such goods, services and technologies. These suggestions should be considered a summary of discussions and do not represent the views of all Members.

- Identify key technologies (including their HS codes) and specific barriers that hinder access, particularly for developing Members.
- Agree on a roadmap to liberalize trade in key goods and services.
- Explore cooperative trade promotion activities that help to increase access to solid waste management, including recycling, and all relevant technologies and services.
- Support in acquiring/accessing technologies for ESM of plastics, especially for developing and least developed Members (including technology transfer and dissemination on voluntary and mutually agreed terms, licensing strategies, patent pools of technologies, and cooperation around off-patent technologies).
- Technical assistance and capacity building for developing Member officials to correctly identify recyclables and plastic wastes at the border (including for customs officials and implementation of Basel Convention requirements).
- Support the reform (and implementation) of HS codes to facilitate the identification of plastic wastes (including types of plastics).
- Trade rules for regional circular economy, as well as for regional integration for economies of scale.
- Cooperation on pre-shipment inspections.
- (Harmonize/promote) recycling mandates and requirements (e.g. % content, timelines) to ensure commercial viability of plastic recovery.
- Promote cooperation and encourage partnerships between value chain actors, such as exporters, importers, civil society, and local and domestic stakeholders.
- Explore the role of trade and investment promotion agencies, who could play an intermediary function.

- Explore the role of Aid for Trade projects, including by building upon the results from the Aid for Trade Global Review and Needs Assessment Survey.
 - Advance discussions on transparency, standardized reporting, with room for regular updates to address emerging challenges.
 - Exchange of good practices (potentially following thematic areas and sectors and/or regional approaches).
 - Explore the specific trade-related constraints of developing Members, particularly least developed countries (LDCs), small island developing states (SIDS), land-locked developing countries (LLDCs), and small economies in general.
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TECHNICAL OUTCOME E

SYNOPSIS OF SERVICES, NON-PLASTIC SUBSTITUTES, ALTERNATIVES TO SINGLE-USE PLASTICS, THEIR CHALLENGES AND OPPORTUNITIES IDENTIFIED IN DPP DISCUSSIONS

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1 INTRODUCTION

1.1. The World Trade Organization (WTO) Dialogue on Plastic Pollution and Environmentally Sustainable Plastics Trade (DPP), co-sponsored by 83 WTO Members¹, has discussed how to promote trade in goods and services such as environmentally sustainable and effective substitutes and alternatives and identifying technologies for environmentally sustainable and effective substitutes and alternatives since its inception.²

1.2. The DPP Ministerial Statement ([WT/MIN\(24\)/14](#)) issued at the 13th WTO Ministerial Conference (MC13), agreed on the importance of international cooperation on a series of trade-related actions including to:

Promote cooperation on trade that contributes to ending plastic pollution, including trade in environmentally sound, safe, and effective non-plastic substitutes taking into account scientific evidence and knowledge; and environmentally sound, safe and effective plastic alternatives; as well as systems to reuse, repair and refill; [...]

1.3. Since MC13, to help the DPP achieve "further concrete, pragmatic and effective" outcomes by the 14th Ministerial Conference (MC14), the DPP has focused its discussions around [eight points](#)

¹ Albania; Angola; Argentina; Australia; Austria; Barbados; Belgium; Bolivia, Plurinational State of; Bulgaria; Brazil; Cabo Verde; Cambodia; Cameroon; Canada; Central African Republic; Chad; Chile; China; Colombia; Costa Rica; Croatia; Cyprus; Czech Republic; Denmark; Ecuador; Estonia; European Union; Fiji; Finland; France; Gambia; Germany; Greece; Guatemala; Honduras; Hong Kong, China; Hungary; Iceland; Ireland; Italy; Jamaica; Japan; Kazakhstan; Korea, Republic of; Latvia; Lithuania; Luxembourg; Macao, China; Maldives; Malta; Mauritius; Mexico; Mongolia; Montenegro; Morocco; Mozambique; Netherlands; New Zealand; North Macedonia; Norway; Panama; Paraguay; Peru; Philippines; Poland; Portugal; Romania; Russian Federation; Samoa; Saudi Arabia, Kingdom of; Singapore; Slovak Republic; Slovenia; Spain; Suriname; Sweden; Switzerland; Thailand; Tonga; United Kingdom; United States; Uruguay; and Vanuatu.

