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**Intergovernmental negotiating committee to develop
an international legally binding instrument on plastic
pollution, including in the marine environment
Fifth session**

Busan, Republic of Korea, 25 November–1 December 2024
Item 4 of the provisional agenda*

**Preparation of an international legally binding instrument on
plastic pollution, including in the marine environment.**

**Ad hoc intersessional open-ended expert group to identify and
analyse criteria and non criteria based approaches with regard
to plastic products, chemicals of concern in plastic products,
and product design, focusing on recyclability and reusability of
plastic products, for the consideration by the committee at its
fifth session¹**

Report of the Co-Chairs

1. Introduction

a. Mandate

1. At its fourth session (INC-4), the Intergovernmental negotiating committee to develop an international legally binding instrument on plastic pollution, including in the marine environment (hereafter “the committee”) established two ad hoc intersessional open-ended expert groups.
2. One of these expert groups was established and mandated to identify and analyse criteria and non criteria based approaches with regard to plastic products and chemicals of concern in plastic products, and product design focusing on recyclability and reusability of plastic products, considering their uses and applications, for the consideration by the committee at its fifth session (hereafter “Expert Group 2”). Expert Group 2 was mandated to be co-chaired by Mr. Axel Borchmann of Germany, Ms. Gwen Sisior of Palau, and Mr. Luay Almukhtar of Iraq.² The committee also agreed that the outcomes of this expert group shall be without prejudice to national positions and the outcome of negotiations conducted by the committee.
3. In accordance with the mandate received from the committee to commence its work using electronic means, Expert Group 2 started its work with three virtual meetings, on 18 and 30 July

* UNEP/PP/INC.5/1.

¹ This document has not been formally edited.

² See the Concept Note for both expert groups at
https://wedocs.unep.org/bitstream/handle/20.500.11822/45639/ISW_concept_note.pdf.

and 13 August respectively.³ As part of this initial work, the Co-Chairs addressed an online questionnaire to the experts nominated by Members to participate in the expert group.⁴ An in-person meeting building on this earlier work, informed also by a Synthesis document prepared by the Co-Chairs,⁵ was then held in Bangkok from 24 to 28 August 2024.⁶

4. The expert group was also informed by presentations, upon request by the participants, from Technical Resource Persons selected by the secretariat in consultation with the Chair of the committee⁷ in accordance with the mandate given by the committee.⁸

b. Scope and structure of the report

5. This report has been prepared by the Co-Chairs of the expert group, for consideration by the committee, and aims to reflect the outcomes of the work carried out by the expert group in fulfilment of its mandate. It addresses each of the three areas within the expert group's mandate, namely, criteria and non criteria based approaches with regard to plastic products and chemicals of concern in plastic products, and product design focusing on recyclability and reusability of plastic products, considering their uses and applications.
6. In preparing this report, the Co-Chairs have considered the experts' inputs through their responses to the online questionnaire, as well as discussions during the expert group's virtual meetings. This report also considers exchanges over the course of the in-person meeting held from 24 to 28 August 2024, including as reflected in summaries of discussions made available during the meeting and participating experts' comments on these, which provided the final opportunity for them to comment on material produced in advance of this non-negotiated document.
7. In accordance with its mandate, the expert group's work has been of a technical nature and its outcomes are intended to inform the work of the committee, without prejudice to national positions and the outcome of negotiations conducted by the committee. The identification and analysis of approaches in this report are therefore without prejudice to national positions and to the outcomes of the negotiations on the matters within the expert group's mandate. In particular, they are without prejudice to the preference expressed by some Members of the committee for not including in the instrument a provision or text with regard to some or all of the matters within the expert group's mandate.⁹
8. In this report, the Co-Chairs have sought to reflect and synthesise the different expert views expressed in the most balanced and neutral manner possible, considering the group's mandate and purpose, to provide the committee with a document that will be informative and help advance its work at the fifth session, without prejudging that work or its outcomes. A wide range of views, including diverging or conflicting views, was heard over the course of the expert group's work. Accordingly, throughout this report, references to expert views and possible approaches identified should not be read as implying any agreement among experts on any specific view or approach.

2. General considerations

9. The contributions of participating experts, and discussions within the expert group, were organised based on each of the three areas within the Group's mandate. Some common themes and considerations emerged, that are presented in this section for ease of reference.

³ See Work Programme at <https://wedocs.unep.org/bitstream/handle/20.500.11822/45902/WorkProgrammeEG2.pdf>.

⁴ See the [Compilation of Questionnaire responses](#), and a [detailed summary of questionnaire responses](#).

⁵ See Co-Chairs' synthesis document, available at https://wedocs.unep.org/bitstream/handle/20.500.11822/46055/Synthesis_Report_EG2.pdf.

⁶ See the meeting report, to be circulated.

⁷ Twelve Technical Resource Persons were selected for each expert group taking into account technical expertise, experience and knowledge; Balance of expertise, experience and knowledge amongst the technical resource persons to be invited; - Regional and geographic representation; Gender balance; and Language proficiency. See the Concept note for both expert groups, available at https://wedocs.unep.org/bitstream/handle/20.500.11822/45639/ISW_concept_note.pdf.

⁸ See the list of Technical Resource Persons, available at https://wedocs.unep.org/bitstream/handle/20.500.11822/45986/Technical_Resource_Persons.pdf. See also the presentation slides used by Technical Resource Persons in response to questions asked by participating experts through the Co-Chairs at the in-person meeting, available at <https://wedocs.unep.org/bitstream/handle/20.500.11822/46094/EG2%20TRPs%20presentation%20merged.pdf>.

⁹ See draft text compilation (advance unedited version), available at https://wedocs.unep.org/bitstream/handle/20.500.11822/45858/Compilation_Text.pdf.

a. Overview

10. Across the three areas of the expert group's mandate, views generally ranged from the desirability of adopting common approaches at the global level to ensure harmonization and a level playing field across countries, in light in particular of the global nature of plastic value chains, to favouring nationally-driven approaches that would allow due account to be taken of domestic conditions and circumstances, including with respect to regulatory frameworks, socio-economic impacts, availability of technology, infrastructure and waste management capacities, natural resources, technological maturity, or sanitary requirements. Possibilities for defining broad parameters for action at the global level to provide common direction and clear signals for innovation and investment, with flexibility for the adoption of measures at the national level that could be tailored to local conditions, were also identified. The potential complementary role of mandatory and voluntary approaches was also noted.
11. A range of possible modalities was also identified for the deployment of identified approaches, including the possibility of phased approaches, whereby some aspects could be developed after the conclusion of the negotiation of the instrument at INC-5, for adoption by the future governing body.
12. The approaches identified and analysed with regard to each aspect within the expert group's mandate are described in more detail in sections 3 to 5 of this report. Cross-cutting considerations of potential relevance to approaches to more than one of the matters addressed by the expert group are listed in subsection b below.

b. Cross-cutting considerations

13. Cross-cutting considerations identified include the aspects described below, without prejudice to whether there is agreement among participating experts on the relevance of each one:
 - a. Common terminology and definitions to facilitate a shared understanding of the scope of any possible measures considered;
 - b. Coherence and complementary with relevant existing instruments, including by avoiding overlaps and duplication with relevant multilateral environmental agreements (MEAs), and ensuring coordination between the new and existing instruments;
 - c. Building on robust knowledge, with reference to scientific data, existing best practices, including from MEAs, industry, and other actors; maintaining scope for updates with new information, scientific advances and innovations, including new standards; and allowing for broad stakeholder participation as well as reflection of Indigenous knowledge and practices; some of the approaches identified would rely on the establishment of a scientific/technical body or panel to inform the work of the governing body under the instrument;
 - d. Focused and implementable approaches, providing flexibility to take due account of differences across sectors and in national circumstances and capabilities, including with respect to existing domestic regulatory frameworks, consumption patterns, socio-economic factors, and waste collection and management capacity;
 - e. Considering the availability, accessibility, affordability, technical feasibility, environmental friendliness and socio-economic impacts of safe alternatives, substitutes and technologies, avoiding regrettable substitutions, comparatively assessing their life cycles, and promotion of sustainable practices in relevant industries;
 - f. Alignment of ambition between the level of obligations and means of implementation, including adequate and accessible financial assistance, capacity building and technology transfer from developed to developing countries, especially for the implementation of any binding obligations under the instrument, with special attention to net importers of plastic products, and to developing countries most heavily affected without being major contributors to plastic pollution, considering common but differentiated responsibilities as well as the polluter-pays-principle;
 - g. The role of innovation and development of new technologies, particularly recycling and waste management technology and infrastructure;
 - h. Given the widespread use of plastic products, consideration of both negative and positive socio-economic and cultural implications of action and measures to address them; and conversely, consideration of the environmental and socio-economic costs of inaction;