² See the DPP Ministerial Statement issued in the context of the WTO 12th Ministerial Conference (MC12) ([WT/MIN\(21\)/8/Rev.2](#)).

selected through a consultative process, and reflecting strong technical work already developed. Point of focus (PF) #8, under the promotion workstream, reads:

Point of Focus 8 – Identify opportunities for enhanced trade cooperation on non-plastic substitutes and alternatives, starting with standards (e.g. by identifying gaps in international standards applicable to substitutes and/or alternatives).

1.4. The topic was discussed during several DPP meetings, workshops and events. This document provides a non-exhaustive overview of such discussions on non-plastics substitutes, alternatives and services to single-use plastics (SUPs). It draws on presentations, interventions and discussions during DPP meetings that addressed these points of focus.³ It also covers discussions held and technical presentations made prior to MC13, including information from the Factual Summary of discussions on sustainable and effective alternatives and substitutes ([INF/TE/IDP/RD/88/Rev.1](#)).

2 NON-PLASTIC SUBSTITUTES, ALTERNATIVES AND SERVICES

2.1 Non-plastic substitutes, alternatives and services discussed in the DPP

2.1. As illustrated in the MC13 Ministerial Statement annex – factual compilation V, this section describes examples of non-plastic substitutes, alternatives and services discussed in the DPP. UNCTAD presented a definition of [non-plastic substitutes](#): natural materials of mineral, plant, animal, marine, or forestry origin that have properties similar to those of fossil fuel-based plastics. Non-plastic substitutes do not contain plastics. Depending on the case, they can furthermore be biodegradable, compostable or erodible in nature. They could be suitable for reuse, recycling, or sound waste disposal. They should not be hazardous for human, animal or plant life. Substitutes include, for example, ceramics, bamboo or wool. UNCTAD also presented a definition of [plastic alternatives](#): plastics derived from biological sources such as biomass ("bio-based plastics") or plastics that have biodegradable properties ("biodegradable plastics"). These definitions were proposed by UNCTAD and do not necessarily represent the views of all DPP members. Some members also mentioned in exchanges plastics with recycled content as "alternatives".

2.2. Services may support a change of business model, where SUP, if relevant, are replaced with reuse or refill models for example. In these cases, services would be necessary for the business model to operate. For example, a reuse system would be a comprehensive system for the multiple rotations of specifically designed reusable packaging which remains within the ownership of the system and is loaned to the consumer.⁴ A typical example is refill and cleaning containers schemes.

2.3. The [MC13 Ministerial Statement](#) contains additional examples of non-plastic substitutes, alternatives and services. The [Factual Summary of discussions on sustainable and effective alternatives and substitutes](#) also provides background information on the discussions on substitutes, alternatives and services, including on definitions.⁵

2.4. These substitutes, alternatives and services, are used not only to replace single-use products, but also for other products made of plastics, such as in mulch, fishing gears, construction or textiles applications. When envisaging substitutes, alternatives and services, the importance of the assessment of their impact along their lifecycle to ensure the use of safe, environmentally sound and sustainable substitutes, alternatives and services, including associated supportive technologies was regularly raised in DPP discussions.

2.2 Non-plastic substitutes, alternatives and services organized by type of SUP

2.5. The below table highlights substitutes, alternatives and services, discussed in the promotion workstream of the DPP and in the regional workshops, and included in the trade-related plastics measures survey of the DPP. They are organized to reflect the SUPs they were linked to as possible

³ In particular, DPP meetings held on 12 April 2024 ([INF/TE/IDP/R/17](#)), 13 June 2024 ([INF/TE/IDP/R/18](#)), 13 February 2025 ([INF/TE/IDP/R/21](#)), 9 April 2025 ([INF/TE/IDP/R/22](#)), 19 May 2025 ([INF/TE/IDP/R/25](#)), as well as regional workshops ([INF/TE/IDP/R/23](#); [INF/TE/IDP/R/24](#)).

⁴ University of Portsmouth, [June 2024 presentation](#) in the DPP.

⁵ [INF/TE/IDP/RD/88/Rev.1](#).

replacements. They have not been subject to a thorough assessment in the context of DPP discussions, including with regard to their environmental, health and safety impacts.