- i. Rising downstream challenges, including legacy plastics and product recycling, as a consideration to be borne in mind in considering a full life cycle approach;
 - j. Adopting the least trade restrictive measures possible in line with WTO principles, and ensuring that measures adopted under the instrument do not lead to unjustifiable discrimination, disguised restrictions, or unnecessary obstacles, to international trade.
14. Additional conditions and prerequisites identified for the effective application and implementation of different approaches, some or all of which may be relevant across the three areas of the expert group's mandate, include the following:¹⁰
- a. Robust data and information across all regions;
 - b. Effective transparency, traceability and disclosure mechanisms, to support monitoring;
 - c. Robust monitoring and reporting, including reliance on existing monitoring mechanisms, to track progress and assess effectiveness;
 - d. Effectiveness assessment, considering a science-based approach and socio-economic impacts, focusing on existing plastic waste, leakage prevention, circularity of plastics and increased recycling; and periodic review;
 - e. Adequate transition periods;
 - f. Effective decision-making mechanisms;
 - g. A robust implementation and compliance mechanism;
 - h. Avoidance of unnecessary administrative burden, especially for developing countries;
 - i. Ensuring a just transition, taking into account socio-economic factors;
 - j. Considering illegal and informal trade, and trade with non-parties;
 - k. Awareness-raising, public consultations and engagement of all stakeholders, including industry, waste pickers, workers in informal and cooperative settings, and Indigenous knowledge holders;
 - l. Support for research, innovation and development, including through public-private partnerships, community-led solutions and international cooperation, including for the identification and development of safe alternatives.

c. Linkages and complementarities

15. The view was expressed that strong linkages exist especially between the three areas within the expert group's mandate, i.e., plastic products, chemicals of concern in plastic products, and product design. For example, redesign of a product may be a response to its identification as being problematic, or the use of a chemical of concern in a plastic product might be identified as a relevant consideration in addressing that product.
16. It was suggested in this light that coherence and complementarity should be ensured between the relevant provisions, to avoid duplication and strengthen the interaction between them, if these related aspects are addressed in distinct provisions. The possibility of adopting an integrated approach across all three areas was also raised. These included decision tree or "flow-chart" approaches as well as tiered and staged approaches to address the three dimensions comprehensively.
17. Linkages were also identified between the elements within the expert group's mandate and other aspects. A need for complementarity across provisions of the instrument was identified in this respect, including between any provisions on plastic products, chemicals of concern in plastic products, and product design, and those on waste management, trade, transparency and labelling, and reporting, as well as alignment with means of implementation.¹¹
- 3. Identification and analysis of criteria and non criteria based approaches with regard to plastic products, considering their uses and applications**
18. Different views were expressed as to what the instrument should focus on, in addressing plastic products. One view was that as the mismanagement of plastic waste is the ultimate source of plastic pollution, the instrument should focus on increased circularity of products and downstream measures such as the improvement of recycling and waste management capacities. Interrelations to product design were highlighted in this context. An alternative view was that prevention and reduction of pollution upstream should be prioritised, in light that emissions and leakage of plastic occur along the whole life cycle, starting with polymer production, and experience indicating that

¹⁰ The list in this paragraph, and subsequent lists or enumerations in this document, should not be read as implying an agreement of all experts on the relevance of any or all of the identified considerations.

¹¹ See also Co-Chairs' synthesis document, paras. 85.

downstream efforts have been ineffective or insufficient to address plastic pollution including existing plastic pollution and cleanup of coastal areas.

19. Overall, three broad possible criteria and non criteria based approaches to addressing plastic products were identified, as elaborated in **Table 1**. It was also suggested that different types of approaches could be combined, that mandatory and voluntary approaches could be complementary where appropriate, and that mandatory approaches could include nationally determined measures. Possible approaches identified include the possibility of solely nationally determined measures in accordance with international norms and standards.
20. A range of possible parameters was also identified for the identification and classification of plastic products to be addressed, whether in the context of global measures or at the national level. These are summarised in **Table 2**. Several possible assessment methods were also identified in this respect, including life cycle assessments (LCA) of the products and of possible alternatives or substitutes, decision trees, assessments based on risk level, a precautionary approach, and/or or assessments based on contribution to plastic pollution.¹²

Table 1. Analysis of identified criteria and non criteria based approaches with regard to plastic products

Approach	Level of application	Level of obligation	Description
Global binding criteria encompassing listing of plastic products to be regulated, respective timeframes, and exemptions	Global or hybrid	Mandatory	<ul style="list-style-type: none"> Global criteria could level the playing field, help address transboundary issues and guide global innovation. The identification of a product or group of products to be addressed at a global level could send a clear signal to industry and facilitate national action. A list of products to be subject to elimination, reduction or regulation within certain timeframes could be identified, possibly to be complemented by additional, e.g. self-regulated or voluntary measures. An initial global list of plastic products considered most problematic could be developed, taking into account existing, also domestic, legislations and voluntary initiatives and/or following the Stockholm Convention approach. Any criteria based approach to be supported by knowledge, including scientific and Indigenous knowledge, as well as sufficient data; Any criteria and/or lists of products to have the capacity to evolve with the relevant knowledge, research and technological innovation; Under an approach based on global lists, flexibility to adapt to national circumstances could be provided through specific exceptions or broad exemptions and timeframes for implementation, including transitional periods. Additional guidelines and/or guidance could be developed, e.g. on alternative plastics or non-plastic substitutes. A scientific/technical body could be mandated to develop criteria under the guidance of the governing body and present recommendations to the governing body for decision. Such a body could also assess specific products and proposed associated control measures, based on proposals by Parties. Such body would need to be informed by current and evolving knowledge. Such process should also allow for evolutions in criteria or listings over time.

¹² See also Co-Chairs' synthesis document, section III.C, and its Appendix B (Part B).

Approach	Level of application	Level of obligation	Description
Global criteria and/or guidelines, complemented by nationally determined measures, taking into account national circumstances	Global and national	Mandatory or voluntary	<ul style="list-style-type: none"> • Global harmonised criteria and/or guidance or an illustrative list of considerations for the identification of problematic, and/or problematic and avoidable, plastic products could provide a common direction to the efforts of all stakeholders • The determination of specific products to be addressed could take place at the national level, based on agreed criteria and/or guidance, taking into account national circumstances, including local conditions, such as: <ul style="list-style-type: none"> ○ Likelihood of ending up in the environment ○ Domestic consumption patterns and cultural implications ○ Availability, accessibility and affordability of alternatives, technologies and/or substitutes ○ Waste management capacity, access to technology and practice, including at the local level ○ The possibility to improve the design of plastic products • A range of types of control measures relevant to different categories of products could also be identified, to guide national action.
Nationally determined actions	National	Mandatory or voluntary	<ul style="list-style-type: none"> • Under a bottom-up approach, products to be addressed and possible control measures could be determined at the national level and reflected in national (action) plans, taking into account domestic circumstances and capabilities and socio-economic factors, including domestic regulatory regimes, consumption patterns, accessibility, availability and affordability of alternatives, technologies and/or substitutes, and collection and waste management capacity. • Guidance could be developed to facilitate the development of national plans, which could include an illustrative set of considerations and questions to be used by Parties for the development of measures at the national level.

Table 2. Overview of possible parameters identified for the identification and classification of plastic products

Approach	Description
Problematic and avoidable	<ul style="list-style-type: none"> • Problematic: <ul style="list-style-type: none"> ○ Adverse impacts on human health or environment ○ Durability/utility ○ Circularity ○ Material composition ○ End-of-Life Pathways • Avoidable: <ul style="list-style-type: none"> ○ Essentiality ○ Available design alternatives ○ Available and affordable alternatives and/or substitutes ○ Avoidance of regrettable substitution <p>The view was expressed that characterization as “problematic” and/or “avoidable” might depend on context and local circumstances, including in terms of propensity to end up in the environment, local demand and consumption patterns, collection and waste management capacities, availability, accessibility, affordability and environmental impact of suitable</p>

alternatives, technologies and/or substitutes, or possibility to improve the design of plastic products.

Knowledge and evidence-based approach, including scientific and Indigenous knowledge

- Contribution to worldwide plastic pollution
- Likelihood of ending up in the environment, including high risk of environmental leakage, especially in the marine environment
- Product-based and use-based attributes
- Impedes circularity
- Impacts across the life cycle, including potential for leakage
- Socio-economic and cultural implications, both positive and negative
- Consumption patterns
- Availability and affordability of alternatives and/or substitutes
- National capacity, including for recycling and waste management.
- Possibility to improve the design of plastic products

4. Identification and analysis of criteria and non criteria based approaches with regard to chemicals of concern in plastic products, considering their uses and applications