SUP	Substitutes	Alternatives	Services
Cross-cutting		(Easily, commercially, effectively) Recyclable plastics and resins	Social and environmental impact assessment services
		Technologies relevant for the production of alternative plastics and meeting recycled content standards/requirements	Tracking, segregation, traceability and identification services
			Renting, leasing and other product-service systems
			Labelling, certification and conformity assessment services (e.g. regarding commercial compostability)
			Product ecodesign, research and development
			Upcycling processes
			Research and development services
			Post-consumer sorting, disassembly, remanufacturing and recycling services
			Waste recovery, collection and management
			Clean-up services
Bags	Paper bags	Bio-based plastic, e.g. bio-LDPE	Reusable bag schemes
	Cloth bags	(Marine, naturally, commercially) Biodegradable plastics	
Bottles	Glass	Polylactic acid (PLA)	Bottle refill stations
	Aluminium	Bio-Low-density polyethylene (bio-LDPE)	Deposit-return systems
		rPET	Bottle cleaning services
Cotton buds	Paper-stem buds		
	Bamboo-stem buds		
Cups (and lids)	Paper cups	Polylactic acid (PLA) cups	Refill, deposit/return schemes cleaning consumer goods containers schemes
	Bamboo cups	rPET and other recycled plastics and recycled plastic containing goods	
	Ceramic cups		
	Coconut husks		
Films	Seaweed-based films	Polybutylene succinate (PBS)	
	Nanocellulose	Polyhydroxyalkanoates (PHA)	
Food packaging	Cardboard	Bio-based plastics e.g. Polylactic acid (PLA) and CPLA – corn-based	Reusable container services

SUP	Substitutes	Alternatives	Services
	Mushroom-based packaging (with cellulosic byproducts eg sugarcane bagasse, wheat husks or hemp hurds)	Polybutylene succinate (PBS)	Composting services
	Sugarcane bagasse or wheat straw packaging	Bio-Low-density polyethylene (bio-LDPE)	Returnable packaging and cleaning services
	Banana leaves		
Packaging	Corrugated cardboard	Bio-polypropylene (bio-PP)	Reverse logistics
	Molded pulp	Polyhydroxyalkanoates (PHA)	Bulk refill systems
	Seaweed-based packaging		
Straws	Paper straws	PLA straws	Straw-on-request
	Bamboo straws	Polyhydroxyalkanoates (PHA)	
	Metal straws		
	Edible straws		
Tableware and cutlery	Wooden cutlery	Compostable bio-based plastics	Dishwashing services
	Bamboo cutlery		Tableware rental
	Edible cutlery		Reusable catering systems
	Clay tableware		Renting, leasing and other product-service systems
	Stainless steel cutlery		

3 CHALLENGES AND OPPORTUNITIES

3.1 Challenges for enhanced trade cooperation on non-plastic substitutes and alternatives and services

3.1. Technical presentations in the DPP indicated that exports of plastics or goods made from plastics are estimated to have reached USD 1.2 trillion in value in 2021 and 2022, a significant increase from USD 933 billion in 2020.⁶ Fifty percent of global plastic production was for single-use products.⁷ Similarly, presentations indicated that exports of substitutes⁸ accounted for USD 399 billion in 2020, and for USD 560 billion in value in 2022. Levels of substitutes, alternatives and services trade are increasing, but not as rapidly as their potential, due to various challenges.

3.2. UNCTAD highlighted that global exports of marine based materials, used in substitutes, are growing and are worth USD 10.8 billion in exports in 2022, a relatively small number, approximately 1%, compared to all plastic goods exports. On these specific marine based materials, trade barriers identified include an average MFN tariffs applied to marine substitutes higher than for synthetic polymers: marine invertebrates (jellyfish) face tariffs at 12.8%, shells, and coral at 8.1%, and seaweed around 6%, while synthetic polymers tariffs are around 4%. Another barrier indicated by UNCTAD resulted from a larger number of non-tariff measures applied to marine based materials.⁹ Similarly, an initial comparison of tariffs applied to plastic and "equivalent" non-plastic substitutes, focusing on aluminium kitchenware, paper cups/plates, bamboo, cotton and jute bags, glass containers, and non-edible seaweed, showed that 21 out of 24 economy groupings applied (slightly) higher tariffs on the equivalent non-plastic substitutes.¹⁰

⁶ UNCTAD statistics, 2023 and 2024, from UNCTAD presentation to DPP ([INF/TE/IDP/RD/162](#)) and updates from [New data tracks global trade in non-plastic substitutes: UN Trade and Development \(UNCTAD\)](#).