21. Several criteria and non criteria based approaches were identified and analysed with regard to chemicals of concern in plastic products, without prejudice to the absence of a common view on the use of the terms “chemicals of concern” or on the extent to which chemicals of concern in general would fall within the scope of the future instrument or if there might be a focus on additives to plastics instead.
22. It was stated that the instrument should not duplicate provisions and processes under existing MEAs. Instruments referred in this context include the Basel, Rotterdam and Stockholm (BRS) conventions, the Global Harmonised System for the classification and labelling of chemicals (GHS), the Global Framework on Chemicals (GFC) and the establishment of a Science Policy Panel on Chemicals, Waste and Pollution (SPP).
23. There were different views on the need to address chemicals of concern in plastic products in the instrument, considering existing MEAs and chemicals regulation frameworks. A view was that existing instruments adequately cover this issue and that they constitute the appropriate forum to address evolutions in the state of knowledge and have the capacity to develop further to address any regulatory, information or knowledge gaps on chemicals of concern in plastic products. An alternative view was that chemicals of concern in plastic products are not covered to a large extent under existing MEAs, and that a criteria based approach in the instrument can be complementary to other MEAs.
24. Overall, three broad possible approaches were identified, which could be applied individually or combined, to address chemicals of concern in plastic products. These are elaborated in **Table 3** below. Possible approaches for the identification of chemicals used in plastic products as being “of concern”, which could be relevant, whether in the context of global measures or at the national level, are summarised in **Table 4** below. It was suggested that approaches could be applied horizontally across uses and applications in plastic products or on a case-by-case basis.
25. Different possible approaches were identified to ensure complementarity with existing instruments and learn from their processes, including:
 - a. An interface for collaboration and knowledge-sharing, ensuring alignment with, e.g., the Basel Convention and/or the GFC;
 - b. Considering criteria under the Stockholm Convention and/or the GHS as a starting point;
 - c. Drawing on the Stockholm Convention and Montreal Protocol assessment approaches, including an “essential use” approach, e.g., for possible exceptions; and/or
 - d. The establishment of an independent assessment and review mechanism, e.g., a scientific, technical, or chemicals committee or Technical and Economic Assessment Panels, with strong conflict-of-interest (CoI) policies, and including Indigenous knowledge.
26. Specific conditions and prerequisites were also identified, for an effective application and implementation of criteria and non criteria based approaches to addressing chemicals of concern in plastic products. These include:
 - a. Transparency, traceability, tracking, and testing and disclosure mechanisms for chemicals of concern in plastic products and their hazards, including through global databases;

- b. Research and development, innovation, and technology-based approaches and initiatives, including funding through international cooperation to identify and develop safe alternatives to chemicals of concern in plastic products, and community-led initiatives;
- c. Robust scientific criteria and tools for harmonization of assessment methods for hazard, exposure and risk, alternatives and socio-economic impacts of measures.¹³

Table 3. Analysis of identified criteria and non criteria based approaches to chemicals of concern in plastic products¹⁴

Approach	Level of application	Level of obligation	Description
Listings as basis for control measures	Global or hybrid or national	Mandatory	<ul style="list-style-type: none"> • A global approach could enable a level playing field by ensuring a common approach to addressing chemicals of concern used in plastic products. Adaptation to national circumstances and capabilities could take place e.g. through exemptions and appropriate implementation timeframes. • Lists of chemicals of concern in plastic products to be subject to control measures (e.g., bans, phase-outs or restrictions) could be elaborated, based on agreed criteria¹⁵ and/or based on existing instruments (e.g., the GHS). • Lists could be developed on a global or national level, or a hybrid approach could be implemented wherein global risk- and/or hazard-based assessments could result in lists that may inform national measures. Such assessments could be developed by a scientific or technical body. • Initial lists of criteria or chemicals of concern in plastic products (based e.g. on existing regulations and initiatives; well-established evidence of harm/hazard; listing in existing MEAs; availability, accessibility and affordability of alternatives, substitutes and technologies; and/or risk-based approaches) could be complemented through criteria based approaches developed later for adoption by the governing body. It was noted however that risk assessments and regulatory decisions typically consider local circumstances and may not be universally applicable.
Guidelines	Global or national	Mandatory or voluntary	<ul style="list-style-type: none"> • Guidelines could provide a common direction and allow adaptation of approaches to national circumstances and capabilities. • Could address preventing the use of chemicals of concern in plastic products through waste management and product design measures at the national level; the preparation of risk profiles of chemical substances; the development of socio-economic analyses; the determination of essential uses; and/or implementation. • Could draw on international standards, national systems, and guidelines from relevant MEAs, e.g. the GFC, GHS, and BRS Conventions. • Could be developed by a scientific or technical committee for consideration and adoption by the governing body of the instrument.
Nationally determined measures aligning with existing processes	National	Mandatory or voluntary	<ul style="list-style-type: none"> • Nationally determined measures could allow flexibility to identify the most appropriate and effective approaches to respond to national circumstances and capabilities, including by drawing on existing instruments, e.g. BRS Conventions and the GHS, without a need for specific provision under the instrument. • Voluntary guidance could be developed for the development of national plans and national reports, to guide nationally determined measures.

¹³ See also Co-Chairs' synthesis document, section IV.C, and its Appendix B (Part C).

¹⁴ Some of the approaches identified could be applied in combination.