⁷ WEF presentation to DPP, June 2024, [INF/TE/IDP/RD/165](#).

⁸ 282 products identified by UNCTAD.

⁹ UNCTAD, May 2025, [INF/TE/IDP/RD/199](#).

¹⁰ UNCTAD, [INF/TE/IDP/RD/162](#).

3.3. Other challenges raised in discussions with regards to production of substitutes, alternatives and services, included the relative cost of substitutes, as well as inadequate infrastructure and technology for the production of substitutes and alternatives represent barriers to the full development of substitutes, alternatives, as well as services. Similarly, the role of fossil fuel subsidies in lowering plastics costs was mentioned. In this context, the available material sources was considered by some participants often not sufficient to develop viable substitutes.

3.4. With regards to imports and exports, quality infrastructures were noted as also insufficient by some interventions. Many economies lack the necessary testing laboratories, certification bodies to support trade in non-plastics substitutes and plastics alternatives, limiting their capacity to assess imported goods at borders or comply with certification requirements in export markets.

3.5. Material safety in plastics products, substitutes and alternatives, was referred to as a challenge in DPP discussions. To prevent regrettable substitution and ensure the use of environmentally sound, safe and effective non-plastics substitutes and alternatives, and to enhance their trade, specific considerations to assess environmental sustainability and safety to human health would include degradability, reusability, carbon footprint, absence of chemicals of concern were mentioned.

3.6. Different local contexts were similarly raised as posing challenges in the adoption of substitutes, alternatives and services. Biodegradability and compostability are highly context-dependent, with materials performing differently in different geographical conditions, depending on humidity, temperature, etc. Some interventions thus called for related biodegradability and compostability assessments to take into account these specificities. The absence of specific Harmonized System (HS) codes for plant-based or biodegradable materials was noted as contributing to misclassification and confusion in customs procedures, affecting trade flows and market access.

3.7. Some interventions noted that data collection on plastics trade, including imports/exports of non-plastic substitutes, and enhancing market access for environmentally sustainable alternatives and substitutes would be needed. Supporting data collection was raised as potentially part of capacity building to enable Members to better understand their trade flows and inform their respective policies.

3.8. Strategies such as reducing trade barriers on sustainable products and promoting local research and innovation were raised among potential solutions to these challenges.

3.2 Opportunities for enhanced trade cooperation on non-plastic substitutes and alternatives raised during DPP discussions

3.9. Despite these challenges, significant opportunities for enhanced trade cooperation were raised by members and stakeholders, including the development of standards and regulations to limit the use of plastics, including SUPs, and support environmentally sound and sustainable alternatives and substitutes, as well as trade facilitation measures such as HS code reforms, mutual recognition of certifications, and mapping of existing standards could also improve transparency and reduce trade barriers.

3.10. To support and facilitate trade cooperation, some suggested to review and enhance understanding of standards. They could cover topics such as reusability, biodegradability, recyclability, compostability, material safety, efficiency, effectiveness and environmental impact (lifecycle assessments). The development of ISO standards, such as ISO 16830:2025 for bamboo straws, or efforts on rattan and natural rubber standards, were presented as examples of international efforts to align standards, and facilitate market access, simplify certification, and build consumer trust. Besides, cross-cutting standards such as on packaging, reuse of packaging, organic recycling, environmental labelling could be looked at with the perspective of adopting substitutes alternatives and services. Given the context specific challenges, and to ensure standards are context-sensitive and environmentally sound, involving developing Members, indigenous communities, and scientific bodies was suggested.

3.11. Facilitating trade in environmentally sound, safe and effective non-plastic substitutes and alternatives (e.g. reduction of technical barriers and tariffs) and facilitating "reuse" service models were also raised as opportunities. An initial step could be regional regulatory alignment, that would ease trade of non-plastic alternatives and substitutes.