¹⁵ A number of criteria and categories of criteria were identified during the expert group's work. See Table C.2 of Appendix C to the Co-Chairs' synthesis document.

Approach	Level of application	Level of obligation	Description
and instruments			<ul style="list-style-type: none"> • Could include scientific assessments on a case-by-case basis for the determination of permissible concentration limits of chemical residues in plastic products, for specific uses and applications, to identify risks based on use patterns, population compositions, cultures and environment, availability of alternatives or substitutes, and socioeconomic impacts.

Table 4. Analysis of identified approaches for the identification and classification of chemicals of concern in plastic products

Approach	Description
Hazard-based	<ul style="list-style-type: none"> • Hazard-based approaches would entail the identification of chemicals of concern according to agreed hazard-based criteria. These could draw, e.g., on existing screening criteria under the Stockholm Convention Annex D and classification systems under the GHS and various REACH systems, or new criteria, including e.g., endocrine disruption. • Contrary to a risk-based approach, a hazard-based approach does not take into account exposure when evaluating chemicals of concern. • Assessments and decisions could be conducted by each Party based on general elements set out in the instrument, taking into account its national circumstances, or global harmonised hazard-based criteria, indicators and regulatory mechanisms could be identified.
Risk-based	<ul style="list-style-type: none"> • A risk-based approach considers hazard identification, hazard quantification (dose-response assessments) and exposure when characterising the risks associated with a chemical, coupled with risk management measures. • Could be applied at the global level, resulting in global control measures, or at the national level, relying on existing databases, national chemicals or risk management systems, and building on guidelines under existing instruments or globally agreed criteria. • Hybrid approaches with global risk assessments informing nationally determined measures could leave scope for management decisions in line with national circumstances and capabilities in a phased manner. <p>Possible two-step approach:</p> <ol style="list-style-type: none"> 1. Initial global or national risk assessment across the life cycle for particular applications, including a nomination process, considering availability of alternatives, socioeconomic impacts and cost of implementation at the international and/or national level, to determine appropriate control measures. 2. If risks are identified, the second step would entail risk management measures for applications at the national or global level.
Combination of hazard- and risk-based	<p>Possible two-step approach:</p> <ol style="list-style-type: none"> 1. Hazard-based screening criteria based on category 1 hazard classes for listing chemicals of concern in plastic products. This listing could be a basis for voluntary industry action and transparency measures. Groups of chemicals could be nominated if sufficiently robust scientific evidence is available. 2. Risk-assessment for the determination of control measures and possible exemptions and the development of a risk profile and risk management dossier by a scientific or technical review committee, for the governing body to decide on the most appropriate action. This could result in restrictions, phase-outs or bans, with room for time-limited exemptions to specific parties or general exemptions. Restrictions could be timed, e.g., considering just transition and non-disruptive phase-outs, including availability and affordability of alternatives.
Drawing on existing chemical regulations	<ul style="list-style-type: none"> • Chemicals of concern in plastic products could be identified based on existing regulations at the national or international level, including the GFC, GHS, and BRS Conventions, or various iterations of REACH.

Approach	Description
Grouping approaches	<ul style="list-style-type: none"> • Grouping approaches could allow for chemical simplification and more effective management, and support avoiding regrettable substitutions by avoiding case-by-case assessments of chemicals with similar chemical structures or functions. • There was also a view that groupings are not an appropriate tool because they generate data gaps and fail to take into account specific characteristics, functional properties and applications, or socio-economic considerations. • Functional grouping approaches could hamper innovation to develop safer alternatives with similar functions. • Grouping approaches may be primarily appropriate for specific groups with strong scientific evidence of hazards. • Case-by-base assessment of any chemicals of concern in plastic products may be needed as not all chemicals in the same family have the same toxicity profile. Specific uses and applications may also need to be taken into account.

5. Identification and analysis of criteria and non criteria based approaches with regard to product design, focusing on recyclability and reusability of plastic products, considering their uses and applications