3.12. A number of private sector presentations in the DPP provided further information on ongoing innovations. For example, Ecovare (India) and GreenHope (Indonesia) showcased sustainable packaging solutions using agricultural residues and starch-based bioplastics. Anhui Hongye Group Co. Ltd (China) presented on its company, the largest bamboo products manufacturer in China, and INBAR shared its global campaign for promoting bamboo as a fast-growing resistant fashionable and light material as a substitute for plastic. Notpla (UK) and Noriware (Switzerland) demonstrated respectively their edible bottle and packaging, and their film, made from seaweeds. Private sector stakeholders highlighted the need for universal labelling, streamlined certification, and regional cooperation to scale their impact, called for efforts to harmonize standards, improve trade facilitation, and discuss trade measures like tax reductions and removal of trade barriers for non-plastic substitutes.

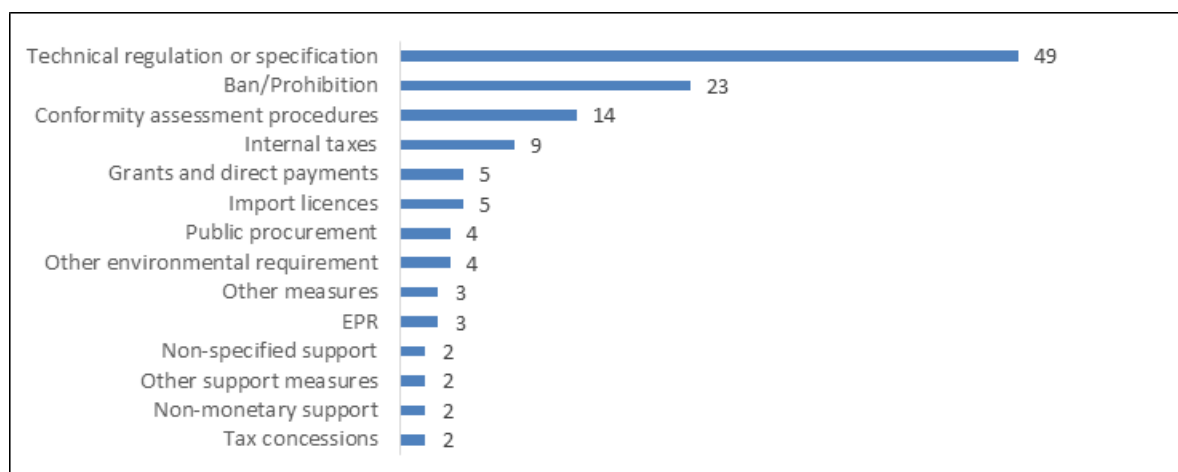
3.13. An UNCTAD study¹¹ identified a series of relevant services along the plastics value chain, that aim at preventing plastic pollution, or mitigating plastic pollution, both from the producer and consumer angles. Producer side services included engineering, designing, and consulting services and consumer side services included services aimed at encouraging behavioural change and proper waste collection as well as recycling. Facilitating measures for services were identified, including liberalization, transparency, regulatory cooperation or government procurement.

3.14. A presentation from the Global Plastics Policy Centre and Revolution Plastics institute, University of Portsmouth¹², focused on reuse systems and the trade support measures for high quality reuse. It included guidelines for international trade in reuse systems, international collaboration, e.g. on chemicals of concern, facilities for reuse systems, consistency of reusable packaging solutions and ownership and responsibility of reuse products. It highlighted the readiness of the packaging sector in transition to scaled reuse, employment opportunities for waste pickers, financial benefits for governments compared to single-use systems, and relevance in small islands settings.

3.15. A presentation from the World Economic Forum illustrated how services could help promotion of new models, and recalling the waste hierarchy starting with reduce, then reuse, and then recycling, there is opportunity to driving a systemic shift towards reusable packaging models, to shift away from SUPs.¹³

3.16. The factual report of the trade-related plastics measures (TrPMs) survey of the Dialogue, conducted in 2022-2023, shows that policies used for the promotion of substitutes, alternatives and services were mostly adopted in the form of technical regulation or specification, ban/prohibition, conformity assessment procedures, internal taxes (see graph below).

Graph 1: Types of measures in TrPMs seeking promotion of alternatives and substitutes



Source: Factual Report of the Trade-related Plastics Measures (TrPMS) Survey ([INF/TE/IDP/W/11](#)).

¹¹ [INF/TE/IDP/RD/180](#).

¹² [INF/TE/IDP/RD/167](#).

¹³ World Economic Forum, June 2024.