27. The role of product design in the environmental fate of a product, and the complementarity and linkage between product design, pollution prevention and end-of-life management were noted.
28. It was further stated that product design, including redesign of products to improve performance, environmental outcomes and pollution mitigation, can contribute to the achievement of sustainable production and consumption of plastic products and their circularity, facilitating recycling and reuse in practice and at scale, as well as environmentally sound waste management. It was stated that a provision on design would be important to address aspects contributing to plastic pollution not covered in other provisions.
29. General considerations identified in relation to product design include the following, without prejudice to whether experts were in agreement on all aspects:
- a. Product design approaches could be performance-based or outcome-focused, with the intention of increasing the environmental performance of products and decreasing plastic pollution;
 - b. Product design approaches could include eco-design, circularity, including regenerative and restorative circularity and bio-circularity, waste hierarchy and economic feasibility principles;
 - c. Different views were expressed as to how to apply a life cycle approach, including whether to apply a cradle-to-grave approach that addresses the product from manufacturing or whether upstream activities should be addressed.
30. Overall, different possible approaches were identified to address product design, focusing on recyclability and reusability of plastic products, including the use of a combination of types of measures such as performance and/or design standards, guidelines, and national level interventions to promote plastic product design for recyclability and reusability, and for the identification of design criteria, to be adopted and applied at the global and/or national level, on a mandatory and/or voluntary basis. Reference was also made to possible targets, including for reuse and recyclability, though not all experts considered these to be part of the expert group's mandate. The broad possible approaches identified, some of which could be applied in combination, are presented in **Table 5**.
31. Reference was also made in this context to the relevance of possible transparency measures, such as disclosure or traceability requirements. The role of monitoring and reporting to track and measure the effectiveness of the instrument was also noted. There were different views on whether mandatory or voluntary disclosure and/or monitoring requirements would be most appropriate. It was stated in this context that robust monitoring may require significant financing, technical support, capacity building and infrastructure for developing countries, especially if it is mandatory.
32. It was further stated more generally that whether voluntary or mandatory approaches are adopted is a critical dimension in terms of implementation, which also has an impact on how the transition

would take place, especially for developing countries, including with respect to the availability and accessibility of resources and access to technology. It was also stated that smaller non-producing countries have limited influence over product design.

33. Specific conditions and prerequisites were also identified for an effective application and implementation of criteria and non criteria based approaches with regard to product design, focusing on recyclability and reusability of plastic products. These include:
- a. Clear regulatory frameworks, building on standards;
 - b. Recognition of differing levels of industrial complexity across nations;
 - c. Recognition of transitional needs of industry, including time and phasing in, reformulation, plant and equipment changes, market testing and compliance, and associated costs and complexities;
 - d. Inclusive processes for the determination of robust and available design criteria, guidelines and/or standards;
 - e. A mechanism facilitating exchange and collaboration between regulatory agencies, scientific experts, civil society, and industry;
 - f. Extended Producer Responsibility (EPR) as a tool to hold producers responsible across the life cycle and mobilise funding;¹⁶
 - g. Development of relevant infrastructure, including, e.g., quality of reuse systems and effective waste management systems, including collection, sorting, processing and tracking capabilities;
 - h. Continuous advancement of recycling technology through finance, research and technology transfer;
 - i. Regional and multilateral cooperation, including building on and sharing existing national and regional experiences, guidelines, standards and best practices, including from international standardization bodies (e.g. ISO) and industry, and mutual recognition of certifications across countries.¹⁷

Table 5. Analysis of identified criteria and non criteria based approaches to product design, focusing on recyclability and reusability of plastic products¹⁸

Approach	Level of application	Level of obligation	Description
Design and/or performance criteria	Global or hybrid or national	Mandatory or voluntary	<p>Possible approaches identified include:</p> <ul style="list-style-type: none"> • A combination of approaches among those presented in sections V.A, V.B and V.C of the Synthesis document¹⁹ • Generic level criteria at the global level (e.g. design for recyclability, reusability, repairability, waste reduction²⁰). • Criteria could be developed stepwise, tailored to specific applications or sectors, and submitted for adoption by the governing body as basis for standards or guidance for national action • A phased approach, to first identify overarching principles or attributes for product design (considering existing measures such as standards, criteria and guidelines) and establish a body/panel/working group to develop guidelines to assist parties in the development of, e.g., standards, measures, and targets to be nationally determined • Voluntary minimum global product design criteria to guide country-specific flexible approaches, with the possibility of

¹⁶ Not all experts considered this item to fall within the scope of the expert group's mandate.

¹⁷ See also Co-Chairs' synthesis document, section V.C, and its Appendix B (Part D).

¹⁸ Some of the approaches identified could be applied in combination.

¹⁹ See [Co-Chairs' synthesis document](#).

²⁰ See also Co-Chairs' synthesis document, section V.C, and its Appendix B (Part D).

Approach	Level of application	Level of obligation	Description
			<p>additional measures at national level and information exchange for traded goods</p> <ul style="list-style-type: none"> • The same criteria should apply to alternatives and non-plastic material substitutes, with a need for scientific research and assess availability, socio-economic aspects, and environmental impacts (including GHG emissions), for all proposed alternatives or substitutes, and develop criteria for alternatives to traditional plastic products leading to better environmental performance throughout the product life cycle. • A distinction could be made between design and system requirements for business-to-business and consumer use • Deployment of different product design criteria at a speed or scale to support transition to a circularity approach • Decisions trees for innovation that improves product outcomes, including reducing leakage to the environment. • Taking into account type and degree of pollution or damage caused, including based on grouping of problematic products (including avoidable products, short-lived and single use) into classes.
Design and/or performance standards	Global or national	Mandatory or voluntary	<p>Possible approaches identified include:</p> <ul style="list-style-type: none"> • Global mandatory or voluntary harmonised standards • Global design standards coupled with national standards, national action plans and/or reuse targets • No global design or performance standards and regulations, as these may not allow consideration of domestic socio-economic conditions, capabilities and circumstances • National standards for specific uses and applications • Product-/sector-specific standards, e.g. drawing on existing design standards and guidelines at the regional, national and sectoral levels
Guidelines	Global or national	Mandatory or voluntary	<p>Possible approaches identified include:</p> <ul style="list-style-type: none"> • Guidelines complementing harmonised standards, to help industry develop the desired product design • Global guidelines reflecting agreement on general common principles or criteria on product design for reusability and recyclability, to give markets a clear signal for innovation and investment, with flexibility for specific standards to be developed at the national level, tailored to local contexts • An expert body, working group or panel could be mandated develop global generic guidelines for plastic product design. This body could include representation from different backgrounds and disciplines, and be supported by scientific data and best existing practices • Development of product and/or sector-specific guidelines, drawing on existing standards and guidelines at the national, regional or sectoral level, including through a stepwise, phased approach after treaty adoption
Sectoral approaches	Global or national	Mandatory or voluntary	<ul style="list-style-type: none"> • Design requirements and criteria may differ depending on the product or group of products • Specific sectors could be prioritised, including through dedicated programmes of work, building on existing best practices and experiences, without adverse impact on critical quality requirements and properties • Examples of sectors in which sectoral approaches could be relevant include packaging, textiles, tyres, agricultural plastics, fishing gear, and sectors that generate releases of microplastics.

Approach	Level of application	Level of obligation	Description
Context-specific approaches, including national level determinations			<p>Possible approaches identified include:</p> <ul style="list-style-type: none"> National level development of scientifically sound strategies and measures, to allow flexibility to identify the most effective and appropriate approaches to product design, taking into account national circumstances, capabilities, national environment and climate, and different levels of technological maturity. Voluntary approach to sustainable design with guidance to be developed for adoption by Member States, and inclusion in national action plans, with national reporting and monitoring
Targets²¹	Global or national	Mandatory or voluntary	<p>Possible approaches identified include:</p> <ul style="list-style-type: none"> Global reuse and recycling targets coupled with national actions plans. Mandatory national targets for recycling and collection (prioritised over reuse and recycled content targets), following global guidelines and standards, to allow flexibility to account for national circumstances, and different capabilities, particularly of developing countries. Voluntary national design, recycling and collection targets to be included in national plans, based on national circumstances, capabilities and markets conditions, including based on assessment on how collection and recycling could be scaled-up, particularly in developing countries. Voluntary national reuse or recycled content targets, based on actual polluting character, technology and infrastructure capacity in countries. Recycled content targets, including per application.

6. Concluding remarks

34. Throughout the course of the expert group's work, and under each area within its mandate, participating experts engaged in a dynamic and constructive exchange, and a wide range of views and possible approaches were identified and analysed, in accordance with the expert group's mandate.
35. It became clear that while there is no uniform view on the inclusion of provisions on the respective items or the extent thereof, some commonalities and overlaps could be identified between the three areas within the expert group's mandate.
36. For the negotiations to progress, the essence of the proposed approaches will need to be capable of allowing flexibility at the national level for implementation. This seems to be especially true for products being subject to control measures, chemicals of concern added in plastic products and requirements for product design.
37. Negotiators, in working on these issues, may consider the possibility of complementary or integrated approaches to address them. In addition, phased or sequenced approaches may be useful to consider, in the development of criteria and non criteria based approaches for the implementation of provisions thereafter.
38. The Co-Chairs wish to thank all participating experts for their active engagement and rich contributions to this work. They have sought, in this report, to reflect in the most balanced and neutral manner possible the full range of views expressed, while providing a concise overview of the range of possible approaches identified and analysed by the expert group, in fulfilment of the mandate received from the committee.
39. The Co-Chairs hope that the outcomes of this expert group may be helpful to inform the committee's further work, without prejudice to national positions and to the outcomes of the negotiations.

²¹ Not all experts considered targets to be within the scope of the expert group's mandate.