3.17. After the survey was conducted, the following additional information was shared by Members: A Member presented their efforts to promote non-plastic tableware as part of the "Waste Blueprint 2035". The "Green Tableware Platform" had been created allowing users to easily identify existing non-plastic tableware substitutes.¹⁴ A Member's Bioplastics Association uses labelling system on biomass plastics and biodegradable plastics with the aim of making it easier for general consumers and product users to identify the biodegradability and safety, in accordance with international standards. Others are addressing compostability specifically. A Member is reviewing the performance of bio-based packaging and developing standards on compostable packaging, including on home compostability. Another Member published a guideline for authorities responsible of waste management, including specific standards on biodegradability and compostability. It identifies a list of bioplastics, which can be eliminated through bio-waste, and those who are not and need to be incinerated. Another Member is building on international standards with additional more rigorous requirements for compostability.¹⁵

4 INTERNATIONAL ACTIONS AND THE ROLE OF THE DPP DISCUSSED

4.1. Members discussed that the promotion of substitutes, alternatives to SUPs, and alternative services is one of the areas where international actions is required, in order to align trade policy with environmental objectives such as ending plastic pollution. Discussions highlighted potential gaps in relevant international standards that could support informed decisions and facilitate trade while avoiding regrettable substitutions. The importance of cooperation on reuse, repair, remanufacturing systems, and design features, was also highlighted.

4.2. Also discussed is the idea that international action could address international standards, regulations and nomenclatures. The development of new international standards applicable to non-plastic substitutes, alternatives and technologies could be inspired by existing ones, such as ISO standards for bamboo and rattan, developed under ISO/TC 296, and cross-cutting standards for packaging, recycling and environmental labelling. To facilitate implementation, Members discussed a need to ensure that standardised testing and certification are in place across jurisdictions, with sufficient accredited laboratories. Regulatory alignment, where relevant and appropriate would also help to facilitate trade and with the main objective to have good environmental outcomes, with incentives that drive resource efficiency. To support this, Members noted that work towards environmental assessments of alternatives would be necessary to avoid "regrettable substitutions". From a demand side, assessing the importance of promoting both labelling, government procurement and other interventions to stimulate demand. Finally, clear definitions and nomenclature, including HS codes, was underlined.

4.3. The DPP as a potential venue for fostering international cooperation on trade-related aspects of non-plastic substitutes and alternatives was repeatedly raised. In the discussions, several roles for the WTO, and in particular the DPP, were suggested. These suggestions summarize discussions at DPP meetings and do not represent the views of all Members:

- a. Encourage collaboration with stakeholders, including knowledge and experience sharing, for example related to the development of and access to non-plastic substitutes and plastic alternatives, the challenges they faced in trading such goods and services.
- b. Promote cooperation by improving transparency
- c. Promote collaboration on the regulatory front.
- d. Access to key technologies, skills development and capacity building initiatives could be extended, to support developing countries, which often lack testing labs, certification bodies, and technical know-how. It would help producers and regulators participate effectively in these emerging markets. South-south cooperation and sharing of expertise could also be pursued.

¹⁴ presentation at DPP meeting June 2024, [INF/TE/IDP/RD/170](#).

¹⁵ DPP meeting February 2025.

- e. Promote collaboration between governments, industry, and standard-setting bodies to ensure substitutes and alternatives are both commercially viable and environmentally sustainable.
 - f. Identify gaps in international standards applicable to substitutes and/or alternatives.
 - g. Start with a compilation of specific standards DPP Members are applying on alternatives and substitutes, encouraging greater understanding of biodegradability, compostability and recyclability standards, where relevant and appropriate. Increasing cooperation on standards across jurisdictions and recognising ecolabels and certifications would reduce trade barriers and support a transition to sustainable alternatives.
 - h. It would also help developing future international standards relevant to plastic circularity, and focus on a few key standards and non-plastic substitutes to present environmentally sound solutions.
 - i. Encouraging lifecycle assessments to ensure that alternatives and substitutes provided real environmental benefits and do not shift the burden to another environmental or health issue.
 - j. Develop matchmaking with private sector helping developing Members access plastic alternatives and substitutes and comply with standards, while being technology neutral.
 - k. Support innovators by facilitating the exchange of domestic practices and safety validation approaches, helping to promote regulatory convergence and alignment.
 - l. Establish global requirements and guidance for product design, to help put in place regulations and incentives that drives resource efficiency.
 - m. Consider incentives for environmentally sound substitutes and alternatives, such as incentives for biodegradable and reusable packaging.
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